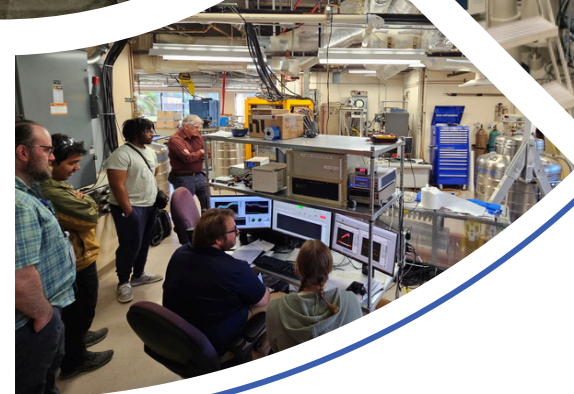
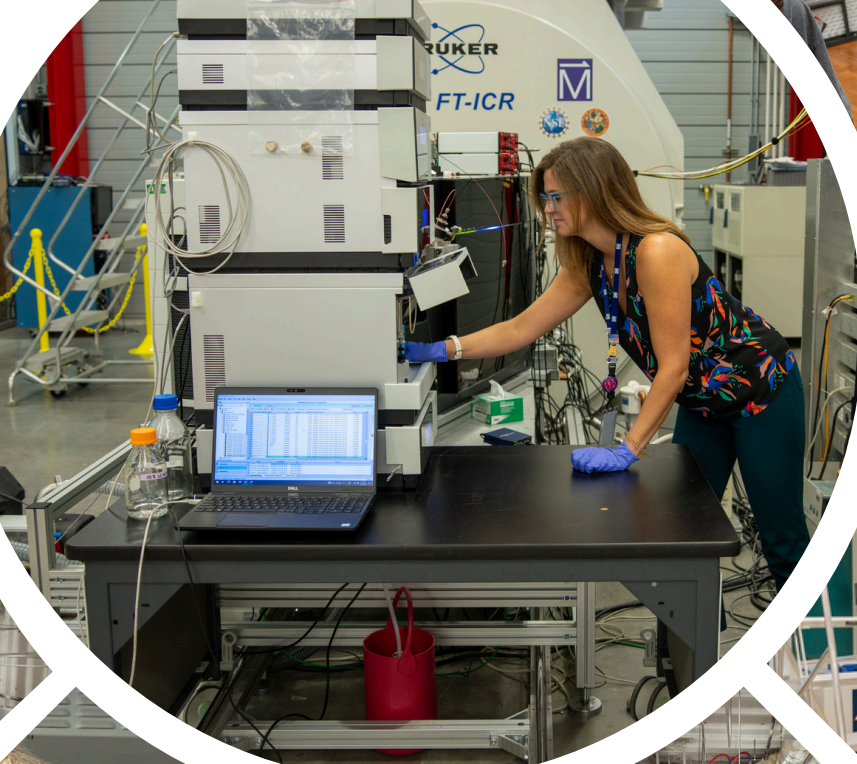




 NATIONAL HIGH  
**MAGNETIC**  
FIELD LABORATORY  
**2025**  
**ANNUAL**  
**REPORT**



## 2025 Annual Report

Produced by  
**National High Magnetic Field Laboratory**

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## 2025 DIRECTOR'S EXECUTIVE SUMMARY

In 2025, the National MagLab served users from across the country, including many students and first-time researchers, delivering exceptionally high satisfaction scores and reliable magnet time. Across the lab's seven user facilities, major upgrades were made to improve the user experience - magnet protection and infrastructure upgrades, new EMR and NMR capabilities, expanded FTICR tools, and progress toward returning the 1.4GW motor generator to service. Researchers published more than 400 peer-reviewed papers with breakthrough findings in quantum materials, superconductivity, biology/enzymes, and advanced measurement methods. The Lab also strengthened STEM workforce efforts through thousands of K12 engagements, camps, and conferences, and worked with companies to advance high magnetic field impact in the U.S.

### THE NSF-FUNDED MAGLAB USER PROGRAM

The MagLab continued to provide scientists with access to the world's highest magnetic field research environments in 2025. About 1,635 researchers, students, and technicians conducted experiments across the lab in 2025, using our powerful magnets to advance society's understanding of new materials, energy solutions, the environment, and the science that underlies life.

The National MagLab's user community included researchers from 302 universities, government labs, or companies using the facility to investigate interdisciplinary questions that span the scientific spectrum – from physics to biology, chemistry to engineering. Of the more than 1630 users, about 24% were new to the MagLab user facility that they accessed to conduct their research. About 51% of the lab's 2025 user community were students and postdocs.

National MagLab users remained exceptionally positive about their user experience in 2025. A user survey conducted in June shows their overwhelming satisfaction:

- 97% external users are satisfied with the performance of the facilities and equipment
- 96% external users are satisfied with the assistance provided by technical staff
- 97% external users are satisfied with the proposal process.

Across the National MagLab's seven user facilities, enhancements and upgrades were made in 2025 that improved the user experience and experimental environment, or maintained the key assets of the lab. Featured enhancements included:

- The 3.2mm e-free MAS probe available to the AMRIS user program on the 800MHz 63mm system received further upgrades with swappable “tuning cards” allowing for a wide range of nuclei to be studied.
- Continued updates to the AMRIS acquisition and processing software have greatly improved AI-based processing of NMR data and allow for more automated batch processing.
- Completed the multi-year rollout of resistive magnet protection systems (RMPS II) across key DCFF magnet cells, boosting operational reliability and user safety (less downtime, longer magnet life, and uninterrupted delivery of world-class magnetic fields for scientific research).
- In 2025, the DC Field Facility completed and commissioned a significant multi-year upgrade to its magnet cooling water system, enhancing both capacity and resilience. The new system now has two *equivalent* cooling loops, each capable of moving 4,500 gallons per minute, supported by four 500HP pumps and two high-capacity pumps rated at 800HP and 900HP—all equipped with variable speed drives, increasing capacity and resilience, and enabling future expansion, including parallel operation of two 36MW magnets.
- In 2025, the DC Field Facility recommissioned its portable dilution refrigerator for use in Cell 8 (35T, 32mm bore), selected to maximize the noise reduction potential for demanding low-electron-temperature measurements.
- EMR brought two magnet systems online in 2025, providing a higher magnetic field with the absence of a superconducting switch, allowing a higher field sweep rate, double what was possible previously. This enables more efficient data collection with decreased helium consumption.
- Added a new high-power amplifier and ultrafast optical switch, enabling longer, more flexible experiments and cleaner measurements (less downtime/noise) for EMR users.



- Also in 2025, the EMR facility's state-of-the-art Bruker X-/Q-band (9/34GHz) pulsed EPR spectrometer with many advanced features, such as in situ optical and nuclear excitation for double resonance investigations, came online.
- Upgraded a key EMR spectrometer with new pulse control electronics and a more powerful source—unlocking faster, sharper measurements and opening up new types of experiments for users.
- In 2025, a new ICR spectrometer was acquired that includes trapped ion mobility spectrometry (TIMS) for rapid gas-phase separation of, e.g., isomeric molecules with identical molecular weight. This acquisition brought the number of FT-ICR mass spectrometers available to the user program to four.
- Three-way parallelization of the linear ion trap, orbitrap, and ICR mass analyzers was demonstrated on the 14.5T and 21T instruments in the ICR Facility in 2025, a unique capability for structural determination.
- ICR also implemented an automated method for acquisition of direct infusion electrospray data. This method, termed DIADEM, has allowed thousands of spectra to be collected during 24-7 operation of the 21T ICR and is now being combined with automated data processing.
- About a dozen upgrades to NMR probes were made in 2025, including a 3.2mm and 2.5mm HX MAS low-E probe for material and biosolid applications on the 850MHz; a 2.5mm HX MAS probe for the 800MHz capable spinning up to 29kHz MAS, expanding the range of observable isotopes to cover 80% of NMR-active nuclides in the periodic table; a 3.2mm HXY low-temperature (100K) DNP MAS probe expanding the array of covered X-Y isotope combinations with new 3-resonance tune cards, per users' demands.
- NMR also saw the development of dual-resonant birdcage volume coils in  $^1\text{H}/^2\text{H}$  and  $^1\text{H}/^{31}\text{P}$  configurations, a  $^1\text{H}$  quadrature surface coil for mouse Alzheimer's studies, and cost-effective RF shield development for ultra-high field MRI coils on the 900MHz in 2025.
- Expanded NMR capabilities with two donated magnets (a 600MHz wide-bore Agilent magnet obtained from the University of Central Florida, and a 400MHz Bruker magnet was donated by Sanford Burnham).
- In 2025, the effort to return the Pulsed Field Facility's 1.4GW LANL motor generator to service reached major milestones, including bringing fabrication of a replacement rotor to 95% completion (June 2025). In parallel, the power delivery team advanced critical subsystem upgrades—installing new power electronics (generator drive and exciter), expanding sensors and instrumentation for improved health monitoring, and completing inspection/maintenance of the rectification control system—while also finishing a major multiyear open-loop cooling system replacement project vital to generator operation and helium recovery.
- Installation of all hardware and power infrastructure required for the operation of the 85T duplex new magnet at the Pulsed Field Facility is now complete. Separate pulsed power to the insert and outsert magnets, separately, has been successfully delivered.

## USER RESEARCH

More than 410 articles appeared in peer-reviewed scientific and engineering journals, more than 40% of which were published in significant journals like *Science*, *Nature*, *Physical Review Letters*, *Energy & Fuels*, *Analytical Chemistry*, and the *Proceedings of the National Academy of Sciences*. A complete database of user publications can be found at <https://nationalmaglab.org/research/publications-all/peer-reviewed-publications>. Key discoveries from 2025 included:

- AMRIS users performed the first mechanistic study of tetraisoquinene biosynthesis by TiqS, a diterpene synthase from the myxobacterium *Melittangium boletus*. This work explained how an enzyme helps build a complex natural molecule called a terpene. The researchers worked out key steps in the enzyme's "assembly process," including how it avoids unstable intermediate steps and reliably produces one specific final molecule with an unusual four-ring structure. These findings improve our basic understanding of how nature makes such compounds and could help scientists redesign similar enzymes to create new molecules useful in medicine or agriculture.
- DC Field users discovered that the kagome superconductor  $\text{CsV}_3\text{Sb}_3$  hosts not one but two distinct superconducting states. Unlike in any other known material, these states coexist without merging into a single phase. This surprising "double" superconductivity challenges long-standing theories

and opens the door to new insights into how quantum materials can carry electricity without resistance.

- Scientists using the DC Field Facility found that an electrical insulator,  $\text{YbB}_{12}$ , contains hidden particles that respond to magnetic fields even though they carry no electric charge. These “neutral fermions” revealed themselves through tiny ripples in the heat capacity when the material was placed in very strong magnetic fields.
- DC Field users detected semi-Dirac fermions, a unique type of particle predicted 16 years ago, but never observed. These particles are massless in one direction and have mass in the perpendicular direction. Using high-field magneto-infrared spectroscopy, they found clear evidence of the fermions in zirconium silicon sulfide ( $\text{ZrSiS}$ ) when exposed to strong magnetic fields and observed a distinct energy pattern that matches the predicted signature of semi-Dirac fermions (cyclotron energy scales with the two-thirds power of the magnetic field).
- EMR users discovered that a special arrangement of europium ions connected by organic molecules could be ideal for efficient magnetic cooling at extremely low temperatures. The triangular pattern prevents the europium ions from settling into an ordered magnetic state, keeping them disordered even at near absolute zero. This unique property makes the material promising for advanced cooling technologies.
- Researchers performed high-field electron paramagnetic resonance measurements on titanium-based catalyst molecules at the MagLab EMR facility and found small, but distinct differences indicating subtle variations in electronic structure. Changes in electronic structure can relate to effectiveness in producing polymers like plastics.
- In a series of experiments at High B/T Using the MagLab’s newest ultra-cold, highfield- setup, researchers uncovered *two distinct “drag” effects* in paired quantum wires—an unexpected clue to how electrons interact in nextgeneration- quantum materials, and a key step toward designing future ultra-efficient nanoelectronics and quantum technologies.
- Using the 21T ICR-MS, ICR users performed molecular composition analysis for a variety of highly complex samples from soils, lake sediment, river, ocean, and glacial waters, to tropical tree roots, and pyrolysis oils. 21T nESI data from solid phase extracted glacial water samples and surface ice revealed how anthropogenic carbon is deposited and exported from glaciers in the Arctic and Antarctic. Data from extracted Amazon basin river samples over 8 years revealed seasonal changes in the delivery of dissolved organic matter to the ocean and an additional contribution of ~5 %.
- Using a custom chemical separation process, ICR users were able to isolate and detect nearly twice as many molecules in bio-oils compared to traditional techniques. This novel approach revealed previously hidden isomers - molecules with the same numbers and types of atoms but arranged in different structures –that are not invisible using conventional techniques.
- MagLab data collected with the 21 tesla FT-ICR mass spectrometer demonstrate the risk associated with internal fragment annotation in mass spectra of intact proteins. These findings will enhance the integrity of top-down proteomics data and prevent misidentification of proteins involved in biological phenotypes of interest.
- Scientists used the world’s strongest NMR magnet to study how magnesium ions ( $^{25}\text{Mg}$ ) move inside special materials called antiperovskites. The ultra-high magnetic field allowed researchers to perform variable-temperature solid-state nuclear magnetic resonance (SSNMR) to measure magnesium’s motion in detail for the first time, finding low-energy pathways.
- Scientists have shown that ultra-wide-line solid-state NMR can be used to directly study bismuth ( $^{209}\text{Bi}$ ) and iodine ( $^{127}\text{I}$ ) atoms inside metal-organic frameworks (MOFs) — a special type of material with tiny pores that can trap and store gases, speed up chemical reactions, store energies, or deliver medicines. This breakthrough was made possible by using ultra-high magnetic fields up to 35.2 tesla, enabling high-resolution measurements that were previously out of reach.
- NMR users discovered that the molecules that make up cartilage — particularly highly mobile glycosaminoglycans GAGs and collagen (a structural protein that provides strength, flexibility, and support to connective tissues) — are held together by specific electrostatic and hydrogen bonding interactions. This is the first time these connections have been directly observed at the atomic level in natural cartilage.

- In magnetic fields up to 70T at the Pulsed Field Facility, MagLab users found a surprising new kind of superconductivity in nickelate materials—showing they can *keep carrying electricity with no resistance even when intense fields should shut superconductivity down*, a discovery that could point to future superconductors that work in far harsher conditions. Measurements of  $\text{Sm}_{1-x-y}\text{Eu}_x\text{Ca}_y\text{Sr}_z\text{NiO}_2$  demonstrate clear magnetic-field-induced re-entrant superconductivity and extraordinarily large upper critical fields and constitute the first observation of magnetic-field-induced or re-entrant superconductivity in a high-temperature superconductor. The 60T Mid-pulse and 75T Duplex magnets at the PFF, coupled with steady state measurements in the 41T resistive magnet and 45T hybrid magnet at the DC facility, played vital roles in these results, enabling users to induce re-entrant superconducting phases and track their evolution with angle of applied field and temperature.
- Studying  $\text{h-Lu}_{0.9}\text{Er}_{0.1}\text{MnO}_3$ , users of the PFF revealed an unusual light control effect relevant for optical communications through optical fibers. High magnetic field magneto-optical measurements up to 55T were essential for mapping out the response as a function of wavelength, revealing strong field-dependent shifts and demonstrating robust magnetoelectric coupling at high fields.
- Using ultrahigh pulsed magnetic fields, researchers observed the “Yamaji effect” at unusually high temperatures—an exciting advance that reveals new details of how electrons move in quantum materials and underscores the unique reliability of the MagLab’s 75T Duplex magnet.
- The MagLab is partnering with researchers at the Cornell High Energy Synchrotron Source (CHESS) to implement FOXDEN (1) — their FAIR Open-Science Extensible Data Exchange Network. This software helps manage, discover, and track data and metadata that are Findable, Accessible, Interoperable, and Reusable (FAIR). By using emerging metadata standards like Science-on-schema.org (2) and Croissant (3), the system improves data discoverability and makes it easier to apply artificial intelligence (AI) techniques.

More 2025 MagLab science highlights can be found online at <https://nationalmaglab.org/research/science-highlights/> as well as information on our in-house research efforts in condensed matter physics, cryogenics, geochemistry and biology/chemistry.

### MAGNET-MAKING MILESTONES

Magnet technology is a critical component of the MagLab, advanced in the lab’s Applied Superconductivity Center (ASC) and the Magnet Science and Technology (MS&T) division. ASC is focused on developing superconducting materials and magnet technologies, from initial materials research to feasibility validations, while MS&T works to develop and maintain high-field magnet systems. Key achievements and technical research highlights during 2025 include -

- In 2025, ASC commissioned the large “Renegade” over-pressure furnace and upgraded the “Deltech” furnace with more robust heater technology, while expanding the Bi-2212 melt-phase uniform-temperature zone ( $\pm 2^\circ\text{C}$  above  $872^\circ\text{C}$ ). The Renegade achieved  $>0.5\text{m}$  uniform zone at 50 bar (via extended ramping), and studies identified a pathway to  $\sim 1\text{m}$  uniform zone at  $\sim 20\text{--}25$  bar—a key step toward 1m demonstrator magnets.
- 2025 saw world-record high-field progress using the “Little Big Coil” REBCO testbed at ASC with the world’s first conductor characterization up to 45T for LBC tapes and increased throughput to four LBC tests per year through fabrication/modularization improvements. Little Big Coils twice surpassed the prior 45.5T DC field record, reaching 46.0T and a new world record of 48.7T in 2025.
- Bi-2212 coil technology advanced toward higher-field, higher-stress operation in 2025, ASC pursued a two-pronged conductor- and coil-level reinforcement strategy and began preparing a new series of coils targeting 20T+ performance in 2026 (including a projected 21.4T combined field at 350A) while also launching test coils aimed at exploring  $>>400\text{ MPa}$  stress regimes to enable future 30T-class systems.
- In 2025, ASC provided extensive superconducting and microstructural characterization to support efforts to establish US-based REBCO coated conductor manufacturing, linking nanostructure (e.g.,  $\text{Y}_2\text{O}_3$  precipitates/defects) to performance and giving feedback that “significantly contributed” to high temperature superconducting production R&D.
- In 2025, a rewind CORC® cable solenoid survived extensive mechanical/thermal cycling, including 99 operating current cycles to  $\sim 230\text{MPa}$  JBr hoop stress, 14 quenches, and 5 thermal

cycles; follow-up tests showed no loss in critical current (with an 18% n-value drop indicating changed current sharing), supporting continued high-stress testing plans.

- MS&T sustained their world-leading DC magnet resistive magnet suite running reliably in 2025, with the 41.5T all-resistive magnet remaining the facility's most-used system (including continued long-life coil performance). The team completed 30+ major maintenance actions and produced four spare resistive coils, including a redesigned 41.5T D-spare coil expected to improve coil longevity by reducing current density while maintaining field strength.
- Design for a 22.5T / 195mm Large Bore Resistive Magnet was advanced in 2025 to the point that construction can begin, establishing a key testbed for future 50–60T HTS insert development.
- Fabrication was completed in 2025 for a 60T Controlled Waveform system Coil 7, including full winding, impregnation, testing, and shipment preparation for delivery to the pulsed-field operations group at LANL.
- The 40T All Superconducting magnet project saw advancements in 2025 including a user DC field and Pulsed field user survey to prioritize high-impact experimental capabilities and techniques to maximize the scientific impact of the future 40T magnet; a second round test of Large Scale Coil 1 was successfully performed in October 2025 marking the successful completion of the preliminary design. Future tests of a Large Scale Coil 2 are planned for the coming year as work toward a 40T magnet final design nears completion. This magnet is currently designed to feature a 12T LTS outsert combined with the 28T HTS coils to reach a total field of 40T. The initial specification for the commercial LTS magnet was released to vendors as a Request for Information (RFI) for the 40T construction proposal and two vendors responded with conceptual designs and estimated budget and schedule.

### STEM WORKFORCE & PARTNERING WITH INDUSTRY FOR BROADER IMPACT

Work to broaden the US-based STEM workforce continued in 2025 at the MagLab. At the K-12 level, more than 2,000 students from 45 schools came to the MagLab for an educational fieldtrip. Six Science Night events were held in 2025 at the Public Library and were attended by approximately 500 preschool and elementary-aged kids and their parents. Over 90% of kid participants leave feeling that science is fun, and more than 90% of parent participants say they also learned something at Science Night.

Nearly 70 middle and high school students participated in camps or internship programs at the lab. Participants report having engaged in hands-on STEM activities and meaningful interactions with STEM professionals, which increased their interest in science and fostered a strong sense of belonging and STEM identity; an increased understanding of science, and greater confidence in engaging with scientific activities. In 2025, LANL Pulse Field Facility members participated in the 9th annual Los Alamos National Laboratory Summer Physics Camp. The free camp for about 30 middle and high school students from across New Mexico aims to empower students to consider careers in science, technology, engineering, and math (STEM).

Another 26 undergraduates participated in Research Experiences for Undergrads or Magnetic Momentum Scholars Program. Participants show growth in skill development, positive perception of STEM careers and connection with potential STEM mentors and/or peers.

A Research Experiences for Teachers (RET) program hosted ten teachers in 2025, all from Title 1 schools. Evaluation data shows that the RET program significantly strengthened teachers' knowledge, confidence, and instructional practices, with both in-person and virtual sessions contributing to sustained engagement and effective application of MagLab science in the classroom.

In 2025, MagLab staff gave 146 lectures, talks and presentations to organizations around the country and the world. In 2025, the MagLab hosted ten conferences and workshops reaching close to 450 people, including the 14th North American FTMS Conference, which attracted top scholars in the ICR field, and the Annual DC Field Facility MagLab User Summer School, which hosted 17 participants for an immersive program designed to train the next generation of scientists in high magnetic field research.

The 2025 MagLab Open House hosted 10,000 people who came to celebrate the launch of a new era of the MagLab following our lab's 30<sup>th</sup> anniversary. Survey data shows that about half of 2025 Open House visitors had never been to the lab before the event and that about 90% agreed or strongly agreed that the event helped them better understand the science at the MagLab and how it benefits our community. Another 1,500 people engaged with MagLab UF facilities at a STEM ON THE LAWN event.

The MagLab helped host a national Motor Drives and Magnetic Systems Conference in Tallahassee in 2025 for about 250 attendees, many from leading magnet companies. In addition, the lab engaged with



dozens of companies in 2025, growing our broad partnership network across quantum, superconductivity, rare earth extraction and magnet technology domains.

### SECURING A HEALTHY, SAFE, POSITIVE & PRODUCTIVE LAB ENVIRONMENT

The MagLab partnered with its host institutions to protect users, employees, visitors and the community, investing \$70,000 in 2025 in safety equipment, supplies, security upgrades, training, and education (including PPE; Lockout/Tagout and controlled energy verification; gas/atmosphere monitoring; and refresher training modules). Key highlights included

- the completion of an independent, multi-institutional External Safety Review confirming the Lab's core programs meet or exceed OSHA and NSF expectations and identifying opportunities for cross-site standardization and improved contractor/visitor oversight (with actions implemented for all recommendations),
- expanded AI-enabled safety tools—supported by the Moneta near-miss app (beta, planned for lab-wide deployment)—to improve early hazard detection and enable phone-based, photo, and anonymous reporting with automated status notifications.

User safety remained strong through required pre-arrival and on-site training and support, with 98% of external users being satisfied or very satisfied with overall safety. The Psychological Safety Training Program (launched in 2024) continued to strengthen communication, trust, and speaking up to support hazard reporting and a culture where all voices are valued.

### LOOKING AHEAD

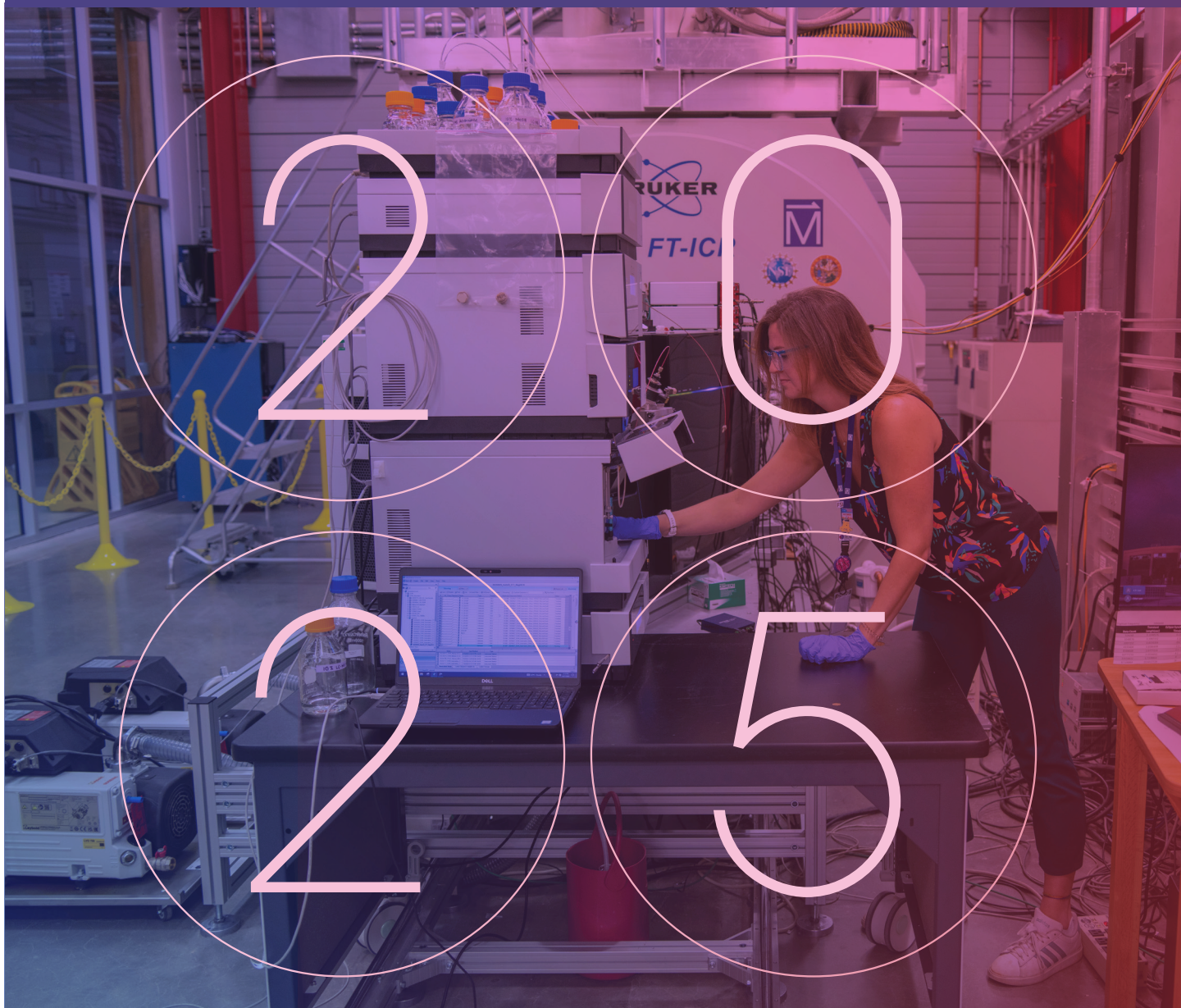
New instrumentation and training are planned for 2026 that seek to expand the lab's scientific and technological capabilities:

- DC Field Facility finalized project plans for several critical infrastructure initiatives that will be executed in the coming years. These plans include the replacement of the Cooling Towers (scheduled for 2026) in support of the water-cooled magnet operations, the replacement of the on-site electrical substation (2026/2027) to enhance electrical reliability for high-power magnet operations, and the installation of power quality conditioning equipment (2026/2027). Plans were developed for the refurbishment of the 3-million-gallon chilled water storage tank (2026).
- With the two new magnets now installed and operating well in EMR, we will now have new capabilities and improve overall operational reliability on two workhorse spectrometers (HiPER and Broadband Homodyne Transmission). This will allow us to allocate more time for external users in comparison to 2025, when the downtime, installation, and testing took a non-negligible part of the instrument time. The enhancements with the 10W cw amplifier will allow for longer pulse sequences and higher resolution of selected applications, while the optical switch will allow the study of fast-relaxing systems.
- Bruker X-/Q-band (9/34GHz) pulsed EPR spectrometer will be available to users in 2026, allowing pulsed EPR/ENDOR at Q-band, arbitrary pulse shaping with the AWG, and the possibility of optical excitation enabled by an accompanying OPO-laser.
- Support from the QSE initiative to develop a tunable (2-18GHz) pulsed EPR spectrometer based on a qubit controller purchased from the company Qblox Quantum. Work has been ongoing in 2025, and the first experiments in the magnet are planned for spring 2026.
- A very wideband pulsed instrument is currently under development that leverages a single qubit controller acquired from the company Qblox Quantum (Delft, Netherlands). These devices are manufactured for use with real quantum computing devices, enabling programmable operation of quantum processors in the DC to 18.5GHz range. This development responds to a national need identified in a recent National Academies report (<https://doi.org/10.17226/26850>) – that of a widely tunable pulsed EPR spectrometer to characterize new quantum systems that operate optimally at frequencies not reachable with commercial spectrometers. We plan to integrate this new capability with an existing split-pair 7T superconducting magnet system. A future frequency-doubling capability will further extend the wideband coverage of this instrument.
- Return of uninterrupted and clean power infrastructure for High B/T planned for 2026, so routine electron temperatures below 10mK can be provided in the quantum materials being studied by users.

- The ICR facility will continue to expand its user facility using the world's first 21T FT-ICR mass spectrometer, including expansion of the MALDI imaging sampling and acquisition capabilities, and LC FT-ICR MS for complex mixtures. A new MALDI imaging source, compatible with the front-end upgrades to the 14.5T and 21T instruments, has been acquired.
- The new ICR trapped ion mobility spectrometry (TIMS) capability allows rapid gas-phase separation of isomers for improved imaging and analysis of complex mixtures.
- Improved automation of dissolved organic matter direct infusion analysis, an approach that, along with automated AI-driven data analysis, will significantly increase sample throughput in our Facility.
- 1.9mm HXY low-temperature (100K) DNP MAS probe is in construction in the NMR Facility with an estimated delivery of fall 2026.
- The control software required to operate the 85T duplex system in combined mode is presently being tested with an anticipated commissioning of the system before the end of 2026.
- The rectification control system (the PSRs) - vital infrastructure for powering the 100T and 60T controlled waveform magnets – will be replaced in 2026.

# NATIONAL MAGLAB

## AT A GLANCE



Florida State University • University of Florida • Los Alamos National Laboratory

Supported by the National Science Foundation and the State of Florida



# A NATIONAL RESOURCE

Seeking the most powerful magnetic fields on Earth, scientists and engineers from around the world conduct their experiments at the National MagLab. In 2025, our **1,637** users represented **302** universities, government labs and private companies worldwide.

**81%**

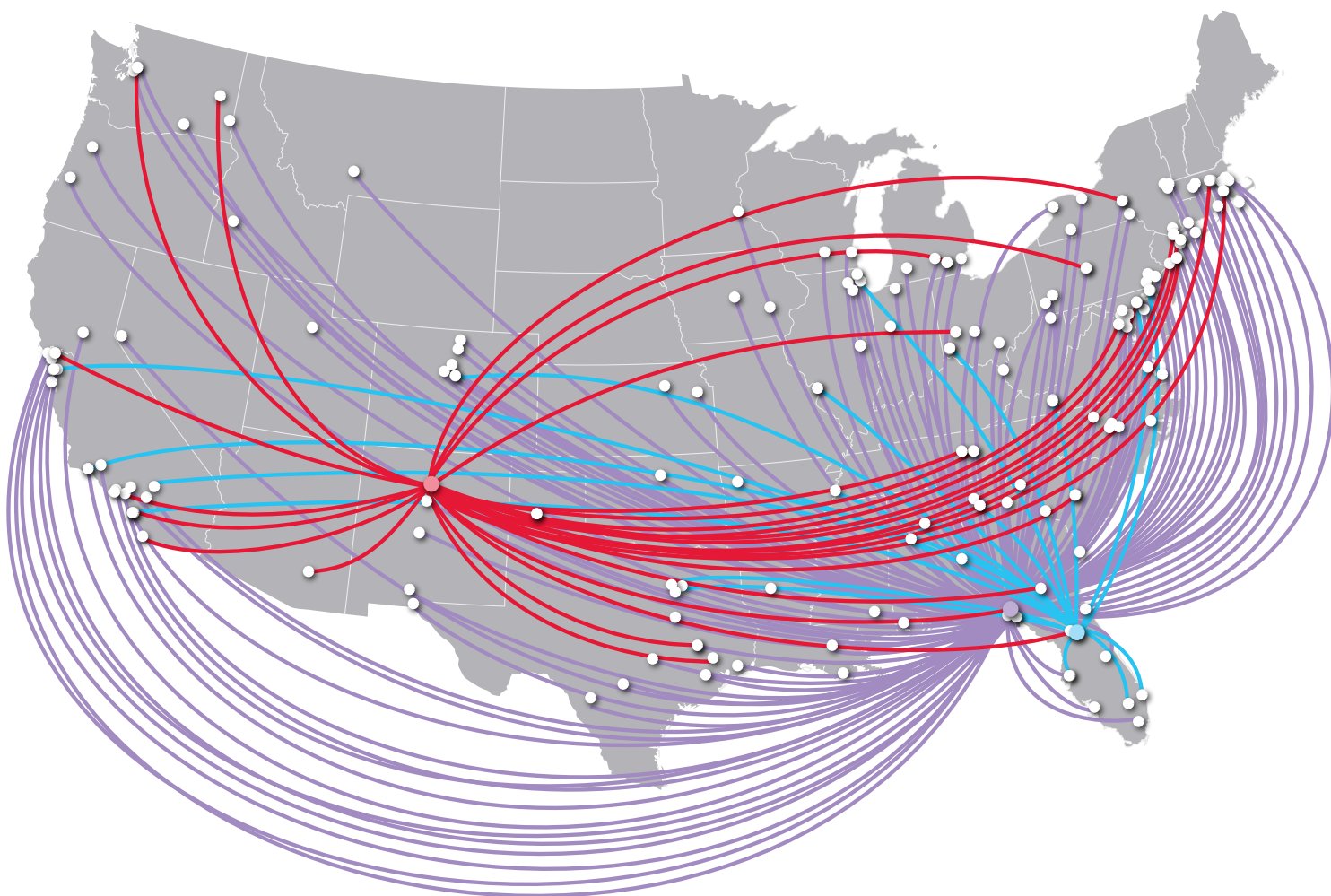
UNIVERSITIES

**15%**

GOVERNMENT LABS

**4%**

INDUSTRY





# 2025

## LAB STATS

**USERS:**

1,637

**PERCENTAGE  
OF USERS  
WHO WERE NEW:**

24%

**ARTICLES  
PUBLISHED IN  
PEER-REVIEWED  
JOURNALS:**

412

**TALKS,  
LECTURES AND  
PRESENTATIONS GIVEN TO  
ORGANIZATIONS AROUND  
THE COUNTRY & WORLD:**

146

**ARTICLES  
APPEARING IN  
SIGNIFICANT  
JOURNALS:**

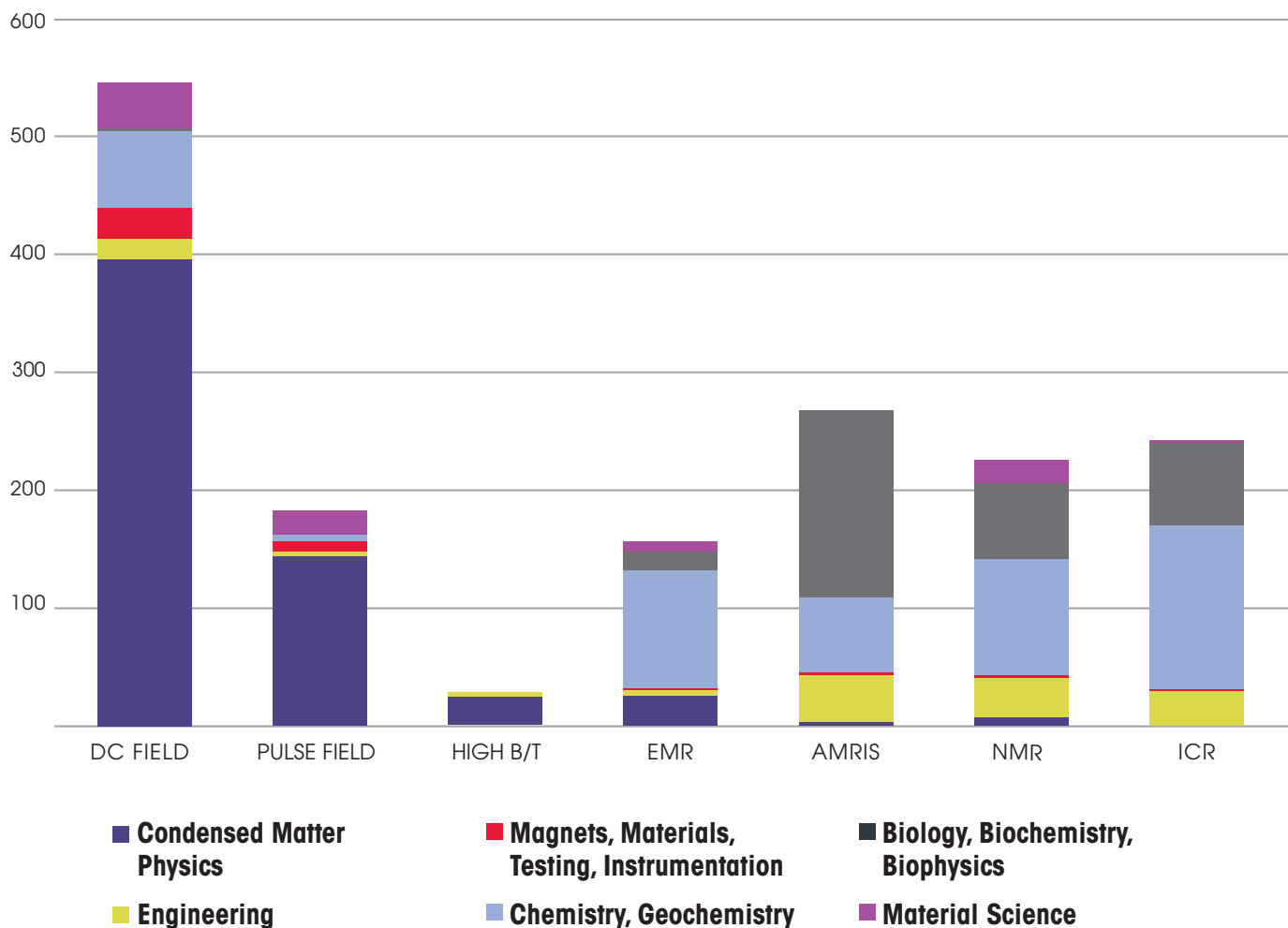
44%

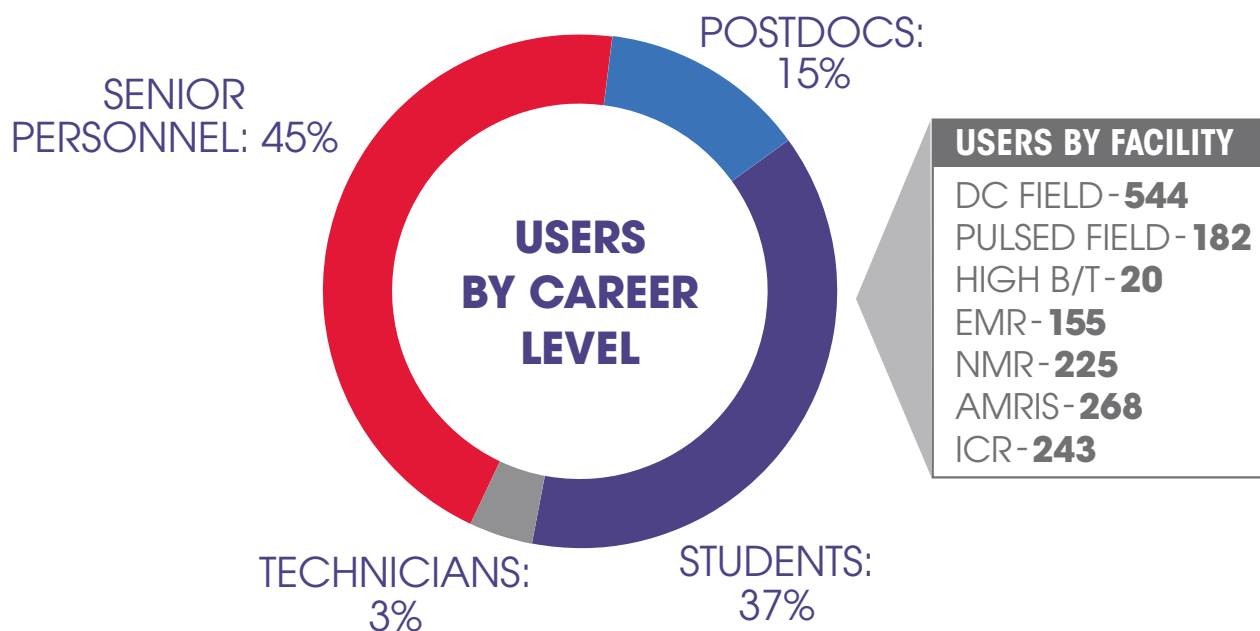
# WHO OUR USERS ARE

High magnetic fields are a powerful research tool across many disciplines leading to groundbreaking discoveries that impact your life. The lab comprises 7 distinct user facilities that offer our researchers a wide range of research capabilities:

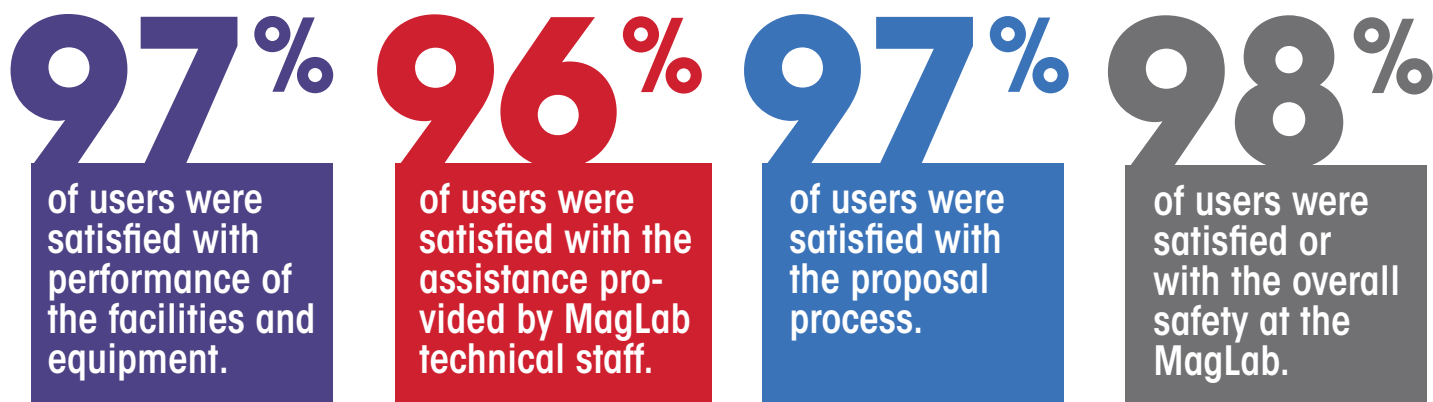
- **DC Field**  
Steady, continuous magnetic fields up to 45 T
- **Pulsed Field**  
Short, ultra-powerful magnetic fields up to 100 T
- **High B/T**  
Magnetic fields up to 15 T combined with ultra-cold temperatures of 0.4 mK
- **Electron Magnetic Resonance (EMR)**  
Magnetic resonance techniques associated with the electron
- **Nuclear Magnetic Resonance (NMR)**  
Solid & solution state NMR & animal imaging
- **Advanced Magnetic Resonance Imaging & Spectroscopy (AMRIS)**  
High-resolution solution and solid-state, NMR, animal imaging & human imaging
- **Ion Cyclotron Resonance (ICR)**  
Ultra-high resolution and high mass accuracy Fourier transform ion cyclotron resonance (FT-ICR) mass spectrometry

## 2025 USERS BY DISCIPLINE





## WHAT OUR USERS SAY



Data reflects external users only.

## MAGLAB STAFF

The MagLab employs a skilled workforce of scientists, machinists, engineers, and technicians.

Total MagLab Staff: **562**



- Senior Personnel: **187**
- Other Professional: **78**
- Support Staff - Technical: **71**
- Support Staff - Secretarial: **20**
- Postdoctoral: **43**
- Graduate Student: **95**
- Undergraduate Student: **66**





# SPARKING CURIOSITY

Whether in a traditional classroom setting or on our website, within the walls of our lab or in universities around the globe, the National MagLab is committed to sharing our passion for science. We are growing the next generation of scientists and inspiring all individuals about the magic of discovery in high magnetic fields.

2,000+

K-12 students participated in Classroom Outreach or a field trip.

10,000+

visitors of all ages during our annual  
**5-hour** Open House event

4.4  
MILLION

website interactions

100+

Students in long term mentorship  
or camp programs

870

news articles, blogs, or social  
media posts with an estimated  
reach of nearly people.

500+

Children and parents attended MagLab  
Science Night at the Library.

# 1 LABORATORY MANAGEMENT

## 1.1 Organization

Florida State University (FSU), the University of Florida (UF), and Los Alamos National Laboratory (LANL) jointly operate the National High Magnetic Field Laboratory (NHMFL or MagLab) under a cooperative agreement with the National Science Foundation (NSF). This agreement outlines the MagLab's goals and objectives. As the signatory institution, FSU holds primary responsibility for the administrative and financial oversight of the MagLab, ensuring its operations align with the cooperative agreement. **Kathleen Amm is serving as Director of the MagLab.**

**Leadership Updates.** Personnel appointed to MagLab Leadership since 2024/2025 are: MagLab Director (Kathleen Amm), Deputy Lab Director (Tim Murphy), ICR User Facility Director (Kristina Håkansson), DC Field User Program & Instrumentation (Ali Bangura), DC Field Facilities & Magnet Operations (Julia Smith), Director of Magnet Science & Technology (Tom Painter), Business Administration (JJ Jacob), Human Resources (Kayla West), Employee Health and Safety (Alfie Brown).

### PI and Co-PIs:

- Kathleen Amm (PI)
- Kristina (Kicki) Hakansson (Co-PI)
- Joanna Long (Co-PI)
- Ross McDonald (Co-PI)
- Eric Palm (Co-PI)

The **MagLab Leadership Team**, composed of senior scientists and administrators, meets monthly to address lab-wide and program-specific matters. Two external committees provide essential guidance:

- The **External Advisory Committee (EAC)**, comprising representatives from academia, government, and industry, advises on management and strategic direction.
- The **User Committee (UC)** supports the development and utilization of facilities and services for scientific research.

## 1.2 External Advisory Committee

The External Advisory Committee (EAC) is made up of representatives from academia, government, and industry. This committee offers advice on matters critical to the successful management of the lab.

### Leadership

- **Chair:** Stuart Brown — University of California, Los Angeles
- **Vice Chairs:**
  - Luca Bottura — CERN
  - Songi Han — Northwestern University

### Magnet Technology and Materials Subcommittee

- Luca Bottura — CERN
- Jeff Parrell — Bruker OST LLC

### Biology and Chemistry Subcommittee

- R. David Britt — UC Davis
- Wei Chen — University of Minnesota
- Robert Griffin — MIT
- Songi Han — Northwestern University
- Yining Huang — Western University (Canada)
- Christopher Jaroniec — The Ohio State University
- Tatyana Polenova — University of Delaware
- Susan Richardson — University of South Carolina
- Vicki Wysocki — Georgia Institute of Technology

### Condensed Matter Subcommittee

- Christoph Boehme — University of Utah
- Dan E. Dahlberg — University of Minnesota
- Rachel Goldman — University of Michigan

### Ex Officio Member

- Franklin Leach — University of Georgia

### 1.3 USER COMMITTEE

The MagLab's User Committee serves as a representative body for its broad, multidisciplinary user community, providing guidance to Lab leadership on matters affecting users of MagLab facilities. Members of the User Committee are elected from the user base, with each facility having its own subcommittee chosen by its users to advocate for their interests.

Some facilities share representation: the DC Field and High B/T facilities have a joint subcommittee, as do the NMR facilities at the University of Florida and Florida State University. Separate subcommittees exist for the Pulsed Field, Ion Cyclotron Resonance (ICR), and Electron Magnetic Resonance (EMR) facilities. Each subcommittee elects representatives to serve on the User Executive Committee, which in turn elects a chair and two vice chairs.

From November 4–6, 2025, the DC Field/High B/T Advisory Committee, Pulsed Field Advisory Subcommittee, EMR Advisory Subcommittee, NMR/MRI Advisory Committee, and the ICR Advisory Committee representative convened in Tallahassee, FL to review the state of the MagLab and provide feedback to both NSF and MagLab management. The 2025 User Advisory Committee Report is now available on the [User Committee – MagLab website](#).

#### Executive Committee

- Chair: Franklin Leach – University of Georgia
- Vice Chair: Michihiro Hirata – Los Alamos National Laboratory
- Vice Chair: Galia Debelouchina – University of California, San Diego
- Nat Fortune – Smith College
- Raivo Stern – National Institute of Chemical Physics & Biophysics, Estonia
- Selvan Demir – Michigan State University

#### DC/High B/T Advisory Sub-Committee

- Ryan Baumbach – University of California, Santa Cruz
- Corey Frank – New Mexico State University
- Nat Fortune – Smith College
- Paula Gallo – Universidad de Los Andes, Colombia
- Long Ju – MIT
- Johannes Pollanen – Michigan State University
- Daniel Rhodes – University of Wisconsin – Madison
- Raivo Stern – National Institute of Chemical Physics & Biophysics, Estonia
- Sergei Zvyagin – Dresden High Magnetic Field Laboratory

#### EMR Advisory Sub-Committee

- Alina Bienko – University of Wroclaw
- Selvan Demir – Michigan State University
- Effie Kisgeropoulos – National Renewable Energy Laboratory
- Muralee Murugesu – University of Ottawa
- Troy Stich – Wake Forest University
- Joshua Telser – Roosevelt University

#### ICR Advisory Sub-Committee

- Jesse Canterbury – Thermo Fisher Scientific
- Caroline DeHart – Frederick National Laboratory for Cancer Research
- Ryan Julian – University of California, Riverside
- Franklin Leach – University of Georgia
- Caitlin Tressler – Johns Hopkins University School of Medicine
- Robert Young – New Mexico State University

#### NMR/MRI Advisory Sub-Committee

- Vipin Agarwal – Tata Institute of Fundamental Research
- Claudia Avalos – New York University
- Galia Debelouchina – University of California, San Diego
- Shella Keilholz – Emory University / Georgia Tech
- Isabelle Marcotte – Université du Québec à Montréal
- Andre Obenaus – University of California, Riverside
- Frédéric A. Perras – Ames National Laboratory, Iowa State University
- Lothar R. Schad – Medical Faculty Mannheim, University of Heidelberg

- Jun Xu – Innovation Academy for Precision Measurement Science and Technology, CAS

#### **Pulsed Field Facility (PFF) Advisory Sub-Committee**

- Charles (Chuck) Agosta – Clark University
- Joseph G. Checkelsky – Massachusetts Institute of Technology
- Krzysztof Gofryk – Idaho National Laboratory
- Michihiro Hirata – Los Alamos National Laboratory
- Rongyin Jin – University of South Carolina
- Sheng Ran – Washington University in St. Louis

## **1.4 PERSONNEL**

As of January 23, 2026, the MagLab employs **562** individuals across its three sites. These personnel are funded by the NSF core grant, the State of Florida, and individual investigator awards, as well as a variety of home institutions and other sources. A list of MagLab personnel by department is presented in **Appendix I**.

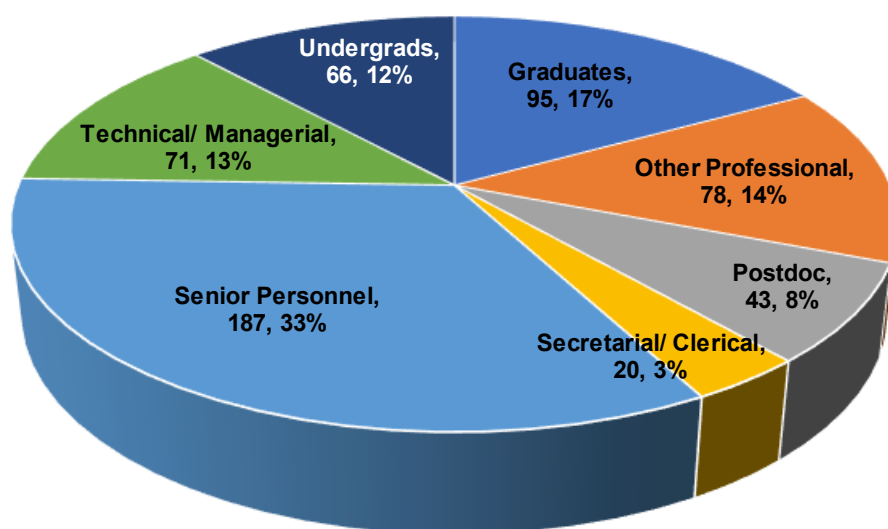
#### **Principal Investigators**

- Kathleen Amm (PI)—Director/Professor
- Kristina (Kicki) Hakansson (Co-PI)—Program Director, ICR, FSU
- Joanna Long (Co-PI)—Program Director, AMRIS, UF
- Ross McDonald (Co-PI)—Program Director, PFF, LANL
- Eric Palm (Co-PI)—Deputy Lab Director

#### **User Facility Directors**

- Advanced Magnetic Resonance Imaging and Spectroscopy Facility (UF)—Joanna Long
- DC Field Facility (FSU)—Ali Bangura, Julia Smith
- Electron Magnetic Resonance Facility (FSU)—Stephen Hill
- High B/T Facility (UF)—Mark Meisel
- Ion Cyclotron Resonance Facility (FSU)—Kristina (Kicki) Hakansson
- Nuclear Magnetic Resonance (FSU)—Robert Schurko
- Pulsed Field Facility (LANL)—Ross McDonald

Of our 560 employees, senior personnel constitute the largest share at 33%, followed by graduate students (17%), other professionals (14%), technical staff (13%), undergraduate students (12%), postdocs (8%), and administrative staff (3%). See **Figure 1.4.1** for the full breakdown.



**Figure 1.4.1.** MagLab Position Distribution (as of January 23, 2026).



## 1.5 SAFETY

Safety is a foundational, non-negotiable value at the National High Magnetic Field Laboratory (MagLab). As a multi-institutional NSF user facility operating across Florida State University (FSU), the University of Florida (UF), and Los Alamos National Laboratory (LANL), the MagLab is responsible for maintaining a safe and educational environment for staff, users, contractors, and visitors. This responsibility spans a broad range of research environments—including high magnetic field laboratories, cryogenic systems, biosafety spaces, radiation-regulated areas, and specialized engineering shops.

The MagLab's Integrated Safety Management (ISM) Program forms the backbone of its safety culture. ISM embeds hazard identification, mitigation, and operational controls into every step of work planning and execution. Safety is treated as an investment in people and scientific productivity—not an expense—reinforced through leadership engagement, frequent communication, and a strong expectation of personal accountability. The MagLab is committed to nurturing a strong and sustainable safety culture. Some of the key practices that support this commitment include:



- Safety is considered a core value and an investment, not an expense.
- Management plays an active role in promoting and driving our Safety Culture.
- The MagLab Director hosts Quarterly Safety Meetings to address lab-wide safety issues and initiatives.
- The MagLab Director and Safety Director regularly conduct walk-throughs of lab areas to engage with researchers, staff, and users while observing ongoing work.
- All new employees receive safety training, including a new Employee ISM Training that focuses on the Lab's ISM process. Training encourages a strong safety mindset, fostering an interest in safety and familiarizing employees with the Lab's core values. Employees are further introduced to policies on Stop Work, near-miss/no-fault self-reporting, and accident reporting.

### Leadership Engagement and Safety Culture

MagLab leadership actively promotes a robust and sustainable safety culture. Key leadership practices include:

- Quarterly Lab-Wide Safety Meetings, hosted by the MagLab Director since 2013, to highlight lessons learned, discuss near misses, and reinforce consistent safety messaging across all facilities and staff levels.
- Routine Safety Walkthroughs conducted by the Director and Safety Director in research, laboratory, and shop areas to engage with staff and observe work in progress.
- Expectations of Safety Ownership, empowering every employee, user, and visiting scientist with Stop Work Authority without fear of reprisal.
- Face-to-Face Safety Training for New Employees, including direct discussion with the Director or Deputy Director about ISM principles, the history of MagLab safety, near-miss reporting, and the importance of a no-fault reporting culture.

Across all sites, staff consistently report confidence in the MagLab's safety programs and appreciation for transparent communication, practical guidance, and ongoing opportunities for safety engagement.

### Safety Investment and Resources

In 2025, the MagLab invested more than \$70,000 in safety equipment, infrastructure improvements, training, and hazard monitoring devices. These investments support:

- Personal protective equipment (PPE)
- Lockout/Tagout and Controlled Energy verification
- Security system upgrades
- Gas and atmosphere monitoring tools
- Training modules and refresher programs

The Safety Department also collaborates closely with FSU EH&S, UF EH&S, and LANL Environment, Safety, Health, and Quality teams to ensure consistent, compliant, and proactive safety practices across all locations. Joint inspections, cross site trainings, and shared committee representation strengthen the cohesion and standardization of safety expectations.

### Committees and Safety Governance

Safety oversight is supported by a suite of committees that meet regularly to analyze hazards, review incidents, and improve safety programs. These include:

- Director's Monthly Safety Committee (with UF and LANL participation)
- Safety Concerns Committee
- Lock/Tag/Verify Committee
- Cryogen Safety Committee
- Laser Safety Committee
- Electrical Safety Committee

Committee structures support the MagLab's ISM framework and allow targeted subcommittees to be convened when specific technical or safety concerns arise.

### Reporting Systems and Data-Driven Prevention

The MagLab employs multiple tools to expand safety communication and near-miss reporting:

- SafeMag Reporting Portal – The SafeMag reporting portal remains the MagLab's established, lab-wide platform for confidential and anonymous reporting. It provides a consistent channel for staff and users to raise safety concerns, near misses, or improvement suggestions, and continues to support open communication while newer tools—such as the Moneta beta app—are evaluated for broader future deployment.
- Moneta Near-Miss Reporting App – This initiative is currently in its beta phase and is planned for future deployment lab-wide. The app enables proactive hazard identification, enhances safety culture, reduces workplace injuries, and promotes data-driven decision-making. Users can report near misses directly from their phones—with optional photos and anonymous submission—and receive notifications when reports are reviewed, commented on, or resolved.

These platforms support early detection of hazards, enhance psychological safety around reporting, and help the lab address concerns before they escalate.

### User Facility Safety

The MagLab's User Facilities—including the DC Field, Pulsed Field, High B/T, NMR, AMRIS, EMR, and ICR platforms—support a diverse community of internal and external researchers. Ensuring user safety is a core priority, and the Lab applies a structured, multilayered approach that begins well before a user arrives on site.

To prepare for their visit, users are assigned a combination of online and in-person training modules tailored to the specific facility in which they will work, and the hazards associated with their planned experiments. For external users, this coordination begins several weeks in advance to ensure all required modules are completed before authorization. Users must finish all mandatory training before they are permitted to begin work.

Upon arrival, users receive hands-on, site-specific instruction and are encouraged to discuss any technical or safety concerns with user support personnel. Throughout their time at MagLab facilities, users are paired with in-house scientists or technicians who provide continuous technical guidance and reinforce safe operational practices. This partnership model is especially important in high-hazard or highly specialized environments, where only trained and experienced facility personnel are permitted to carry out non-routine or particularly hazardous tasks.

This structured preparation—advanced training, on-site instruction, and ongoing professional support—ensures that users are equipped to work safely, confidently, and productively within the MagLab's complex, high-field research environment.

### Safety Highlights

The MagLab continues to advance its safety culture through proactive initiatives, technology adoption, and strengthened cross-site coordination.

One major area of progress is the expansion of Artificial Intelligence (AI)-enabled safety tools. The Safety Department is piloting the use of AI to identify leading indicators of potential incidents, enabling earlier intervention and more predictive hazard mitigation. This effort is supported by the Moneta near-miss reporting app, which is currently in its beta phase and planned for future lab-wide deployment. Moneta allows individuals to submit near misses directly from their phones—optionally including photos and anonymous submissions—and provides automatic notifications when reports are reviewed, commented on, or resolved. This functionality enhances transparency, strengthens engagement, and supports data-driven safety decision-making.

In 2025, the Safety Department completed the External Safety Review, a comprehensive evaluation conducted by an independent, multi-institutional committee. The review affirmed that MagLab's core safety programs meet or exceed OSHA and NSF expectations, highlighted the Lab's strong safety culture, and identified opportunities for cross-site standardization and enhanced contractor and visitor oversight. The

MagLab responded to each recommendation with documented action items, many of which are already implemented.

The MagLab also launched its Psychological Safety Training Program in 2024, reinforcing the critical connection between communication, trust, and hazard reporting. This program provides strategies for respectful dialogue, constructive feedback, and speaking up about concerns without fear of reprisal—further strengthening the Lab's safety climate and supporting a culture where all voices are valued.

Additionally, the MagLab completed CPR and First Aid training across multiple departments, increasing onsite emergency preparedness and improving first response capability within laboratory environments. Collectively, these initiatives demonstrate the Lab's ongoing commitment to continuous improvement, transparent communication, and the protection of its most important resource—its people.

### Ongoing Commitment and Continuous Improvement

MagLab leadership, in collaboration with institutional partners, remains committed to strengthening safety performance, empowering staff, and proactively identifying hazards before they pose risks. Through:

- Continued investment in safety tools and infrastructure
- Expanding reporting systems
- Regular training and inspection cycles
- Active leadership involvement
- Integration of lessons learned
- Transparent communication

the MagLab ensures a safe, supportive, and productive research environment for the diverse community it serves.

Above all, MagLab recognizes that while the laboratory houses world class instrumentation and infrastructure, its greatest asset is its people. Protecting them remains its highest priority.

## 1.6 BUDGET

The National High Magnetic Field Laboratory is primarily funded by the National Science Foundation. Other operating funds are provided through the participating institutions: Florida State University, University of Florida, and Los Alamos National Laboratory. Additionally, faculty and staff have been very successful in securing individual research funding for specific areas of research from a wide variety of sources, including federal, state, and private sectors.

The National Science Foundation Division/Directorate approved the National High Magnetic Field Laboratory's facilities award for 2023-2027 on December 12, 2022. For the Calendar Year 2025, NSF provided an operating budget of \$38,566,495.

**Table 1.6.1** represents the budget allocation and percentage of the total budget to each department/division of the National High Magnetic Field Laboratory. **Table 1.6.2** summarizes the MagLab's budget position as of December 31, 2025.

**Table 1.6.1.** NSF Budget by MagLab Departments/Divisions

| Division/Program                  | CY 2025 Total Funding (\$) | Budget (%)    |
|-----------------------------------|----------------------------|---------------|
| Operations/Safety                 | 2,058,481                  | 5.34%         |
| DC Field Facility/Facilities      | 8,976,668                  | 23.28%        |
| Magnet Science & Technology       | 5,769,886                  | 14.96%        |
| NMR                               | 1,247,072                  | 3.23%         |
| ICR                               | 2,100,000                  | 5.45%         |
| EMR                               | 939,187                    | 2.44%         |
| CIRL and REU                      | 432,161                    | 1.12%         |
| ASC                               | 2,001,759                  | 5.19%         |
| Electricity & Gases               | 4,193,801                  | 10.87%        |
| LANL                              | 9,100,000                  | 23.6%         |
| UF High B/T                       | 456,403                    | 1.18%         |
| UF - AMRIS                        | 759,218                    | 1.97%         |
| User Collaboration Grants Program | 253,794                    | .66%          |
| FAIR Data                         | 278,065                    | .72%          |
| Supplemental Awards               | -                          | -             |
| <b>Total Operations</b>           | <b>38,566,495</b>          | <b>100.0%</b> |

**Table 1.6.2. NSF Budget & Expenses – Calendar Year 2025**

| <b>Expense Classification</b>         | <b>Budget (\$)</b> | <b>Expenses and Encumbered (\$)</b> | <b>Balance (\$)</b> |
|---------------------------------------|--------------------|-------------------------------------|---------------------|
| <b>Salaries and Fringe</b>            | <b>12,299,386</b>  | 9,387,623.97                        | 2,911,762.03        |
| <b>Equipment</b>                      | <b>43,722</b>      | 414,779.22                          | (371,057.22)        |
| <b>Travel</b>                         | <b>187,575</b>     | 211,931.56                          | (24,356.56)         |
| <b>Participant Support</b>            | <b>125,902</b>     | 198,476                             | (72,574)            |
| <b>Direct Expense</b>                 | <b>3,007,760</b>   | 3,756,516.11                        | (748,756.11)        |
| <b>Subawards</b>                      | 10,603,489         | 10,603,489                          | -                   |
| <b>Other Direct Costs</b>             | <b>3,291,311</b>   | 2,378,366.26                        | 912,944.74          |
| <b>Subtotal</b>                       | 29,559,145         | 26,951,182.12                       | (99,037.12))        |
| <b>Indirect Cost</b>                  | <b>9,007,350</b>   | 8,787,624.07                        | 219,725.93          |
| <b>Total Direct and Indirect Cost</b> | <b>38,566,495</b>  | <b>35,738,806.19</b>                | <b>2,827,688.81</b> |

**Notes:**

Per the Cooperative Agreement, DMR 2128556, the CY 2025 funded budget is \$38,566,495.

Negative values are attributed to the following:

- Equipment encumbrances include purchases that have a lengthy lead time from the time the order is placed until receipt of the goods.
- Travel is not encumbered within the University system and credit card purchases are not included in unliquidated obligations.
- Participant Support housing costs are paid on a delay, after all rooms used have been inspected to ensure no damage and capture final costs.
- Indirect costs are not encumbered and not charged until expenses have posted.

## 1.7 MAGLAB COST RECOVERY REPORT

Seldom does the NHMFL incur costs due to resources used for companies doing proprietary research. On occasion, companies will need access to the unique equipment at the NHMFL, and they will contract for the use of said equipment. The NHMFL has established procedures to accumulate and report costs continuously and consistently for all such contracts based upon an agreed schedule of fees and costs to cover the use of such equipment that involves proprietary research.

In 2025, the MagLab received no income for the use of NSF-funded equipment during the period of performance of our federal award.



## 1.8 INDUSTRIAL PARTNERSHIPS AND COLLABORATION

The MagLab collaborated with dozens of companies, national/international labs, universities, and community groups in 2025.

### INDUSTRY

**Advanced Conductor Technologies, Boulder, CO:** The Applied Superconductivity Center and the Magnet Science and Technology Division of the MagLab are collaborating with Advanced Conductor Technologies on the development and testing of Conductor on round Core (CORC®) cables, using multi-layer spiraling tapes around a core, for magnet applications. The ongoing collaboration on measurements of HTS cables at large diameter and high magnetic fields (10 KA in 160 mm at 12 T at ASC) continues to set new benchmarks for peak current, current density, bend radius, and ramp rates. DOE Office of Fusion Energy has now supported manufacture and test of 3 such coils. (*MagLab contact: Ulf Trociewitz, ASC*)

**Advanced Superconducting Materials, Lexington, KY:** This collaboration has focused first on the development of a photo-acoustic measurement device. The second focus was on the development of reel-to-reel critical current measurement device that works at high fields and temperatures down to 4 K. (*MagLab contact: Daniel Davis, ASC*)

**ATI Specialty Metals and Products, Albany, OR:** This collaboration with ATI metals is in the development of new Nb alloys for Nb<sub>3</sub>Sn superconducting wire fabrication. The new alloys exhibit improved properties at high fields and could be used for accelerator magnets in facilities like the Future Circular Collider (FCC) under consideration by CERN. (*MagLab contact: David C. Larbalestier & Shreyas Balachandran, ASC*)

**Black Fox LLC, Tallahassee, FL:** Black Fox LLC is a MagLab spinoff company that builds custom magnetic resonance probes for research institutions. (*MagLab contact: Peter Gor'kov, NMR*)

**Bruker Biospin, Billerica, MA:** This is a collaborative work on MAS-DNP probe development. (*MagLab contact: Frederic Mentink-Vigier, NMR*)

**Bruker, Bremen, Germany:** Bruker is the only commercial vendor of FT-ICR MS. We have procured a prototype of their coming product coupling trapped ion mobility (TIMS) with ICR. This prototype will be further developed through a research agreement between Bruker and the MagLab. (*MagLab contact: Kristina Hakansson, ICR*)

**Bruker Corporation, Billerica, MA:** Investigators from MagLab facilities at UF and FSU collaborate with technical staff at Bruker on NIH-funded projects to develop improved superconductive cryogenic probes for solution NMR. (*MagLab contact: William Brey, NMR*)

**Bruker-OST, Carteret, NJ:** Extensive collaborations exist between ASC and BOST on both Nb<sub>3</sub>Sn and Bi-2212 conductor development, aided by direct support of R&D on these materials from DOE-High Energy Physics to ASC PIs, DOE-Accelerator R&D and Production to Lawrence Berkeley National Laboratory (LBNL) and ASC PIs, and to BOST through the Conductor Development Program (now called Conductor Procurement and R&D Program) managed by ASC in partnership with LBNL. Through these collaborations, BOST has been able to develop the most advanced Nb<sub>3</sub>Sn and Bi-2212 conductors produced. (*MagLab contact: David C. Larbalestier, ASC*)

**Commonwealth Fusion Systems, Deven, MA:** Fatigue tests of steel welds at liquid nitrogen temperature under high loads up to 200 kN. (*MagLab contact: Jun Lu, MST*)

**Commonwealth Fusion Systems, Deven, MA:** This collaboration involves the characterization of REBCO superconducting tapes. CFS is an American fusion power company founded in 2018 in Cambridge, Massachusetts after a spin-out from the Massachusetts Institute of Technology (MIT). Its stated goal is to build a small fusion power plant based on the tokamak design. (*MagLab contact: Jan Jaroszynski, DC*)

**Cryogenic, Ltd, London, UK:** The MagLab is collaborating with the Cornell High Energy Synchrotron Source to design an advanced x-ray scattering beamline capable of operating under high magnetic fields. To achieve this, CHESS has commissioned Cryogenic, Ltd to construct a 20 T superconducting magnet featuring a conical bore. Experts at the MagLab have offered guidance to Cryogenic, Ltd regarding the quench dynamics associated with this type of system. (*MagLab contact: Mark Bird, DIR*)

**Cryomagnetics Inc, Oak Ridge, TN:** Cryomagnetics partners with MagLab on superconducting high-field hybrid magnets utilizing Bi-2212 HTS coils through a Department of Energy Phase-IIa Small Business Technology Transfer award. The company also holds a license for Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8-x</sub> superconductor technology developed by MagLab. Their collaboration centers on designing, building, and heat-treating Bi-2212 coils for integration into Cryomagnetics' LTS magnet systems. (*MagLab contact: Ulf Trociewitz, ASC*)

**Cryomagnetics Inc., Oak Ridge, TN:** The collaboration is to develop high field superconducting magnets of 30T class using REBCO technology with bonded insulation. (*MagLab contact: Hongyu Bai, MST*)

**D-Wave, West Palm Beach, FL:** Quantum analog simulators are being rapidly developed and reaching the point where we can use them to simulate and understand quantum magnets. Here we collaborate with D-wave computing as part of a LANL DR project to use their hardware to simulate quantum magnets. (*MagLab contact: Vivien Zapf, PFF*)

**Danfoss Turbocor Inc, Tallahassee, FL:** Danfoss Turbocor Inc. is a company specializing in oil-free compressors. The compressors are specifically designed for the heating, ventilation, air conditioning, and refrigeration (HVACR) industry and need high-performance soft and hard magnet materials. The company and the laboratory have a joint research project on the selection, characterization, and development of permanent magnet materials and structural materials for high-performance and environmentally friendly compressors. (*MagLab contact: Ke Han, MST*)

**ECMC Foundation, Los Angeles, CA:** The ECMC Foundation represents an unyielding commitment to opportunity and student-centered strategies to eliminate gaps in postsecondary completion. ECMC has awarded the MagLab 2 mini grants over the last few years to support our efforts in building the skilled technical workforce. (*MagLab contact: Kawana Johnson, CIRL*)

**Engi-Mat Co, Lexington, KY:** Engi-Mat is a small business specializing in manufacturing advanced nanomaterials. MagLab collaborates with Engi-Mat Co on a small business innovation research grant funded by the US Department of Energy and a DOE-Accelerator R&D and Production grant to Lawrence Berkeley National Laboratory (LBNL) and ASC PIs. The goal of this research is to improve the quality and reproducibility of Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8-x</sub> powder for superconducting wires. (*MagLab contact: Jianyi Jiang, ASC*)

**GE Healthcare, Florence, South Carolina:** Measurement of thermal expansion of epoxy samples at cryogenic temperatures. (*MagLab contact: Jun Lu, MST*)

**Helion Energy, Everett, WA:** Develop high strength greater than 750 MPa and conductivity greater than 80% IACS for normal conducting magnets for magneto-inertial fusion (*MagLab contact: Shreyas Balachandran, ASC*)

**High Temperature Superconductor Inc, Santa Barbara, CA:** HTSI, now 6 years old, is developing production systems for making REBCO coated conductors by pulsed laser deposition. Under ARPA-E support, Applied Superconductivity Center is working with them on the superconducting and nano structural characterization of their superconducting tape. (*MagLab contact: Fumitake Kametani, ASC*)

**Honeywell International Inc., Las Vegas, NV:** Working on improving the efficiency of the motors. (*MagLab contact: Ke Han, MST*)

**Koch Modular Systems, Paramus, NJ:** Koch is collaborating with development of a pilot-scale solvent extraction system for barium and radium extraction from our Process 2, currently in prototype scale. This collaboration would focus on rare earth element extraction using their Scheibel™ column technology. (*MagLab contact: Munir Humayun, RECMIB*)

**Materion, Newton, MA:** This collaboration involves the development of new Nb alloys for the Nb<sub>3</sub>Sn superconducting wire fabrication to be used for accelerator magnets like the Future Circular Collider (FCC) to be built at CERN. (*MagLab contact: David C. Larbalestier, ASC*)

**Mevion Medical Systems, Littleton, MA:** As part of quality assurance, Mevion Medical Systems works with the MagLab to conduct critical current (IC) testing on their superconducting cables, which are used to construct proton therapy magnets. The results from these tests enable them to develop magnets that ramp up more efficiently and with improved performance. (*MagLab contact: Todd Adkins, MST*)

**MicroHarmonics.com, Fincastle, VA:** Devices are tested until they fail permanently, after which they are sent back for analysis and enhancement. This collaboration benefits both parties by refining products for the MagLab as well as the broader community. (*MagLab contact: Thierry Dubroca, NMR*)

**Moneta Tech., Lubbock, TX:** The MagLab is beta testing Moneta as a proactive safety initiative involving the use of predictive AI to evaluate key performance indicators and catch near misses proactively so they do not turn into incidents. These reports can be submitted via website or app and can be submitted with the option of anonymity. (*MagLab contact: Alfie Brown, DIR*)

**Mosaic Company, Tampa, FL:** Our Joint Development Agreement aims to establish a domestic supply of rare earth elements by utilizing the phosphoric acid process stream and waste products, specifically phosphogypsum. The project also focuses on removing radionuclides from these waste materials. We are developing a solution that addresses both a national security concern—critical element supply chains—and the persistent waste storage issues affecting the industry and the State of Florida, which is ultimately responsible for managing legacy storage sites. (*MagLab contact: Munir Humayun, RECMIB*)

**Nikon, Melville, NY:** The MagLab maintains close ties with Nikon on the development of an educational and technical support microscopy website, including the latest innovations in digital-imaging technology. As part of the collaboration, the MagLab is field-testing new Nikon equipment. (*MagLab contact: Eric Clark, DIR*)

**Nutrien, White Springs, FL:** The MagLab work to create a domestic rare earth element and yttrium supply chain from their process stream, and waste streams (phosphogypsum, phosphatic clays). They are interested in the development of methods for enhanced phosphate recovery from clay wastes to extend the life of the White Springs operation. (*MagLab contact: Munir Humayun, RECMIB*)

**Oxford Instruments – Quantum Design, Oxford, UK:** This collaboration with OINS on the development of high-field insert magnets made with Bi-2212 wire for use in 30+T NMR as well as 25T class compact research magnet systems. Particularly for NMR magnets, Bi-2212 conductor promises several significant advantages that will be exploited here. (*MagLab contact: David Larbalestier, ASC*)

**Pasqal computing, Paris, France:** This work uses Pasqal's cold atom quantum computing hardware to simulate quantum magnets, as well as to use real experimental data to benchmark the quantum hardware. (*MagLab contact: Minseong Lee, PFF*)

**Phoenix NMR, LLC, Loveland, CO:** MagLab's NMR instrumentation program and Phoenix NMR collaborate on the development of stators for magic angle spinning NMR. Phoenix NMR also used the NMR Dynamic Nuclear Resonance facility to test a commercial DNP probe. (*MagLab contact: Peter Gor'kov, NMR*)

**Rolls-Royce, London, UK:** Rolls-Royce is interested in physical properties of several metallic alloys at cryogenic temperatures from 4.2 K to room temperature. (*MagLab contact: Jun Lu, MST*)

**Scientific Instruments, West Palm Beach, FL:** Investigating the impact of high magnetic fields on the electrical and magnetic properties of ZrON (zirconium oxynitride) thin film sensors to enhance their performance in extreme environments. ZrON thin films are known for their stability and sensitivity over wide temperature ranges, making them suitable for applications in cryogenic sensors and magnetic field detectors. Understanding their behavior under high magnetic fields is crucial for optimizing their functionality in advanced technological applications. (*MagLab contact: Kaya Wei, DC*)

**Solid Power, Louisville, CO:** This collaboration develops new materials for all-solid-state batteries, leveraging insights gained from magnetic resonance characterizations. (*MagLab contact: Yanyan Hu, NMR*)

**SuperPower Inc., East Glensville, NY:** Characterizations of REBCO conductors are needed to debug, optimize, and verify conductor quality made using new production lines to meet fusion and high-field magnet specifications (part of DOE INFUSE program). (*MagLab contact: Dmytro Abrahimov, ASC*)

**SuperPower Inc, Schenectady, NY:** The MagLab is collaborating with SuperPower Inc. on the characterization of YBCO-coated conductors. This material has the potential to transform the field of high-field superconducting magnet technology and is in an early stage of commercialization. The MagLab will work to improve our understanding of this product and provide guidance to SuperPower on enhancing the quality of its products. (*MagLab contacts: Tom Painter, MST; David C. Larbalestier, ASC*)

**Thermo Fisher Scientific, San Jose, CA:** Over several years, we have worked together to enhance our ICR instruments by integrating advanced front-end technology and smoothly incorporating the Maglab ICR component into the systems for instrument control and data acquisition. (*MagLab contact: Chad Weisbrod, ICR*)

**TotalEnergies, Tallahassee FL:** This partnership is centered around expanding and extending analytical methods as well as developing instrumentation for the characterization of real-world, extremely complex, mixtures. (*MagLab contact: Ryan Rodgers, ICR*)

**Travertine Technologies Inc., Boulder, CO:** Travertine, in partnership with Mosaic Company, is developing uses for phosphogypsum in cement production, addressing radium removal and rare earth extraction to prepare gypsum for their process. (*MagLab contact: Munir Humayun, RECMIB*)

**Type One Energy, Knoxville, TN:** Consultation for the development of new types of REBCO cables for fusion devices. Also testing of cables to verify performance. Cables are essential to large magnets, including fusion devices and user magnets like the 45 T hybrid (part of the DOE INFUSE program). (*MagLab contact: Tom Painter, MST*)

## NATIONAL OR INTERNATIONAL LABORATORIES AND INSTITUTES

**Brookhaven National Laboratory, Long Island, NY:** Testing superconducting properties of NbTi strands in support of Electron Ion Collider project at the Brookhaven National Laboratory. (*MagLab contact: Jun Lu, MST*)

**CEA Grenoble, Grenoble, France:** Development of polarizing agents for the MAS-DNP instrument. (*MagLab contact: Frederic Mentink-Vigier, NMR*)

**CERN, Geneva, Switzerland:** Collaboration to revisit Cu-Sn mixing and its impact on critical wire properties for both RRP wires and those made in house at the ASC with various dopants and heat treatments. These studies offer a path to higher  $J_c$  Nb<sub>3</sub>Sn for applications in accelerator technology, solenoid magnets, and some fusion devices. (*MagLab contact: Chris Segal, ASC*)

**CERN, Geneva, Switzerland:** RRP Nb<sub>3</sub>Sn mechanical characterization for applications for dipole magnets for LHC. (*MagLab contact: Najib Cheggour, ASC*)

**CNR-SPIN, Genova, Italy:** This work involves the publication of guidelines to correctly perform scientific analysis of experimental data relevant for superconductivity. This effort generates useful tutorial(s) to prevent scientific errors that had previously caused paper withdrawal due to macroscopic miscalculation. (*MagLab contact: Chiara Tarantini, ASC*)

**Cornell High Energy Synchrotron Source, Ithaca, NY:** The work focuses on the implementation of a FAIR data management solution developed by CHES called FOXDEN. It is important for the MagLab's goal of ensuring all research data is FAIR and AI-ready. (*MagLab contact: David Butcher, ICR*)

**Fermi National Accelerator Laboratory, Batavia, IL:** Measurement of critical current in Nb<sub>3</sub>Sn for AUP project which is a collaboration between FANL and CERN on high luminosity upgrade of LHC. (*MagLab contact: Jun Lu, MST*)

**Fermi National Accelerator Laboratory, Batavia, IL:** MagLab and Fermilab have mutual interests in developing conductor and magnet technologies. One such mutual interest is a proposed muon collider. Another such mutual interest is a national network of magnet testing facilities. (*MagLab contact: Lance Cooley, DIR*)

**Fermi National Accelerator Laboratory, Batavia, IL:** Management of conductor procurement for the US High-Luminosity LHC Accelerator Upgrade Project. (*MagLab contact: Lance Cooley, DIR*)

**French Alternative Energies and Atomic Energy Commission (CEA), Saclay, France:** Working to exchange students and develop a better understanding of Cu-Sn mixing and effects on critical properties of Nb<sub>3</sub>Sn for high-field applications in accelerator and fusion sciences. (*MagLab contact: Chris Segal, ASC*)

**HL-LHC Accelerator Upgrade Project, Geneva, Switzerland:** The AUP is the US contribution to the High-Luminosity Upgrade of the Large Hadron Collider. MagLab oversees a \$25 million component to procure 10 tons (7 tons have been delivered as of Feb 2021) of the highest-performing Nb<sub>3</sub>Sn conductor ever made and verify its quality by testing critical current and other properties. (*MagLab contact: David C. Larbalestier, ASC*)

**International Muon Collider Collaboration, Geneva, Switzerland:** MagLab has common and synergistic interests in the development of high-field HTS magnets that would be needed in an international project to design, develop, and build a muon collider at a European site. (*MagLab contact: Lance Cooley, DIR*)

**Japan Proton Accelerator Research Complex (J-PARC), Japan:** This collaboration performs neutron-diffraction experiments on RRP® Nb<sub>3</sub>Sn wires to find the origin of the strain irreversibility cliff in these conductors and to identify the different phases present in the conductor after heat-treatments. Work from this collaboration will expand to also include other conductors currently being developed such as Nb<sub>3</sub>Sn containing additional pinning centers. (*MagLab contact: Najib Cheggour, ASC*)



**Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany:** This work involves the publication of guidelines to correctly perform scientific analysis of experimental data relevant for superconductivity. This effort generates useful tutorial(s) to prevent scientific errors that had previously caused paper withdrawal due to macroscopic miscalculation. (*MagLab contact: Chiara Tarantini, ASC*)

**Lawrence Berkeley Laboratory, Accelerator, Berkeley, CA:** The Applied Superconductivity Center is collaborating with the Lawrence Berkeley National Laboratory (LBNL) to test strain properties of high-performance RRP® Nb<sub>3</sub>Sn wires to be used in the LBNL Test Facility Dipole Project (TFD). This collaboration will explore the strain sensitivity of a specific Nb<sub>3</sub>Sn conductor to help LBNL researchers decide early in the project whether this conductor is suitable for TFD. (*MagLab contact: Najib Cheggour, ASC*)

**Lawrence Berkeley National Laboratory, Berkeley, CA:** The Applied Superconductivity Center is collaborating with the Lawrence Berkeley National Laboratory (LBNL) to heat-treat and test accelerator-type model coils (racetrack and CCT) based on Bi-2212 Rutherford cable conductor. (*MagLab contact: Daniel Davis, ASC*)

**Lawrence Berkeley National Laboratory, Berkeley, CA:** Construction of probes for measurement of the critical current of superconducting wires. (*MagLab contact: Jun Lu, MST*)

**Lawrence Berkeley National Laboratory, Berkeley, CA:** Measurement of critical current of Nb<sub>3</sub>Sn wires for Test Facility Dipole. (*MagLab contact: Jun Lu, MST*)

**Lawrence Livermore National Laboratory, Livermore, CA:** LLNL is a primary institution leading the Axion Dark Matter Experiment (ADMX), which is a search for dark matter in the universe. Discovery of evidence for dark matter would be a Nobel-class event, and many organizations are supporting dark matter searches including DOE, NASA, DOD, and NSF. This work focuses on the investigation of Nb<sub>3</sub>Sn coatings on copper materials for quantum detector cavities, which are the detector part of the larger experiment. (*MagLab contact: Lance Cooley, DIR*)

**National Institute for Materials Science (NIMS), Japan:** This collaboration investigates electromechanical properties of ultra-fine multifilamentary Nb<sub>3</sub>Sn ropes (developed by NIMS) to assess their strain tolerance and potential applicability of react-and-wind technique for using these conductors in applications. This work is part of a US-Japan Collaboration funded by USA (DOE, Office of Science) and Japan. (*MagLab contact: Najib Cheggour, ASC*)

**National Institute of Materials Science and The University of Tokyo, Tsukuba & Tokyo, Japan:** NIMS and the University of Tokyo have agreed to develop copper-silver-based conductors with strengths exceeding 900 MPa. This effort is performed to strengthen the supply chain of high-strength, high-conductivity materials that are critical to the pulsed magnet program. (*MagLab contact: Iain Dixon, MST*)

**Oak Ridge National Laboratory, Knoxville, TN:** We are collaborating with ORNL in the rare earth/critical mineral space. (*MagLab contact: Munir Humayun, RECMIB*)

**Princeton Plasma Physics Laboratory, Princeton, NJ:** The Applied Superconductivity Center and PPPL are collaborating on the R&D of high-field superconducting cable coil for use in nuclear fusion systems. In this context, a particular interest exists for CORC™-type cables made with REBCO conductors as well as Rutherford-type cables made with Bi-2212 wire. (*MagLab contact: Daniel Davis, ASC*)

**Quantum Science Center, Oak Ridge, TN:** National quantum center to develop quantum-classical hybrid computers leveraging high-performance computing and benchmark them with data from real quantum magnets. (*MagLab contact: Vivien Zapf, PFF*)

**Radboud University High Field Magnet Lab, Nijmegen, Netherlands:** The MagLab fabricated a 12.3 T Nb<sub>3</sub>Sn cable-in-conduit coil for a 45 T hybrid magnet to be housed at the HFML in The Netherlands. The coil has been delivered and the system is being assembled; the collaboration continues through final system testing. (*MagLab contact: Iain Dixon, MST*)

**Thomas Jefferson National Accelerator Laboratory, Newport News, VA:** Effort to understand fundamental aspects of niobium manufactured for superconducting radio-frequency cavities primarily for use in accelerators. (*MagLab contact: Shreyas Balachandran, ASC*)

**University of Iceland, Reykjavik, Iceland:** Design of highly effective DNP polarizing agents for the MAS-DNP platform. (*MagLab contact: Frederic Mentink-Vigier, NMR*)

**US Conductor Procurement, Research, and Development Program, Berkeley, CA:** CPRD supports the acquisition of conductor for accelerator magnet research primarily within the US Magnet Development Program. CPRD also supports the R&D of new conductors, superconducting materials, and associated processes via research contracts placed with US industries. CPRD is advised by a panel of experts from national laboratories and universities, including MagLab and ASC. (*MagLab contact: Lance Cooley, DIR*)

**US Magnet Development Program, Batavia, IL:** MDP advises about priorities and manages technology roadmaps for superconducting magnets used in particle accelerators. Support falls under the US Department of Energy, Office of Science, Office of High-Energy Physics, General Accelerator R&D program, which also funds other national laboratory activities and university groups including those at FSU and MagLab. The long-term view of MDP is highly synergistic with the scientific and technology development activities for user magnets and other partnerships. (*MagLab contact: Lance Cooley, DIR*)

**US Magnet Development Program, Berkeley, CA:** The US Magnet Development Program aggressively pursues the development of superconducting accelerator magnets that operate as closely as possible to the fundamental limits of superconducting materials and at the same time minimize or eliminate the need to break in a magnet in a series of steps to achieve its design field strength. MDP looks forward 15–30 years at accelerators that might be built. LBNL serves as the host institution for the MDP organization. (*MagLab contact: Dan Davis, ASC*)

**US Muon Collider Collaboration, Batavia, IL:** MagLab has common and synergistic interests in the development of high-field HTS and pulsed magnets that would be needed in an international project to design, develop, and build a muon collider at a European site. MagLab could be funded to perform some of the work. (*MagLab contact: Lance Cooley, DIR*)

## UNIVERSITIES

**Center for Doctoral Training, Cambridge, Oxford:** This work formalizes the U.S. National High Magnetic Field Laboratory's partnership with the EPSRC Centre for Doctoral Training in Superconductivity, enabling structured student placements, joint workshops, guest lectures, and shared governance linking the MagLab with Oxford, Bristol, and Cambridge. It accelerates training and collaboration at the high-field superconductivity frontier—strengthening the pipeline in quantum materials research while speeding translation of HTS materials and magnet technologies into real-world impact in areas like fusion and healthcare. (*MagLab contact: Ali Bangura, DC*)

**Center for Molecular Magnetic Quantum Materials, Gainesville, FL:** Developing our understanding of quantum behavior of molecular magnets for eventual quantum information applications. (*MagLab contact: Vivien Zapf/LANL, PFF*)

**Hokkaido University, Japan:** The Applied Superconductivity Center is collaborating with Hokkaido University in the investigation of stresses and quench in cutting edge HTS world record magnets. (*MagLab contact: David Larbalestier, ASC*)

**Lancaster University Low Temperature Physics Group and Ultra-Low Temperature Laboratories, Lancaster, UK:** This informal arrangement involves expertise exchange concerning ultra-low temperature techniques, instrumentation and science. (*MagLab contact: Professor Mark Meisel, HBT*)

**NASA University Leadership Initiative - Integrated Zero-Emission Aviation using a Robust Hybrid Architecture (IZEA), Tallahassee, FL:** This is a multi-university and multi-industry partnership to envision, design, construct sub-scale components, and test components and systems related to passenger aircraft fueled by liquid hydrogen and using a distributed electrical propulsion system. The outcomes of work could facilitate emission-free passenger aviation in the second half of the 21st century. Members include MagLab, FSU-Center for Advanced Power Systems, Boeing, Raytheon, Advanced Magnet Lab, Georgia Tech. Univ., Univ. of Kentucky, Univ. of Tennessee - Knoxville, Illinois Institute of Technology, and the State University of New York at Buffalo. Synergies with MagLab include investigation of supercritical helium and hydrogen cryogenics, high-power superconducting cables, terminations and feedthroughs, and development of test facilities for cables and magnets that do not use liquid helium. (*MagLab contact: Lance Cooley, DIR*)

**Penn State University, University Park, PA:** Digital controls development for DCFF power supply active filter. (*MagLab contact: Julia H. Smith, DC*)

**Seoul National University, Korea:** The Applied Superconductivity Center is collaborating with SNU in the design and investigation of stresses and quench in cutting edge HTS world record magnets. (*MagLab contact: David Larbalestier, ASC*)

**Tokyo University of Agriculture and Technology, Japan:** This collaboration with TUAT focuses on the investigation of iron-based superconducting bulks and films to establish their intrinsic properties and determine their potential for applications using electromagnetic characterization techniques in the high field and with the expertise available at the MagLab. (*MagLab contact: Chiara Tarantini, ASC*)

**University of Oxford, UK:** This collaboration focuses the investigation of doped Nb<sub>3</sub>Sn superconducting wires and Fe-based superconductors (FBS) to determine by atom probe tomography the elemental distribution and possible contaminants (in the FBS) and their effect on the superconducting properties. (*MagLab contact: Chiara Tarantini, ASC*)

**University of Padova, Padova, Italy:** Development of platform for Dynamic Nuclear Polarization in Heterogeneous media. The collaborator has the expertise to synthesize novel materials at the micro and nano scale, that can be functionalized to enable spin polarization transfer to enhance NMR detection sensitivity. (*MagLab contact: Tomas Orlando, EMR*)

**Victoria University of Wellington, Lower Hutt, New Zealand:** This work involves the publication of guidelines to correctly perform scientific analysis of experimental data relevant for superconductivity. This is neither a research nor educational activity, but it generates useful tutorial(s) to prevent scientific errors that had previously caused paper withdrawal due to macroscopic miscalculation. (*MagLab contact: Chiara Tarantini, ASC*)

## COMMUNITY GROUPS AND EDUCATIONAL GROUPS

**Applied Superconductivity Educational Foundation, Washington, DC:** ASEF is the business incorporation that includes the Applied Superconductivity Conference, which is the leading conference in superconducting applications attended by ~50 MagLab faculty and staff every 2 years. The foundation oversees many education and outreach programs highly synergistic with MagLab's efforts, including the Human Levitator (co-owned by ASEF and the IEEE Council on Superconductivity) and short courses. (*MagLab contact: Lance Cooley, DIR*)

**Big Bend/Leon Association of Science Teachers (BLAST), Tallahassee, FL:** The Big Bend/Leon Association of Science Teachers (BLAST) is a group that brings together formal and informal science educators to establish lines of communication among all persons involved in science education in the North Florida community and foster a life-long interest in the sciences. They do this by coordinating services most conducive to outstanding science educators, including hosting workshops and presentations that aim to increase the knowledge and skills of science teachers. Additionally, they recognize outstanding achievements in science instruction and provide monetary support for science teacher and student projects. *(MagLab contact: Carlos R. Villa, CIRL)*

**Florida A&M University Developmental Research School (FAMU DRS), Tallahassee, FL:** FAMU DRS is the lab school of FAMU, a historically black college and university. The mission of FAMU DRS is to conduct research, demonstrations, and evaluations of the management of teaching and learning. FAMU DRS emphasizes mathematics, science, technology, and foreign languages. *(MagLab contact: Carlos R. Villa, CIRL)*

**Florida Afterschool Network, Tallahassee, FL:** The Florida Afterschool Network (FAN) is an organization that is working toward creating and sustaining a statewide infrastructure to establish collaborative public and private partnerships that connect local, state, and national resources supporting afterschool programs that are school-based or school-linked; develop quality afterschool standards that are endorsed and promoted by statewide stakeholders and through Florida Afterschool Network; and promote public awareness and advocate for policy that expands funding, quality improvement initiatives and accessibility of afterschool programs. The Center for Integrating Research & Learning is a member of the advisory council for this organization. *(MagLab contact: Carlos R. Villa, CIRL)*

**Florida Association of Science Teachers (FAST), Tallahassee, FL:** FAST is a diverse group of teachers, scientists, science educators, science supervisors, curriculum designers, administrators, and educational business partners who have a common goal of improving education for students in the state of Florida. FAST provides a way for all members to keep up with what is happening in education in Florida and across the United States. *(MagLab contact: Carlos R. Villa, CIRL)*

**Future Physicists of Florida, Tallahassee, FL:** Future Physicists of Florida is an organization dedicated to recognizing talented middle school math and science students and providing educational guidance to these students to prepare them for careers in physics and engineering. CIRL is a partner in the organization. *(MagLab contact: Carlos R. Villa, CIRL)*

**Fusion Industry Association, Washington DC:** The FIA is a non-profit organization composed of private companies and various other stakeholders including national laboratories and Universities working to make commercial fusion energy a reality. They provide multiple platforms and forums to rapidly exchange insight and information within the rapidly growing fusion space. FIA is driven by a passionate belief that affordable, clean energy is desperately needed in the world, and that fusion power is a viable solution. *(MagLab contact: Chris Segal, ASC)*

**Inclusive Graduate Education Network, College Park, MD:** The MagLab has worked with IGEN to beta test mentor training for mentors at national labs. MagLab staff have participated in the curriculum to strengthen the quality of mentorship at the MagLab through our Research Mentor Incubator Program. *(MagLab contact: Kawana Johnson, CIRL)*

**Institute of Electrical and Electronic Engineers (IEEE) - Council on Superconductivity, Piscataway, NJ:** The MagLab works with the IEEE Council on Superconductivity to oversee the major publications in applied superconductivity. *(MagLab contact: Lance Cooley, DIR)*

**International Mentoring Association, Newberry, FL:** This organization is a leading source for best practice solutions and support of mentoring and coaching professionals and their programs. The IMA advances individual and organizational development by promoting the use of mentoring best practices in every organizational setting. CIRL staff benefit from the professional development that this organization provides. *(MagLab contact: Kawana Johnson, CIRL)*

**Leon County Schools, Tallahassee, FL:** CIRL works closely with Leon County Schools (LCS) through our K-12 outreach and our middle school mentorship program. In 2014, CIRL staff worked with Title I elementary school teachers from LCS to develop and facilitate a year-long teacher professional development that culminated in a STEM challenge for students. (*MagLab contact: Carlos R. Villa, CIRL*)

**Lively Technical College, Tallahassee, FL:** Lively Technical College has supported the MagLab in our efforts to introduce skilled technical workers in training to career pathways in STEM at a National Lab. They have also worked with us in exploring grant opportunities that could expand this work. (*MagLab contact: Kawana Johnson, CIRL*)

**National Girls Collaborative Project, Seattle, Washington:** This is a national nonprofit organization that works to improve girls' interest in and access to STEM programs and careers. CIRL has utilized its publications and webinars for best practices in STEM education. (*MagLab contact: Roxanne Hughes, CIRL*)

**National Postdoc Association, Washington, DC:** The NPA advocates for postdoctoral scholars at a national level and coordinates an annual meeting of postdoctoral scholars, their mentors, and postdoctoral affairs staff. The NPA provides direct support to postdocs through professional development and a virtual career center. (*MagLab contact: Kawana Johnson, CIRL*)



## 2. USER FACILITIES

### 2.1 USER PROGRAM PROPOSAL REVIEW PROCESS

Across all seven MagLab facilities, proposals for magnet time are submitted online via <https://users.magnet.fsu.edu> and reviewed in accordance with the MagLab User Proposal Policy. Each facility has a User Proposal Review Committee (UPRC) composed of at least seven members, with a majority being external to the lab. UPRC memberships are kept confidential by the laboratory but are available for review by the NSF and MagLab advisory committees.

Proposal evaluations are conducted in strict confidence and are based on two primary criteria:

- **Scientific and/or technological merit** of the proposed research
- **Broader impacts** of the proposed work

Proposals are graded online using a scale from:

- A**—Proposal is high quality and magnet time must be given a high priority
- B**—Proposal is good quality and magnet time should be granted
- C**—Proposal is acceptable and magnet time should be granted at MagLab discretion
- D**—Proposal has minimal merit and granting magnet time should be a low priority
- F**—Proposal has little/no merit and magnet time should not be granted.

Facility Directors integrate UPRC recommendations with the availability of magnets, experimental instrumentation, and user support resources to make scheduling recommendations to the MagLab Director. Final decisions on magnet time assignments are made by the MagLab Director based on these recommendations.

All 2025 User Proposals are listed in **Appendix 5**.

### FUNDING OPPORTUNITIES

#### Dependent Care Travel Grant

The MagLab recognizes that caregivers of children and other dependents often shoulder these demands in addition to the challenges of their research careers. For caregivers, travel to the MagLab to conduct experiments or to conferences to disseminate research findings often incurs extra costs for dependent care. Since 2011, the MagLab's Dependent Care Travel Grant (DCTG) program has offered up to \$800 per year for travel expenses for MagLab scientists traveling to conferences or MagLab users traveling to any of the three MagLab facilities. In 2025, the MagLab proudly granted \$800 to a staff research technician from LANL, so that she could attend advanced CAD training. She utilized this training to design a helium recovery system for the LANL facility.

#### First-Time User Support

The National High Magnetic Field Laboratory (NHMFL), supported by the National Science Foundation, provides world-class facilities for magnet-related research. These facilities are open to all qualified scientists and engineers through a competitive, peer-reviewed proposal process. Access to the facilities is generally provided at no cost to users.

To encourage new research and broaden participation, NHMFL offers travel support for first-time users. Domestic researchers may receive up to \$500, and international researchers up to \$1,000, to offset travel expenses. This funding is provided by the State of Florida and applies exclusively to NHMFL facilities located in Tallahassee.

#### Visiting Scientist Program (VSP)

The National High Magnetic Field Laboratory provides researchers from academia, industry, and national laboratories the opportunity to utilize the unique, world-class facilities of the laboratory to conduct magnet-related research. In 2025, the Visiting Scientist Program provided financial support of \$94,281 for 14 research projects on a competitive basis. To apply for support from the Visiting Scientist Program, interested researchers are required to submit an application and a proposal that is reviewed by appropriate facility directors and scientists at the NHMFL. All requests for support must be submitted online at <https://vsp.magnet.fsu.edu/>.

#### User Collaboration Grants Program (UCGP)

The National Science Foundation charged the National High Magnetic Field Laboratory with developing an internal grants program that utilizes the MagLab facilities to carry out high-quality research at the forefront of science and engineering and advances the facilities and their scientific and technical capabilities. User Collaboration Grants Program stimulates magnet and facility development and provides intellectual leadership for research in magnetic materials and phenomena.

The Program strongly encourages collaboration between MagLab scientists and external users of

MagLab facilities. Projects are also encouraged to drive new or unique research, i.e., serve as seed money to develop initial data leading to external funding of a larger program. Per NSF policies, the MagLab cannot fund clinical studies.

In the past 20 years, 324 proposals were submitted with 93 proposals funded at a total of \$18,405,749. These grants resulted in the user facility enhancements shown in **Table 2.1.2** as well as publications and student support as detailed below.

### 2025 Solicitation Skipped

The most recent UCGP solicitation was held in 2024; there was no solicitation in 2025 due to uncertainty about the laboratory's funding position. As a result, no UCGP awards were split between existing and renewed MagLab core grants. Outcomes from the last five UCGP solicitations, including 2025 work done on existing grants has been summarized below.

The next UCGP solicitation is expected to be announced in 2026. Awards from the 2026 solicitation are anticipated to be announced by the end of the year, with funding made available in early 2027.

### Results Reporting

To assess the success of the UCGP, reports were requested in January 2026. Twenty-two grants were issued across five solicitations, with start dates ranging from 2019 through 2024. At the time of the reporting, some of these grants were in progress, and some had been completed. For this "retrospective" reporting, PIs were asked to include external grants, MagLab facilities enhancements, and publications that were generated by the UCGP. Since UCGP grants are intended to seed new research through high-risk initial study or facility enhancements, principal investigators (PIs) were allowed and encouraged to report results that their UCGP grant had made possible, even if these were obtained after the term of the UCGP grant was complete.

The PIs reported:

- 48 lab enhancements, which are listed in **Table 2.1.2**.
- At least partial support for 6 high school students, 22 undergraduate researchers, 22 grad students, and 10 postdocs.
- 5 funded external grants, which were seeded by results from UCGP awards. The total dollar value of the external grants was \$4.8M.

148 publications, many in high-profile journals, including 3 *PNAS*, 21 *Physic Reviews*, 9 *JACS*, 1 *Nature*, 7 *Nature Communications*, 4 *Nature Physics*, 1 *Nature Materials*, 1 *Nature Partner Journals (npj) Quantum Materials*, 1 *Nature Catalysis*, 1 *Nature Chemistry*, and 2 *Science*.

**Table 2.1.2. Facility Enhancements Reported from the last five UCGP Solicitations**

| Enhancement                                                                                | Date Available | Users Groups* |
|--------------------------------------------------------------------------------------------|----------------|---------------|
| ARS Cryocooler System for Parahydrogen Enrichment to 99%                                   | 6/1/2021       | 9             |
| Rapid high-resolution temperature dependence of heat capacity                              | 6/1/2022       | 9             |
| Magnetometer for Large Magnet Moments with Strong Magnetic Anisotropy                      | 6/1/2021       | 8             |
| High resolution angle dependent heat capacity                                              | 12/1/2022      | 8             |
| New 9T wide bore magnet replacement and integration                                        | 11/1/2024      | 8             |
| Upgrade of control software with more experimental control options                         | 11/1/2024      | 8             |
| Lowered electron temperature in dilution fridge >300 mK to <30 mK                          | 6/1/2021       | 7             |
| Rapid field sweeping measurement of heat capacity, up to 5T/min                            | 1/1/2022       | 6             |
| Packed Bed Heterogeneous Catalytic Reactor for Continuous-Flow Hyperpolarization           | 5/1/2022       | 6             |
| High resolution heat capacity <0.01pJ/K <sup>2</sup>                                       | 6/1/2022       | 6             |
| Ultrasonic Spray Injection Reactor System                                                  | 6/1/2022       | 5             |
| Batch Catalytic Reactor System with Automated NMR Acquisition                              | 2/1/2023       | 5             |
| Pulsed EPR at 395 GHz.                                                                     | 1/1/2021       | 4             |
| Low-pass filters for ultra-low electron temperatures                                       | 11/29/2021     | 4             |
| Razorbill piezoelectric uniaxial strain/stress                                             | 5/31/2019      | 3             |
| Online liquid chromatography for environmental applications (metal and organic speciation) | 9/1/2022       | 3             |
| Radio Frequency pulse control within HiPER                                                 | 2/1/2023       | 3             |

| Enhancement                                                                                                                                                          | Date Available | Users Groups* |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------|
| New 10W solid state amplifier, full integration                                                                                                                      | 11/1/2024      | 3             |
| New 2D DNP capabilities                                                                                                                                              | 12/15/2025     | 3             |
| Tuning fork thermometer software                                                                                                                                     | 12/1/2021      | 2             |
| Continuous-Flow Polarization of Metabolites                                                                                                                          | 6/1/2025       | 2             |
| Ultra-low temperature NMR spectrometers at Bay 2 of High B/T facilities                                                                                              | 1/31/2020      | 1             |
| PEPPI-MS fractionation                                                                                                                                               | 6/6/2020       | 1             |
| Superconducting cable critical current measurement by using a superconducting transformer                                                                            | 8/1/2021       | 1             |
| In-house designed and built piezoelectric strain device for pulsed fields                                                                                            | 8/1/2021       | 1             |
| THz time-domain spectroscopy in pulsed magnetic fields                                                                                                               | 10/1/2021      | 1             |
| Developed diamond anvil cell for pulsed fields                                                                                                                       | 1/1/2022       | 1             |
| Magneto-Raman spectroscopy at temperatures down to 2K and high pressures up to 20GPa                                                                                 | 3/1/2022       | 1             |
| We now have a trace-metal free LC system that can operate at low flow rates                                                                                          | 9/1/2022       | 1             |
| Ultimate3000 LC system, with low flow rate capability                                                                                                                | 9/1/2022       | 1             |
| New capability for the measurement of dilation with 10x improved sensitivity                                                                                         | 10/31/2022     | 1             |
| Ability to measure and separate different components of heat capacity using frequency dependence                                                                     | 1/1/2023       | 1             |
| Ability to measure spin-lattice relaxation rate using heat capacity                                                                                                  | 1/1/2023       | 1             |
| Significant noise and electron temperature reduction in systems across the lab, including the PDF, SCM2                                                              | 8/1/2025       | 1             |
| Developed technical skills in technicians related to PDC board design probe development noise and thermalization and probe performance improvements across the board | 8/1/2025       | 1             |
| GUPPI Software                                                                                                                                                       | 12/20/2020     | 0             |
| Auto locate Fragments Software                                                                                                                                       | 12/20/2020     | 0             |
| Manual Validation Helper Software                                                                                                                                    | 12/20/2020     | 0             |
| Tuning fork 3He cell thermometers                                                                                                                                    | 3/1/2022       | 0             |
| Data acquisition system suited for Data Independent Acquisition                                                                                                      | 11/21/2022     | 0             |
| Faraday force magnetometry                                                                                                                                           | 11/30/2022     | 0             |
| Miniature tuning fork thermometers                                                                                                                                   | 12/1/2022      | 0             |
| Thermo Scientific Eclipse Instrument (used to upgrade 21 T)                                                                                                          | 1/3/2023       | 0             |
| In situ EPR in the MAS-DNP 600 MHz NMR setup                                                                                                                         | 8/1/2023       | 0             |
| REBCO torque magnetometry at 45 T                                                                                                                                    | 7/15/2025      | 0             |
| REBCO critical current characterization at any angle between current and field                                                                                       | 7/15/2025      | 0             |
| Temperatures less than 10 mK are available in the cryogen-free system                                                                                                | 8/1/2025       | 0             |
| Low deadtime EPR measurements (new laser switch system)                                                                                                              | 9/1/2025       | 0             |

\* Number of external users (PIs or private companies only) reported to have used the enhancement.

## ANNUAL USER PROGRAM SURVEY

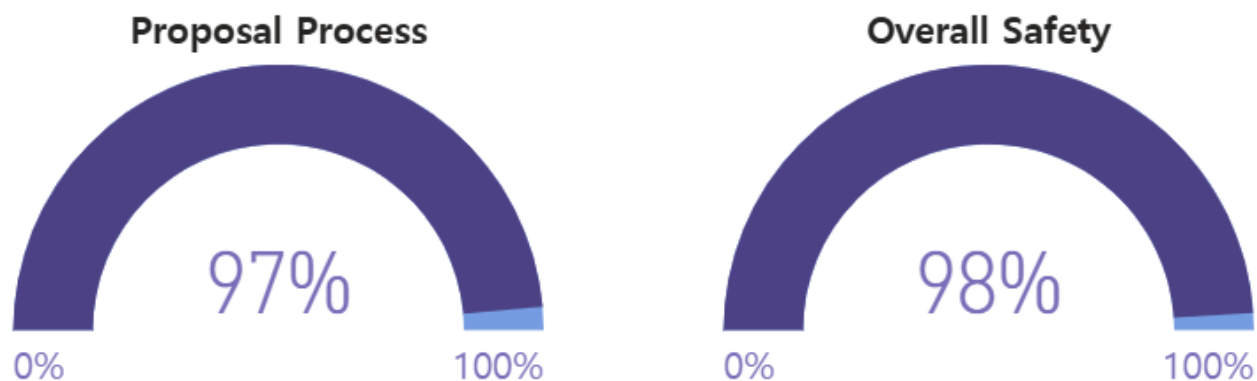
The MagLab conducted its annual user survey between June 2, 2025, and June 30, 2025. This survey is vital for guiding the MagLab in setting priorities and planning for the future, as it helps all seven facilities respond to user needs and improve their services and infrastructure. The survey was distributed to all MagLab User Principal Investigators (PIs) and their collaborators who received magnet time between June 1, 2024, and May 31, 2025, including PIs who sent samples for experiments conducted by laboratory staff scientists.

To assess engagement across our user base, a survey was distributed to a total of 935 eligible users. The response rate was modest, with 180 individuals participating, yielding an overall response rate of 19.25%. A closer examination of the respondent demographics reveals a significant disparity between

internal and external users. Internal users—defined as those affiliated with Florida State University (FSU), the University of Florida (UF), and Los Alamos National Laboratory (LANL)—accounted for 40 responses, representing 4.28% of the total eligible population and 22.22% of all responses received. In contrast, external users contributed 140 responses, which equates to 14.97% of the total eligible users and 77.78% of the total responses.

Overall, the survey results offer valuable data on user engagement and highlight the importance of tailoring outreach efforts to different segments of the user base. Continued analysis and follow-up may help uncover underlying factors influencing response behavior and guide improvements in future survey initiatives.

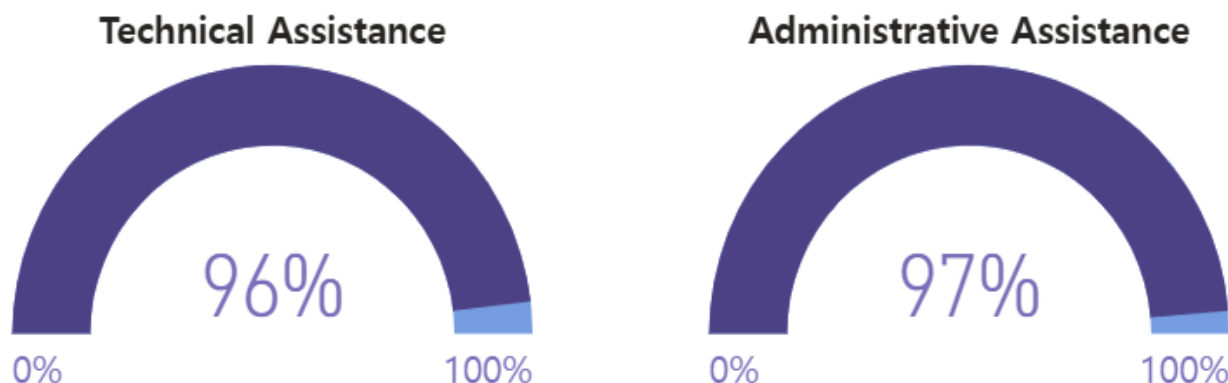
All user responses were treated as confidential. **Figures 2.1.1-2.1.3** exclude internal responses. Breakdowns by facilities can be found at [User Satisfaction - MagLab](#).



**Figure 2.1.1. Links.** 97% of external users were satisfied or very satisfied with the proposal process (e.g., submission, review). **Right.** 98% of external users were satisfied or very satisfied with the overall safety at the MagLab.



**Figure 2.1.2. Left.** 97% of external users were satisfied or very satisfied with the performance of the facilities and equipment. **Right:** 95% of external users were satisfied or very satisfied with the availability of the facilities and equipment.



**Figure 2.1.3. Left.** 96% of external users were satisfied or very satisfied with the assistance provided by MagLab facilities technical staff. **Right.** 97% of external users were satisfied or very satisfied with the assistance provided by MagLab facilities administrative staff.

## 2.2 AMRIS FACILITY

The AMRIS Facility at the University of Florida supports nuclear magnetic resonance spectroscopy (NMR) and magnetic resonance imaging (MRI) studies of chemical compounds in a range of contexts, including micro-samples, biomolecular systems, tissues, small animals, large animals, and humans. We also offer state-of-the-art imaging of humans, animals, and plants, including functional imaging, flow measurements, neuroimaging, cardiac imaging, and modalities enabled by hyperpolarization. We also support studies in materials research, which depend upon ultra-high spatial resolution MRI. AMRIS supports fourteen systems with different magnetic fields and configurations as requested by users for magnetic resonance experiments. The AMRIS staff includes 14 professional staff members to assist users, maintain instrumentation, build new coils and probes, and help with administration.

### OPERATION OF A WORLD-LEADING HIGH-MAGNETIC-FIELD USER PROGRAM

#### Unique Aspects of Instrumentation Capability

AMRIS Magnetic Resonance instruments (**Table 2.2.1**) offer users unique capabilities particularly focused on applications in chemistry and biology: the 750MHz wide bore provides outstanding high-field imaging for excised tissues and small animals as well as diffusion measurements with gradient strengths up to 30T/m; the 11.1T horizontal MRI has a large 400mm bore size and gradient strengths up to 1T/m; our solution NMR instruments have state-of-the-art cryoprobes for natural products, structural biology, metabolomics, and metabolic flux measurements in perfused organs; two dissolution DNP polarizers are available for *in vivo* measurements of metabolic flux; a Xenon polarizer is available for lung imaging. Four spectrometers are now equipped with state-of-the-art Bruker NEO hardware, which supports multichannel transmit and receive experiments. These systems support a broad range of science, including natural product characterization/identification, membrane protein structure determination and dynamics investigations, cardiac studies in animals and humans, and the correlation of neural structures with brain function and chemistry. We note that due to decreased funding from the NSF for NMR/MRI user support, our 3.0T MRI/S scanners, 7.0T 200mm MRI/S scanner purchased with an NIH grant in 2022, one 600MHz NMR system, and 500MHz NMR system no longer receive support from the MagLab user program and will no longer be included in annual reporting. These instruments are available on a fee-for-service basis and will continue to be independently administered by the AMRIS Facility. Despite this, the AMRIS NSF-funded user program offers a world-unique combination of ultra-high field MRI and NMR magnets for a wide range of applications as shown in the table below.

**Table 2.2.1.** AMRIS Facility NMR and MRI Systems that are available through the MagLab User Program.

| <sup>1</sup> H Frequency | Field (T), Bore (mm) | Homogeneity | Measurements                                           |
|--------------------------|----------------------|-------------|--------------------------------------------------------|
| 800MHz                   | 18.8, 63             | 1ppb        | Solution/solid-state NMR and HR-MAS                    |
| 800MHz                   | 18.8, 54             | 1ppb        | Solution NMR (Cryoprobe)                               |
| 750MHz                   | 17.6, 89             | 1ppb        | Solution/solid-state NMR and MRI/S                     |
| 600MHz                   | 14.1, 51             | 1ppb        | NMR, micro imaging, hyperpolarization (10mm Cryoprobe) |
| 600MHz                   | 14.1, 89             | 1ppb        | Solution/ solid-state NMR and hyperpolarization        |
| 600MHz                   | 14.1, 51             | 1ppb        | Solution NMR (Micro Cryoprobe)                         |
| 600MHz                   | 14.1, 51             | 1ppb        | Solution NMR (Cryoprobe)                               |
| 470MHz                   | 11.1, 400            | 0.1ppm      | DNP, MRI, and NMR of animals                           |
| 143MHz                   | 3.35, 52             | 1ppm        | DNP polarization                                       |

### CARRYING OUT IN-HOUSE RESEARCH AND SCIENTIFIC INSTRUMENTATION DEVELOPMENT IN SUPPORT OF THE USER PROGRAM

#### Facility Developments and Enhancements

A <sup>2</sup>H cryocoil (and related room-temperature coils) is being developed to enable metabolic flux measurements in tandem with proton MRI/S measurements on the 11.1T instrument through funding from a UCGP grant. All of our vertical bore systems can be operated remotely, with users sending samples to AMRIS staff. A new 3.2mm e-free MAS probe constructed by the MagLab is available to the user program on the 800MHz 63mm system, further enhancing the solid-state NMR capabilities. This probe has been further upgraded, with a range of swappable ‘tuning cards’, allowing for a wide range of X nuclei to be studied. This upgrade complements existing 1.3 – 4mm MAS probes, including a 1.9mm HFX probe and 4mm BB MAS probe, allowing for a wider range of MAS experiments. Continued updates to the acquisition and processing software have greatly improved AI-based processing of NMR data and allow for more automated batch processing.



## Major Research Activities and Discoveries

Many of our users take advantage of remote access for data collection. Outstanding staff scientists provide on-site support for users who choose to send samples and remotely control the spectrometers to collect data. This is working well for structural biology experiments, high-resolution *ex vivo* MRI measurements, and diffusion studies of materials. The majority of users onsite are conducting *in vivo* studies that require their presence. Local graduate students and postdoctoral fellows continue to develop DNP hyperpolarization and *in vivo* spectroscopy techniques for metabolic studies. AMRIS facility users reported 31 peer-reviewed publications and 17 theses and dissertations during 2025 from magnet time provided through the NSF user program. Two highlights from the publications and graduate research projects are listed below. We note that beginning in 2023, these publications are only for instruments that receive some of their support from the NSF user program; an additional 43 publications were reported from our magnet systems available on a fee-for-service basis.

### Uncovering Novel Carbocation Dynamics in Terpene Biosynthesis

Xiuting Wei<sup>1</sup>; William DeSnoo<sup>2</sup>; Zining Li<sup>1</sup>; Wenbo Ning<sup>1</sup>; Wang-Yeuk Kong<sup>2</sup>; Jordan Nafie<sup>3</sup>; Dean J. Tantillo<sup>2</sup>; Jeffrey D. Rudolf<sup>1</sup>

1. University of Florida; 2. University of California-Davis; 3. BioTools, Inc.

**Funding:** J. D. Rudolf (NIH R35 GM142574); D. J. Tantillo (NIH R35 GM153469, NSF ACCESS program)

**Citation:** Wei, X.; DeSnoo, W.; Li, Z.; Ning, W.; Kong, W.; Nafie, J.; Tantillo, D.J.; Rudolf, J.D., Avoidance of Secondary Carbocations, Unusual Deprotonation, and Nonstatistical Dynamic Effects in the Cyclization Mechanism of Tetraisoquinane, *J. Am. Chem. Soc.*, 147 (19), 16293-16300(2025) [doi.org/10.1021/jacs.5c01828](https://doi.org/10.1021/jacs.5c01828)

Terpenes represent one of the largest and most diverse classes of natural products with critical biological functions and applications across medicine and agriculture. The complexity of these molecules arises from enzyme-catalyzed cyclization reactions that manage highly reactive carbocation intermediates. However, the precise mechanisms by which these enzymes control such reactive species to yield specific products remain poorly understood, particularly for rare and complex terpene skeletons.

This team of chemists and biochemists has conducted the first mechanistic study of tetraisoquinene biosynthesis by TiqS, a diterpene synthase from the myxobacterium *Melittangium boletus*. By combining minor metabolite isolation, deuterium labeling, site-directed mutagenesis, and quantum chemical calculations, the researchers uncovered unusual deprotonation pathways and nonstatistical dynamic effects that direct the formation of the unique 5/5/5/5-fused ring system. Their work also demonstrates how the enzyme prevents the formation of secondary carbocations during the complex rearrangement of the carbon skeleton.

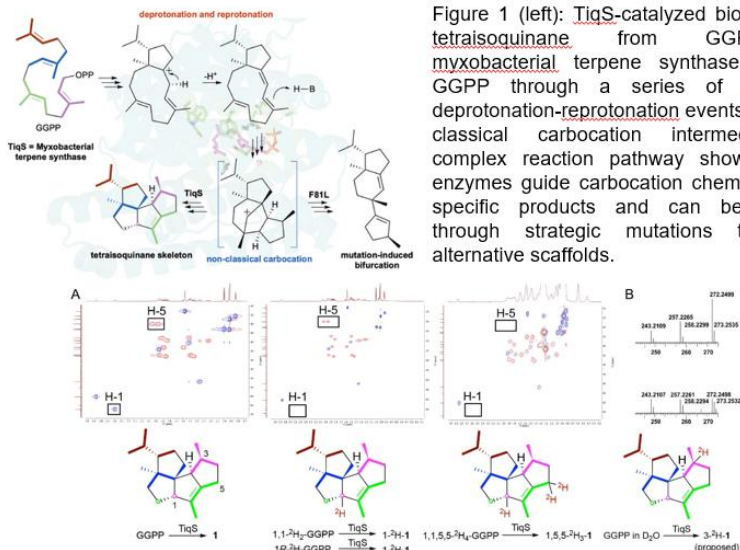


Figure 2 (above): Deuterium-labeled GGPP supports isoprene units and C-1 rearrangement. (A) Incubation of TiqS with unlabeled GGPP, 1,1,2-H<sub>2</sub>-GGPP, 1R-2H-GGPP, and 1,1,5,5-2H<sub>4</sub>-GGPP gave **1**, 1,2-H-1, 1,2-H-1, and 1,5,5-2H<sub>3</sub>-1, respectively, with zoomed-in <sup>1</sup>H-<sup>13</sup>C HSQC spectra shown above each structure. (B) Incubation of TiqS with unlabeled GGPP in D<sub>2</sub>O increased the molecular weight of **1** by one mass unit, supporting the proposed mechanism.

This work offers fundamental insights into nature's strategies for terpene cyclization and provides a framework for understanding related transformations in other systems. The findings could facilitate engineering terpene synthases for novel bioactive compounds, especially since the tetraisoquinane scaffold represents a previously unexplored structure with promising biological activities.

### Development of an In Situ G Protein-Coupled Receptor Fragment Molecule Screening Approach with High-Resolution Magic Angle Spinning Nuclear Magnetic Resonance

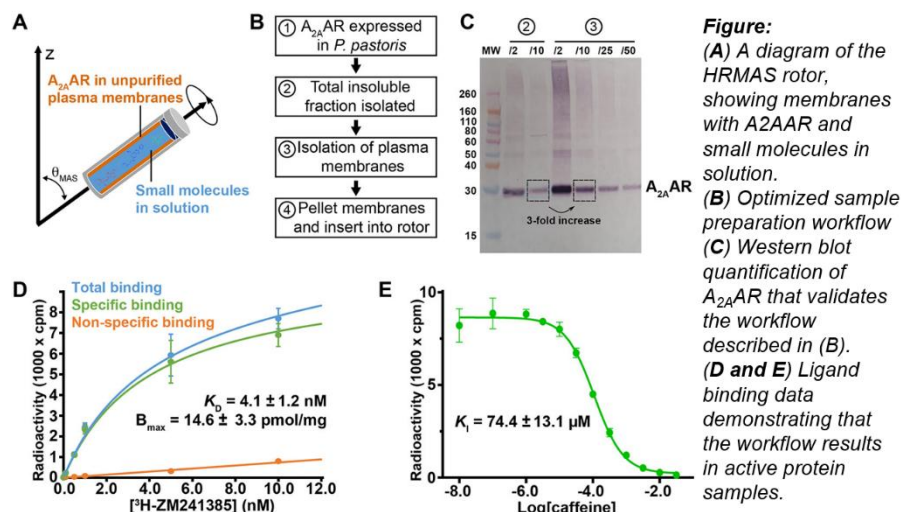
Enzo Petracco<sup>1</sup>, Guillaume Ferré<sup>1</sup>, Ivo Kabelka<sup>2</sup>, Flavio Ballante<sup>2</sup>, Jens Carlsson<sup>2</sup>, Emma Mulry<sup>1</sup>, Arka P. Ray<sup>1</sup>, James Collins<sup>1</sup>, Florent Allais<sup>1</sup>, and Matthew T. Eddy<sup>1</sup>

1. University of Florida; 2. Uppsala University

**Funding:** M.T.E. (NIH R35 GM138291); J.C. (Swedish Research Council 2021-04186 and 2021-03464)

**Citation:** Petracco, E.; Ferré, G.; Kabelka, I.; Ballante, F.; Carlsson, J.; Mulry, E.; Ray, A.P.; Collins, J.H.; Allais, F.; Eddy, M.T., Development of an In Situ G Protein-Coupled Receptor Fragment Molecule Screening Approach with High-Resolution Magic Angle Spinning Nuclear Magnetic Resonance, *ACS Chemical Biology*, 20 (2), 401-411 (2025) [doi.org/10.1021/acscchembio.4c00686](https://doi.org/10.1021/acscchembio.4c00686)

Over 4,000 proteins not targeted by current drugs have been identified as potential therapeutic targets, many of which are G protein-coupled receptors (GPCRs). Conventional drug screening methods rely on labeled ligands that are expensive or not commercially available, limiting which proteins can be studied. Additionally, these methods overlook lower-affinity molecules that provide leads for ultimately developing drug-like compounds.



This study demonstrated a proof-of-concept application of high-resolution magic angle spinning nuclear magnetic resonance (HRMAS NMR) spectroscopy for screening for small molecules that bind the human A<sub>2A</sub> adenosine receptor (A<sub>2A</sub>AR), a GPCR target for Parkinson's disease and several cancers. Researchers developed a novel workflow to prepare plasma membranes enriched with A<sub>2A</sub>AR without the need for detergent purification, which is often required in conventional experiments.

This improved the sensitivity of NMR experiments while maintaining a native-like cellular environment of the plasma membrane. Researchers then used known investigational molecules such as caffeine to validate their approach before applying their method to identify novel chemical scaffolds that interact with the receptor and serve as starting points for new drug discovery.

Beyond GPCRs, HRMAS NMR could be applied to lipid-based nanoparticles, biodegradable polymeric nanoparticles, protein-excipient interactions, and antigen-adjuvant binding in drug formulations. Additionally, the method applied in this study should be readily adapted for GPCRs and other membrane proteins expressed in mammalian cells and other cell systems, underscoring its broad applicability.

## MAINTAINING FACILITY AND DEVELOPMENT OF NEW MAGNET SYSTEM INCLUDING OPERATION SCHEDULE AND SHUTDOWNS

### Facility Plans and Directions

Despite the ongoing challenging budgetary climate, our users have consistently and successfully pursued federal funding to support their research programs. This support extends to assisting the AMRIS facility in writing proposals to upgrade instrumentation. The successful partnership between the MagLab user program and individual investigator research grants provides constant scientific motivation for our technology development. One capability of particular focus is enhancing our cryocooled NMR probes and MRI coils to greatly increase sensitivity. To this end, we are supporting the maintenance of conventional NMR cryoprobes as well as HTS NMR cryoprobes developed through our NIH-funded technology center for NMR probe development, the development of a <sup>2</sup>H MRI/S cryocoil for our 11.1T MRI/S scanner through a UCGP, and the initiation of a construction project for a new 3 mm HTS cryoprobe. The new 3mm HTS cryoprobe, along with our commercial 1.7mm Micro-Cryoprobe, will cover a large range of solution volumes from 30 to 180 microliters for natural product and metabolomic-type samples. We are also boosting Low-E MAS probe capabilities at 800MHz with the construction of 1.6- and 3.2-mm probes for recently added NMR systems. The 800MHz 3.2mm probe is now available for users, with a variety of tuning cards options: HCN, HCSi or HPC. The latest generation Bruker HRMAS iProbe is also now available for users and has greatly improved usability for faster sample changing with automated magic-angle adjustment and upgraded gradient and RF coil design for better signal-to-noise and pulse sequence performance to further improve fresh tissue NMR; microwave tissue preservation capabilities were also added at UF. As we recover helium, costs for using these systems remain low, allowing us to continue to support technological developments. We also received an NSF MRI Track 3 award to upgrade our aging helium recovery capabilities. A (new to this facility) 800MHz is planned for installation in the location of the retired 4.7T MR system. It will support MAS experiments using specially constructed Low-E MAS probes, and reuse much of the retired 750MHz console.

**Facility Operation Schedule**

The AMRIS facility operates all year, except during the last week of December when the University of Florida is open only for essential operations. Vertical instruments for ex vivo samples are scheduled 24/7, including holidays and weekends. Horizontal instruments operate primarily 8-10 hours/day, 5 days/week due to the difficulty in running animal or human studies overnight, except the 11.1T scanner, which operates 7 days a week due to oversubscription. During 2025, the AMRIS Facility was in full operation, with demand continuing to increase post-COVID.

**CONDUCTING EDUCATION AND OUTREACH ACTIVITIES**

The MagLab facilities at the University of Florida conduct their own educational programs, which are currently facilitated by Eli Wolf and Nicolas Silva. During the 2025 calendar year, staff from the AMRIS and High B/T MagLab facilities gave 17 tours of the facility to 276 people. These tours included K-12 students, graduate and undergraduate students, visiting scientists, and community members. By tabling at events and conducting presentations, AMRIS and High B/T staff were able to reach an additional 412 researchers, K-12 students, and members of the general public. MagLab staff at UF also hosted and coordinated SEMRC, a conference attended by 120 scientists, a majority of whom were undergraduate or graduate students. We also hosted our annual RF Coil Workshop to train graduate scientists in the design and construction of MRI coils.

## 2.3 DC FIELD FACILITY

The DC Field Facility in Tallahassee serves a diverse and global user community by delivering continuously variable magnetic fields with a range and quality unmatched anywhere in the world. Our user base includes undergraduate and graduate students, postdoctoral researchers, and senior investigators from across the nation and internationally. Through the expertise of our scientific and technical staff, state-of-the-art instrumentation is developed and seamlessly integrated with our facility's magnet systems. Users receive comprehensive support - scientific, technical, and administrative - throughout their visit to ensure their magnet time is maximally productive. The collaboration between NHMFL staff and visiting researchers fosters a dynamic exchange of scientific ideas and advanced techniques, creating a continuous flow of innovation that benefits both the facility and its users.

### OPERATION OF A WORLD-LEADING HIGH-MAGNETIC-FIELD USER PROGRAM

#### Unique Aspects of Instrumentation Capability

**Table 2.3.1** DC Field Magnets

| FLORIDA-BITTER and HYBRID MAGNETS                       |                    |                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Field, Bore, (Homogeneity)                              | Power (MW)         | Supported Research                                                                                                                                                                                                                                                                                                                                                 |
| 45T, 32mm, (25ppm/mm)                                   | 30.4               | Magneto-optics – ultra-violet through far infrared; Magnetization; Specific heat; Transport – DC to microwaves; Magnetostriction; High Pressure; Temperatures from 30mK to 1500K; Dependence of optical and transport properties on field, orientation, etc.; Materials processing; Wire, cable, and coil testing. NMR, EMR, and sub/millimeter wave spectroscopy. |
| 41.5T, 32mm, (25ppm/mm)                                 | 32                 |                                                                                                                                                                                                                                                                                                                                                                    |
| 36T, 40mm, (1ppm/mm) <sup>2</sup>                       | 14                 |                                                                                                                                                                                                                                                                                                                                                                    |
| 35T, 32mm (x2)                                          | 19.2               |                                                                                                                                                                                                                                                                                                                                                                    |
| 31T, 32mm to 50mm <sup>1</sup> (x2)                     | 18.4               |                                                                                                                                                                                                                                                                                                                                                                    |
| 25T, 32mm bore (with optical access ports) <sup>3</sup> | 27                 |                                                                                                                                                                                                                                                                                                                                                                    |
| SUPERCONDUCTING MAGNETS                                 |                    |                                                                                                                                                                                                                                                                                                                                                                    |
| Field (T), Bore (mm)                                    | Sample Temperature | Supported Research                                                                                                                                                                                                                                                                                                                                                 |
| 32T, 34mm                                               | 14mK – 300K        | Magneto-optics – ultra-violet through far infrared, Magnetization, Specific heat, Transport – DC to microwaves, Magnetostriction; High pressure, Temperatures from 20mK to 300K, Dependence of optical and transport properties on field, orientation, etc. Low to medium resolution NMR, EMR, and sub/millimeter wave spectroscopy.                               |
| 18/20T, 52mm                                            | 20mK – 1K          |                                                                                                                                                                                                                                                                                                                                                                    |
| 18/20T, 52mm                                            | 0.3K – 300K        |                                                                                                                                                                                                                                                                                                                                                                    |
| 17.5T, 47mm                                             | 4K – 300K          |                                                                                                                                                                                                                                                                                                                                                                    |
| 16T, 47mm <sup>4</sup>                                  | 2.0K – 325K        |                                                                                                                                                                                                                                                                                                                                                                    |
| 10T, 34mm <sup>3</sup>                                  | 0.3K – 300K        |                                                                                                                                                                                                                                                                                                                                                                    |
| 9T, 25mm <sup>4</sup>                                   | 2.0K – 325K        |                                                                                                                                                                                                                                                                                                                                                                    |
| 7T, 7mm <sup>4</sup>                                    | 2.0K – 325K        |                                                                                                                                                                                                                                                                                                                                                                    |

1. A coil for modulating the magnetic field and a coil for superimposing a gradient on the center portion of the main field are wound on 32mm bore tubes.

2. Higher homogeneity magnet for magnetic resonance measurements.

3. Optical ports at the field center with 4 ports each 11.4° vertical x 45° horizontal taken off of a 5mm sample space.

4. Quantum Design PPMS and MPMS user “on-ramp” magnet systems.

**Table 2.3.1** summarizes the magnets available at the DC Field Facility. The MagLab is the global leader in continuous magnetic field strength, the number of high-field DC magnets accessible to users, and the accessibility of its resources for scientific research. Our flagship 45T hybrid magnet, commissioned in 1999, remains one of only two such magnets worldwide—the second was introduced in 2022 at the Chinese High Field Facility. The 41.5T resistive magnet offers magnetic fields approaching hybrid-level performance while maintaining user-friendly operational characteristics. The 36T Series Connected Hybrid magnet provides two configurations: a 40mm bore with 1 ppm homogeneity for chem/bio-NMR experiments, and a 48 mm bore with 20ppm homogeneity for condensed matter physics in a top-loading cryogenic system. The 35T (32mm bore) and 31T (50mm bore) workhorse resistive magnets deliver exceptional technical performance, flexibility, and ease of use, continuing to drive significant scientific discoveries. The 25T Split-Helix magnet



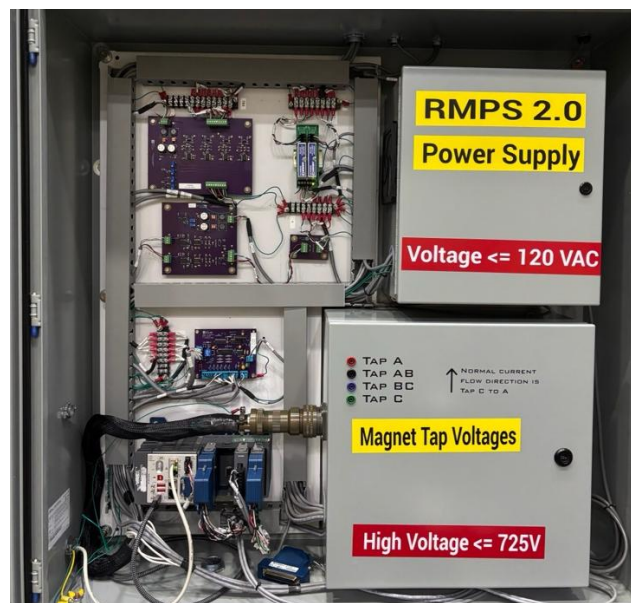
is the highest-field direct optical access and scattering magnet in the world. Featuring four optical ports at field center—each with an 11.4° vertical × 45° horizontal view through a 5mm opening—it enables ultrafast, time-resolved, and x-ray scattering experiments at unprecedented magnetic fields.

## CARRYING OUT IN-HOUSE RESEARCH AND SCIENTIFIC INSTRUMENTATION DEVELOPMENT IN SUPPORT OF THE USER PROGRAM

### Facility Developments and Enhancements

#### ***Replacement of Second-Generation Resistive Magnet Protection Systems***

The DCF Electronics Shop has continued the process of installing the second-generation resistive magnet protection systems (RMPS II, **Figure 2.3.1**). These systems continuously monitor a number of water-cooled magnet characteristics (voltage, current, water temperature, coil temperature, water pressure, etc.), and if any of the monitored quantities exceed the predetermined limits the computer sends a signal to the power supplies to shut down, protecting the magnet and ancillary equipment. The RMPS II software runs on a field programmable gate array (FPGA) computer which allows it to acquire data and act at high speeds. The RMPS II systems have now been installed in Cells 5, 6, 7, 8, 9, 12 and 15, completing a multi-year upgrade of our resistive magnet protection systems, significantly enhancing operational reliability and user safety. These improvements reduce downtime, extend magnet lifespan, and ensure uninterrupted delivery of world-class magnetic fields for scientific research.



**Figure 2.3.1** Picture of the electronics of a second-generation resistive magnet protection system.

#### ***Commissioning of High-Capacity Magnet Cooling Water Loops***

The DCF employs six magnet cooling water pumps connected to two independent cooling loops (**Figure 2.3.2**). In 2025, the DC Field Facility completed and commissioned a significant multi-year upgrade to its magnet cooling water system, enhancing both capacity and resilience. The system now features two *equivalent* cooling loops, each capable of moving 4,500 gallons per minute, supported by four 500HP pumps and two high-capacity pumps rated at 800HP and 900HP—all equipped with variable speed drives. These new drives are engineered to withstand the elevated environmental temperatures experienced during summer months, ensuring reliable performance under demanding conditions. This upgrade not only improves operational robustness against pump and VSD failures but also positions the facility for future expansion, including the ability to operate two 36MW magnets in parallel following the upcoming power supply upgrade. These improvements underscore the MagLab's commitment to reliability, scalability, and world-class research capability.



**Figure 2.3.2** Primary magnet cooling water pumps and variable speed drives in the DCF water-cooling plant.

#### ***Recommissioning and Enhanced Capabilities of the Portable Dilution Refrigerator***

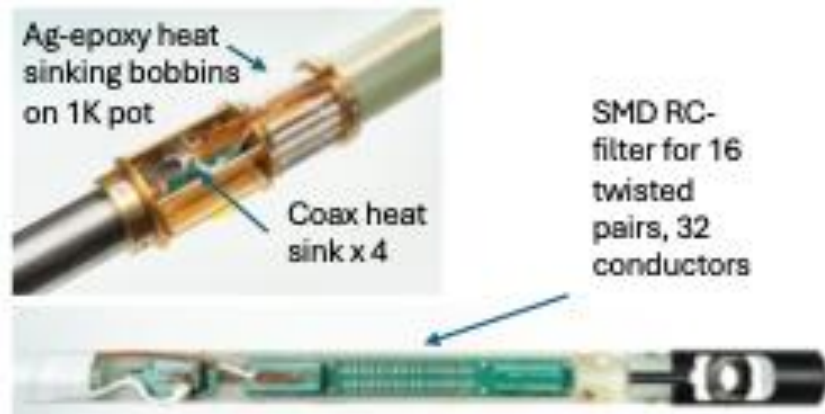
In 2025, the DC Field Facility recommissioned its portable dilution refrigerator for use in Cell 8 (35T, 32mm bore), selected to maximize the noise reduction potential for demanding low-electron-temperature measurements. A comprehensive overhaul was performed after inspection revealed numerous vacuum leaks that had degraded system performance. The entire cryostat was disassembled and all perishable components, including O-rings and indium seals, were replaced. A new probe was constructed with improved thermalization of twisted-pair wiring and coaxial cables at the 1K pot stage, and a custom RC filter board with a 100kHz roll-off was installed to enable the low-frequency AC measurements required for two-dimensional electron gas (2DEG) experiments (**Figure 2.3.3**). The number of available measurement



wires was increased from 24 to 32 by adapting the breakout box design used across our other cryogenic systems, and a new sample platform was developed to support wire bonding.

Initial transport measurements on FIB-prepared CeRh<sub>2</sub>As<sub>2</sub> microcrystals, provided by collaborators at Los Alamos National Laboratory (Joanna Blawat), demonstrated the importance of the filtering upgrades — superconducting transitions were only resolved after the RC filters were installed.

Subsequent experiments on twisted bilayer WTe<sub>2</sub> (Pengjie Wang, University of Illinois) and rhombohedral graphene (Zhengguang Lu, Florida State University) confirmed that the system achieves electron temperatures below 100 mK, benchmarked against known superconducting transitions observed in well-filtered laboratory-based dilution refrigerators. This is a notable achievement given the 14.5 mm sample space constraints of a top-loading system operating in a high-power resistive magnet environment. Based on these results, a two-week scheduling model has been adopted as standard for portable dilution refrigerator experiments: the first week uses one power supply for system initialization and noise optimization, while the second week adds the second power supply for full-field measurements.

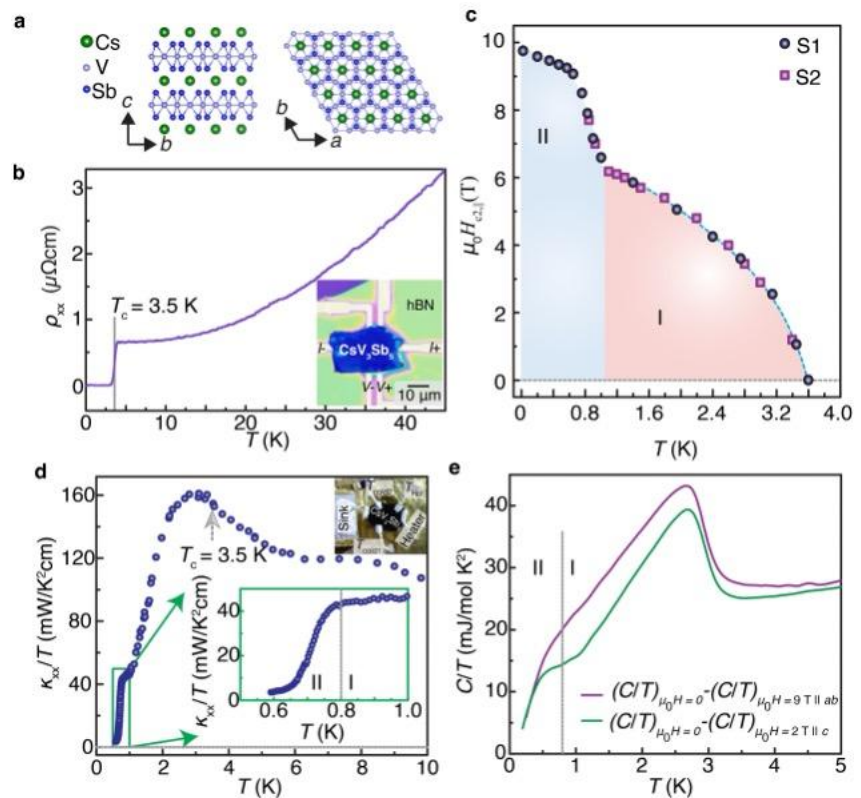


**Figure 2.3.3** Above: Twisted pair filtering stage anchored at 1K pot. Bottom: one-axis rotator with custom low-T RC filter for the lowest possible electron temperatures  $\sim 100$  mK.

## Major Research Activities and Discoveries

### Unconventional Gapping Behaviour in a Kagome Superconductor

The Kagome - lattice superconductor CsV<sub>3</sub>Sb<sub>5</sub> has attracted intense interest owing to its interplay of charge order, topology, and superconductivity. In this material, multiband superconductivity coexists with a charge-density wave that substantially reduces the space group symmetries. Using a combination of electrical transport, thermal transport, and high-resolution heat capacity measurements performed in superconducting magnets SCM 1 and SCM 2 at the DC Field Facility, the research team identified two distinct superconducting regimes characterized by different transport and thermodynamic signatures. A substantial quasiparticle weight is present in the higher-temperature regime and is progressively removed as a second gap opens at lower temperatures, without an intervening phase transition. This band-selective superconductivity, in which the two gaps are remarkably decoupled from one another, has not been observed in any other known material. The



**Figure 2.3.4** a, Lattice structure. b, Superconducting transition, c, d, e, Electrical transport, heat transport, and heat capacity evidence of two distinct superconducting regimes in CsV<sub>3</sub>Sb<sub>5</sub>, respectively.

This band-selective superconductivity, in which the two gaps are remarkably decoupled from one another, has not been observed in any other known material. The

discovery challenges conventional multiband superconductivity theories, in which gaps on different Fermi surface sheets are expected to be coupled through interband scattering. The result points to an unusually weak interband pairing interaction in CsV3Sb5, likely arising from the symmetry-breaking effects of the charge-ordered state, and opens new directions for understanding unconventional pairing mechanisms in kagome metals (**Figure 2.3.4**).

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Funding: NSF DMR-2128556; Gordon and Betty Moore Foundation GBMF9461; DOE/BES DE-FG-02-05ER46200; DOE-BES DE-SC0002613

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### Quantum oscillations in the heat capacity of Kondo insulator YbB12

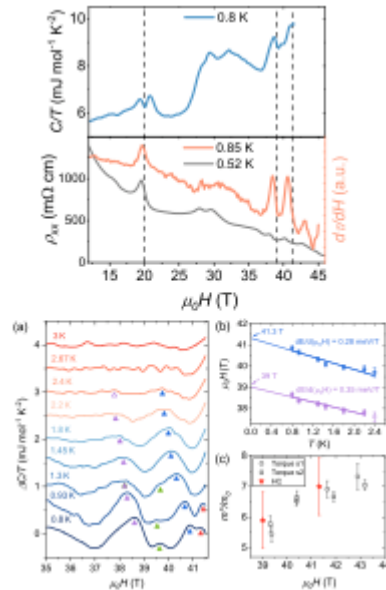
Kondo insulators are materials in which strong electron correlations open an energy gap at the Fermi level, producing an electrically insulating ground state. Despite this, several Kondo insulators exhibit quantum oscillations in thermodynamic and transport quantities that are conventionally associated only with metals possessing a well-defined Fermi surface. Whether these oscillations originate from surface states or from the bulk has remained a central question. Using the high-resolution nanocalorimetry technique developed at the DC Field Facility, the research team measured the heat capacity of YbB12 in continuous magnetic fields up to 41.5 T in the 35T and 41.5T resistive magnets. They observed oscillations at a frequency of 670 T, in agreement with magnetoresistance and torque magnetometry measurements. The oscillation amplitudes are substantial, with a magnitude of approximately 0.5 mJ/mol K<sup>2</sup> at 0.8 K, accounting for 13% of the known electronic heat capacity coefficient. By analyzing distinctive double-peak structures in the temperature dependence of the oscillation amplitudes, the team determined an effective mass that agrees with independent torque measurements. Because the heat capacity is a bulk thermodynamic quantity, these results provide direct evidence that the oscillations originate from the bulk rather than from surface states as previously conjectured. The findings support the interpretation that electrically neutral fermions participate in the quantum oscillation phenomena, revealing a hidden quantum structure within this electrical insulator that challenges conventional understanding of the distinction between metals and insulators (**Figure 2.3.5**).

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1. University of Michigan; 2. National High Magnetic Field Laboratory; 3. Los Alamos National Laboratory; 4. Ibaraki University; 5. University of California, Riverside; 6. Kyoto University

Funding: NSF DMR-2128556; NSF DMR-2317618; DOE DE-SC0020184; Gordon and Betty Moore Foundation GBMF5305; JSPS KAKENHI 23H00089; JST CREST JPMJCR19T5

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**Figure 2.3.5** Quantum oscillations in the Kondo insulator YbB12. Top: Heat capacity  $C/T$  (blue) and electrical resistivity  $\rho_{xx}$  and derivative of the torque  $\tau$  vs  $B$  (red, grey) as a function of magnetic field at sub-kelvin temperatures, measured in the 41.5T resistive and 45T hybrid magnets. Dashed lines indicate quantum oscillation maxima visible in all three quantities. Bottom: (a) Oscillatory component of  $C/T$  at temperatures from 0.8K to 3K, revealing a distinctive double-peak structure. (b) Landau fan diagram confirming oscillation frequencies of 41.1T and 36T. (c) Effective mass determined from the temperature dependence of the oscillation amplitudes in heat capacity (red) and torque magnetometry (blue and purple), yielding consistent values of approximately 5-7 free electron masses. The observation of quantum oscillations in the heat capacity -- a bulk thermodynamic quantity -- provides direct evidence that neutral fermions in the bulk, rather than surface states, are responsible for the metallic-like quantum oscillatory behavior in this electrical insulator.

## MAINTAINING FACILITY AND DEVELOPMENT OF NEW MAGNET SYSTEM INCLUDING OPERATION SCHEDULE AND SHUTDOWNS

### Facility Plans and Directions

#### ***Development of Infrastructure Projects to Increase System Capabilities and Reliability***

In 2025, the DC Field Facility finalized project plans for several critical infrastructure initiatives that will be executed in the coming years. These plans include the replacement of the Cooling Towers (scheduled for 2026) in support of the water-cooled magnet operations, the replacement of the on-site electrical substation (2026/2027) to enhance electrical reliability for high-power magnet operations and the installation of power quality conditioning equipment (2026/2027). Further, recovery strategies for the Series Connected Hybrid (SCH) and 32T magnets were developed to restore unique high-field capabilities and enhance operational support of these one-of-a-kind magnet systems. Plans were developed for the refurbishment of the 3 million gallons chilled water storage tank (2026). Together, these forward-looking projects position the MagLab for continued leadership in high-field research and ensure readiness for future operational demands.

#### ***Facility Condition Assessment of the DC Field Facility & Asset Management Plan***

In 2023, the MagLab partnered with the Aerospace Corporation to develop a detailed facility condition assessment (FCA) of the MagLab user facilities, and this report was delivered to the MagLab and the NSF in March 2024. The report made several recommendations that were categorized according to risk priority, consequence, the likelihood of occurrence, etc. Using the FCA as the foundation, we have developed the first version of a formal asset management plan (AMP) which takes the findings & information from the FCA to build replacement schedules for critical equipment as well as mitigation plans to reduce risk to the facility during equipment lifecycles. Much of this work had already been done but it lacked the formalism necessary for the NSF to develop long-term projections of funding needs beyond standard operations and maintenance of the DCF. The AMP is continually developed and refined so that it can grow and serve as an effective tool for the MagLab and the NSF.

#### **Facility Operation Schedule**

At the heart of the DC Field Facility are the four 14MW, low-noise, DC power supplies. Each 20MW or 28MW resistive magnet requires two power supplies to run, the 45T hybrid and the 41.5T resistive magnets each require three power supplies and the 36T Series Connected Hybrid requires one power supply. Thus, the DC Field Facility operates in the following manner: in a given week there can be four resistive magnets + seven superconducting magnets operating or the 45T hybrid/41.5T resistive, series connected hybrid, two resistive magnets and seven superconducting magnets. The water-cooled DC resistive and hybrid magnets operated for 38 weeks in 2025. Instrument and facility development work was conducted for 1 week at the beginning of January (returning the facility back to service from the annual maintenance shutdown at the end of 2024), 1 week mid-March and 2 weeks at the end of June/beginning of July, respectively. There also was a 5-week shutdown in September that was utilized for the installation of two resistive magnet protection systems (Cells 5 and 6), routine preventive maintenance and the training of operations personnel. The shutdown was scheduled during the peak of hurricane (to prevent facility downtime due to weather events) and football season (to circumvent high hotel pricing) per the user communities request. There was a second 5-week regular maintenance shutdown (during which an additional two magnet protection systems were installed in Cells 7 and 15) from Thanksgiving Week, November 24, into the New Year, including a two-week shutdown period for the university-mandated holiday break from December 22, 2025, to January 4, 2026. No magnet operations were lost due to storms or other natural disasters. The seven superconducting magnets operated for 49 weeks out of the year with staggered maintenance periods as required. The daily operation schedule for the resistive and hybrid magnets is as follows: 7 hours/day on Monday and 21 hours/day Tuesday-Friday. The superconducting magnets operate 24 hours/day, 7 days/week.

## CONDUCTING EDUCATION AND OUTREACH ACTIVITIES

The DC Field Facility operated in a mostly normal manner in 2025 as evidenced by the number of users who came to the facility for magnet time. We hosted a booth at the 2025 Anaheim March Meeting trade show where we introduced the MagLab to potential new users as well as communicated with a large number of current MagLab users.

**Appendix A** shows that the DC Field Facility attracted 29 new PIs in 2025. This is in addition to the 27 new PIs reported last year (2024) and 35 reported in 2023.

The Annual DC Field Facility MagLab User Summer School was scheduled for the week of May 12, 2025. We hosted 17 participants for this immersive program designed to train the next generation of scientists in high magnetic field research. Each year, graduate students and advanced undergraduates from around the world participate in lectures, hands-on experiments, and collaborative projects led by MagLab experts. The program provides a unique opportunity to learn cutting-edge techniques, engage with leading researchers.



## 2.3 EMR FACILITY

Electron Magnetic Resonance (EMR) covers a variety of magnetic resonance techniques associated with the electron. The most widely employed is Electron Paramagnetic/Spin Resonance (EPR/ESR), which can be performed on anything that contains unpaired electron spins. EPR/ESR has thus proven to be an indispensable tool in a large range of applications in physics, materials science, chemistry, and biology, including studies of impurity states, molecular clusters, and molecular magnets; antiferromagnetic/ferromagnetic compounds in bulk, as well as thin films and nanoparticles; natural or induced radicals, optically excited paramagnetic states, electron spin-based quantum information devices; transition-metal based catalysts; and structural and dynamical studies of metalloproteins, spin-labeled proteins, and other complex bio-molecules and their synthetic models.

### OPERATION OF A WORLD-LEADING HIGH-MAGNETIC-FIELD USER PROGRAM

#### Unique Aspects of Instrumentation Capability

The EMR facility at the NHMFL offers users several home-built, high-field, and multi-high-frequency instruments covering the continuous frequency range from 9GHz to > 1THz. Several transmission probes are available for continuous-wave (CW) measurements, which are compatible with a range of magnets at the Lab, including the highest field 45T hybrid. Some of the probes can be configured with resonant cavities, providing enhanced sensitivity as well as options for *in situ* rotation of single-crystal samples in the magnetic field. Quasi-optical (QO) reflection spectrometers are available in combination with high-resolution 12.5T and 16T superconducting magnet systems; a simple QO spectrometer has also been developed for use in the resistive and hybrid magnets (up to 45T). EMR staff members can assist users in the DC field facility using broadband tunable homodyne and heterodyne spectrometers as well. Moreover, frequency coverage up to ~180THz (6,000cm<sup>-1</sup>) is now possible through collaboration with staff in the DC field facility using broadband Fourier transform infrared spectrometers to acquire EPR spectra in the frequency domain – so-called far-infrared magneto-spectroscopy (FIRMS). Finally, operation in the high-resolution 36T Series Connected Hybrid (SCH) magnet is another recent addition to the EMR user program.

In addition to CW capabilities, the MagLab EMR group boasts the highest frequency pulsed EPR spectrometer in the world, operating at 120, 240, 336GHz, and now 316 and 395GHz with ~100ns time resolution. A high-power (1kW) quasi-optical 94GHz spectrometer (HiPER) with 1ns time resolution (1GHz instantaneous bandwidth) is also available. Meanwhile, a state-of-the-art Bruker Elexsys 680 operating at the X- (9.7GHz) and Q- (34GHz) bands with ENDOR and optical excitation capabilities has been delivered to the EMR facility at the end of 2024. This unique combination of CW and pulsed instruments may be used for a wide range of advanced EPR applications, as well as a number of other spectroscopies, including optical conductivity, electron cyclotron resonance and Dynamic Nuclear Polarization (DNP).

Finally, the EMR group collaborates with the NMR program in developing instrumentation for high-field DNP-enhanced NMR studies of solids and solution samples at fields up to 14.1T. The centerpiece of this installation is a quasi-optical EPR spectrometer based on a 395GHz high-power CW gyrotron source.

#### Major Research Activities and Discoveries

During the past year, EMR users reported **28** peer-reviewed journal articles, along with **two** Ph.D. dissertations and **one** Master's thesis. The overall quality of the publications remained high, with articles appearing in leading journals such as *Journal of the American Chemical Society* (6), *Chemical Science* (2), *Inorganic Chemistry* (3), and *Dalton Transactions* (5), as well as *Journal of Magnetic Resonance*, *Applied Magnetic Resonance*, and ACS journals (6). The total publication output (28) is consistent with recent years, matching 2024 and 2023 (28 each), and comparable to 2022 (25) and 2021 (27).

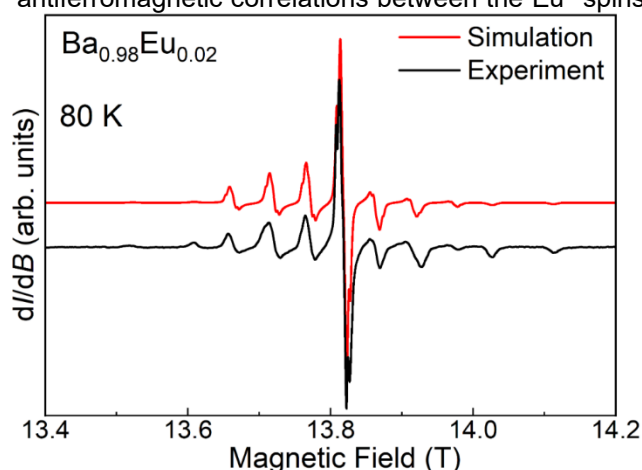
The EMR Program continued major efforts in support of major center-type research initiatives and international collaborations involving multiple universities. Ongoing funded collaborations included: the four-year, \$12M DOE funded Energy Frontier Research Center for Molecular Magnetic Quantum Materials (M2QM) based at the University of Florida, with partners at the University of Central Florida, Florida State University, UTEP, Caltech and Los Alamos National Laboratory; a collaborative project together with researchers at Lawrence Berkeley National Lab and UC Berkeley, which focuses on “Molecular f-Element Qubits with Controllable Quantum Coherence and Entanglement”; and an international collaboration funded by the Office of Naval Research—Global, linking the MagLab with Osaka Metropolitan University in Japan and the University of Modena and Reggio Emilia in Italy. In addition, several major new initiatives were spearheaded, including: a \$20M application to the NSF to establish a new Quantum Leap Challenge Institute (QLCI) – *Molecular Coherent Spin Platforms for Quantum Applications (MoSPIN)* – involving researchers at Florida State University, the University of Florida, Northeastern University, Yale University and The New Mexico Consortium; and an NSF Materials Research Science and Engineering Center with headquarters at FSU and partners at FAMU, the University of Florida, Stony Brook University, Colorado School of Mines, Emory University and Washington University – St. Louis. Of these two new applications, both were invited for full proposal submission, with the QLCI recently having undergone a reverse site visit.

We report three 2025 scientific highlights in the next section of this report. The highlighted work, published in *Angewandte Chemie-International Edition* and in the *Journal of the American Chemical Society*, involves users from the following institutions: The University of California at Berkeley; The US Navy; Philips Universität Marburg, Germany; Lawrence Livermore National Lab; The Technical University of Denmark, Denmark; The CSIC & Universidad de Zaragoza, Spain; The University of Copenhagen, Denmark; Universität Bielefeld, Germany; the University of Pennsylvania; the University of Texas at El Paso; the university of Oxford, UK; Universität Erlangen-Nuremberg, Germany; Indiana University, Roosevelt University; and Florida State University.

### Unlocking Ultra-Cold Cooling: A Unique Magnetic Material for Next-Generation Refrigeration

Attaining sub-kelvin temperatures is technologically challenging and often relies on the scarce resource  $^3\text{He}$ , unless employing adiabatic demagnetization refrigeration. Herein, the coolant typically consists of weakly coupled paramagnetic ions, whose magnetic interaction strengths are comparable in energy to the relevant temperature regime of cooling. Such interactions depend strongly on inter-ion distances, fundamentally hindering the realization of dense coolants for sub-kelvin refrigeration.

In this investigation, a magnetically concentrated triangular coordination network,  $\text{Eu}_{0.9}\text{Ba}_{0.1}\text{I}_2(\text{pyrazine})_3$ , is reported featuring the large  $S = 7/2$  spin moment of  $\text{Eu}^{\text{II}}$ . High-field electron paramagnetic resonance (EPR), magnetization, and heat capacity measurements indicate weak antiferromagnetic correlations between the  $\text{Eu}^{\text{II}}$  spins and a dominant easy-plane magnetic anisotropy. In



**Figure 2.3.1** High-field EPR spectrum (Experiment) of  $\text{Eu}_{0.9}\text{Ba}_{0.1}\text{I}_2(\text{pyrazine})_3$  recorded at a frequency of 385 GHz along with the corresponding simulation, from which quantitative information about the  $\text{Eu}^{\text{II}}$  magnetic anisotropy can be deduced.

particular, EPR measurements at high magnetic fields and relatively high temperatures (80K – see **Figure 2.3.1**) are essential to quantifying the magnetic anisotropy independently from the inter-ion antiferromagnetic exchange interaction energy. This interdisciplinary collaboration has demonstrated a perfect combination of weak magnetic interactions and geometric frustration in the low-dimensional organic  $\text{Eu}_{0.9}\text{Ba}_{0.1}\text{I}_2(\text{pyrazine})_3$  framework, which prevents entropy-annihilating magnetic ordering down to at least 0.17K; large magnetic entropy is a critical requirement for adiabatic demagnetization refrigeration. These factors, combined with the large spin moment and high  $\text{Eu}^{\text{II}}$  concentration, open up exciting possibilities for efficient on-chip cryogenic refrigeration down to remarkably low (sub-kelvin) temperatures, especially in scenarios where established inorganic refrigerants cannot be utilized.

**Citation:** Manvell, A.S.; Dunstan, M.A.; Gracia, D.;

Hrubý, J.; Kubus, M.; McPherson, J.N.; Palacios, E.; Weihe, H.; Hill, S.; Schnack, J.; Evangelisti, M.; Pedersen, K.S., *A Triangular Frustrated Eu(II)–Organic Framework for Sub-Kelvin Magnetic Refrigeration*, *Journal of the American Chemical Society*, 147 (9), 7597-7603 (2025) doi.org/10.1021/jacs.4c17003

### High-Field EPR Reveals Differences in Titanium-Based Catalysts' Electronic Structure

Titanium is an “Earth abundant” transition metal, unlike precious metals such as palladium (Pd) and platinum (Pt). Partly for this reason, titanium containing molecules are widely used as catalysts for the production of polymers such as polyethylene, polycarbonates and other “plastics”. There is, however, always a need for improvement in these catalysts to make them more efficient, cheaper and safer. Oftentimes, the differences between a better functioning (i.e., higher activity) catalyst and a poorer (i.e., lower activity) one are related to very slight differences in the geometrical and electronic structure of the catalyst molecule.

Techniques such as X-ray crystallography can provide geometrical structures, while spectroscopic information is essential for gaining insights into the electronic structure and functionality of catalysts. One such technique is electron paramagnetic resonance (EPR), which can provide precise details about the role of unpaired electrons in chemical activity. However, the EPR spectra of many transition metals, e.g., titanium, often span a very wide magnetic field range (see **Figure 2.3.2**). This necessitates high-field measurements that can only be performed at the MagLab.

In this extensive investigation, a series of titanium-containing molecules was prepared by the group of Daniel Mindiola at U. Penn, a leading expert in this area. High-field EPR results from the MagLab show small but distinct differences among them which, when combined with electronic structure calculations, will guide further synthetic efforts aimed at making more catalytically useful molecules.

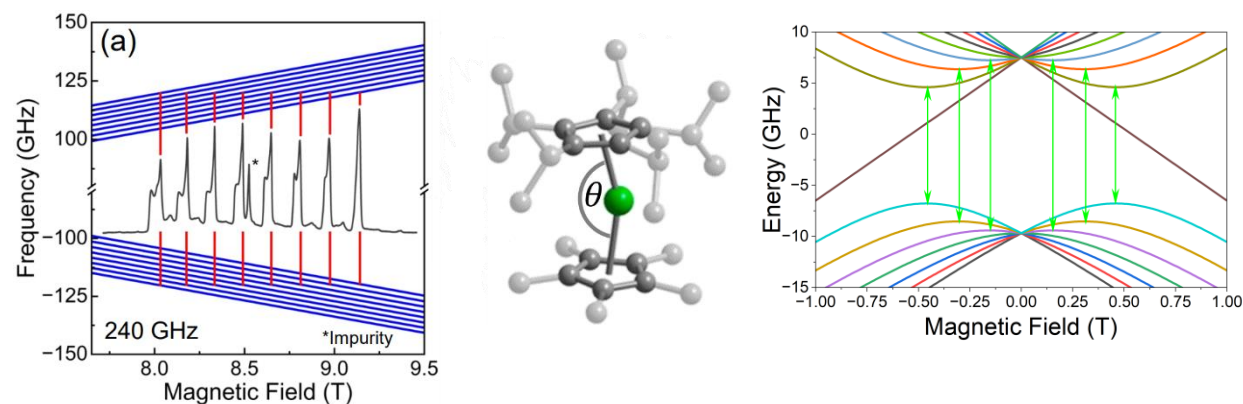


**Citation:** [1] Bhunia, M.; Mohar, J.S.; Sandoval-Pauker, C.; Fehn, D.; Yang, E.S.; Gau, M.; Goicoechea, J.; Ozarowski, A.; Krzystek, J.; Telser, J.; Meyer, K.; Mindiola, D.J., *Softer Is Better for Titanium: Molecular Titanium Arsenido Anions Featuring  $\text{Ti}\equiv\text{As}$  Bonding and a Terminal Parent Arsinidene*, *Journal of the American Chemical Society*, 146 (6), 3609-3614 (2024) doi.org/10.1021/jacs.3c12939. Also: [2] Bhunia, M.; Pauker, C.S.; Fehn, D.; Grant, L.N.; Gau, M.R.; Ozarowski, A.; Krzystek, J.; Telser, J.; Pinter, B.; Meyer, K.; Mindiola, D.J., *Divalent Titanium via Reductive N-C Coupling of a TiIV Nitrido with  $\pi$ -Acids*, *Angewandte Chemie International Edition*, 63, e20240461 (2024) doi.org/10.1002/anie.202404601

### Chemical Control of Clock Frequency in a Series Molecular Lutetium(II) Qubits

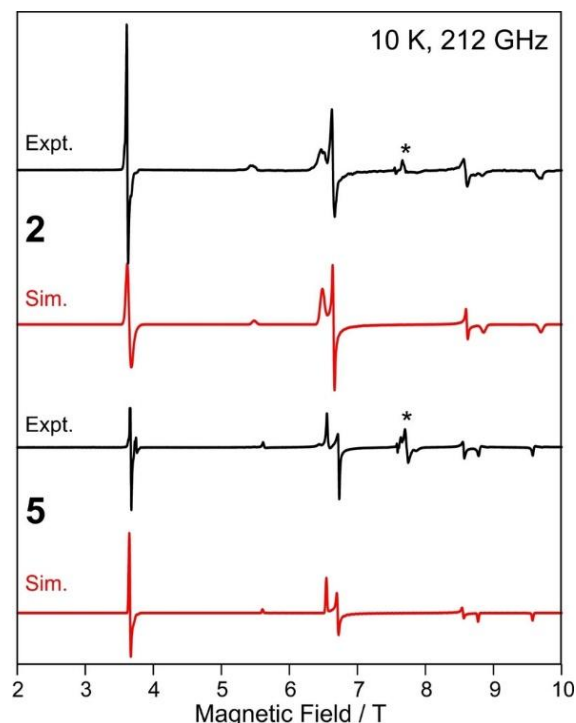
Electron spin coherence can be significantly enhanced at so-called clock transitions – optimal operating points or avoided Zeeman level crossings at which the spin resonance frequency becomes insensitive to magnetic noise. Robust spin clock transitions can be generated by enhancing the electron-nuclear hyperfine interaction. In this regard, molecular lutetium 2+ complexes are attractive because they possess a lone unpaired electron that occupies a mixed 5d/6s orbital. Chemical tuning of this mixing to maximize the 6s character and, hence, the electron spin density at the nucleus, provides a way to optimize the electron-nuclear hyperfine coupling strength.

Chemists from the Naval Air Warfare Center and UC Berkeley synthesized a family of lutetium(II) sandwich-type molecules using pairs of planar cyclopentadienyl (Cp) ligands with varying substituents on the five-membered Cp rings. In this way, they have been able to control the linearity of the chemical coordination at the lutetium ion (angle  $\theta$  – see **Figure 2.3.3**) which, in turn, regulates the degree of s-orbital character. In doing so, the strongest hyperfine coupling has been achieved for any molecular lanthanide compound to date. Accurately measuring such a strong hyperfine interaction requires electron magnetic resonance measurements (EMR) to be in a high-field regime in which the Zeeman interaction dominates. Hence, measurements could only be performed using the unique spectrometers at the MagLab (see **Figure 2.3.3**).



**FIGURE 2.3.3** (Left) High-field EPR spectrum of a powder sample overlaid on Zeeman level diagram depicting transitions between 8 hyperfine spin “up” and “down” sub-levels; fine structures are due to anisotropy in the powder. (Middle) One of the Lu(II) complexes. The angle  $\theta$  correlates with the strength of the hyperfine coupling. (Right) Simulation of energy levels at low field for the  $S=1/2$   $I=7/2$  Lu(II) system. The green arrows indicate positions of clock transitions.

These results outline a general strategy toward the isolation of paramagnetic molecules with strong s-orbital electronic character, leading to a massive hyperfine interaction and a simple electronic ground state



**Figure 2.3.2** HFEPR spectra of powdered samples of 2 (top) and 5 (bottom), recorded at 10K with microwave frequency 212.000GHz (black traces). Red traces are simulations for  $S=1$  with parameters as in Table 2. The two features appearing at  $\sim 7.7$ T (asterisks) in each complex are due to a minute amount of  $\text{Ti}^{\text{III}}$  impurity ( $g\sim 1.96$ ) and an unidentified radical ( $g\sim 2.00$ ), not simulated.

with excellent coherence. Such molecules are of interest as spin qubits for next-generation quantum technologies.

**Citation:** Ngo, D.X.; McClain, K.R.; Hrubý, J.; Franzke, Y.J.; Kundu, K.; Kwon, H.; Gould, C.A.; Harvey, B.G.; Hill, S.; Long, J.R., *Large Hyperfine Coupling Arising from Pseudo2S Ground States in a Series of Lutetium(II) Metallocene Complexes*, *Journal of the American Chemical Society*, 147 (16), 13799-13807 (2025) doi.org/10.1021/jacs.5c01947

## CARRYING OUT IN-HOUSE RESEARCH AND SCIENTIFIC INSTRUMENTATION DEVELOPMENT IN SUPPORT OF THE USER PROGRAM

### Facility Developments and Enhancements

The year 2025 saw significant instrument development for all of the user instruments in the EMR group. The most significant enhancements to the EMR program in early 2025 were the final acceptance of the installation of two new magnet systems to replace aging and failing magnet systems. These magnets had been delivered earlier in Dec 2023 and Feb 2024, but both systems had cryogenic problems requiring repair by Oxford Instruments, as detailed in last year's report. The first system is a 16T superconducting magnet replacing 15/17T magnet for the broadband transmission spectrometer. The previous magnet could no longer be run above 14.5T and quenched with increasing frequency. A fatal quench finally occurred in November 2024 while the new system was still in repair. After completion of the repair of a vacuum leak on the variable temperature insert, the new magnet system finally came online at the end of April 2025 and has so far performed without any major problems. The new system reaches a higher magnetic field and the absence of a superconducting switch allows a higher field sweep rate of 1T/min, which is double what was possible previously. This enables more efficient data collection without increased helium consumption. The new magnet is a cold-bore system with a Variable Temperature Insert (VTI) instead of the previous warm-bore magnet with a separate Variable Temperature (flow) Cryostat. This enables a lower base temperature (2K) and reduced helium use when operating at low temperatures.

The second new superconducting magnet system replaced the ageing and failing 9 Tesla magnet on the high-power pulsed EPR 95GHz spectrometer, HIPER. The new magnet/cryostat system offers many advantages over the older magnet, in addition to overall operational reliability. In particular, the older magnet experienced several failures that compromised performance: the overall field was limited to 4.5T, well below the original rating of 8T, and the magnet sweep profile experienced very significant and unpredictable hysteresis, greatly complicating studies of narrow-line spin systems. In addition, the standalone variable helium flow cryostat associated with the older warm-bore magnet suffered significant stability issues, particularly at lower temperatures, with an ultimate base temperature of around 8K. Moreover, the cryostat suffered frequent ice blockages and problems with the thermometry, causing significant disruptions to user operations. The new flow cryostat shares the same helium bath as the magnet, offering greatly improved low-temperature stability down to ~2K. HIPER saw a range of other enhancements in 2025. First of all, the 1kW high power amplifier, an Extended Interaction Klystron was nearing end-of-life. The only company making these klystrons also announced that it was ending production of EIKs sometime in 2024. The MagLab leadership recognized that this situation could mean the loss of one of the EMRs flagship spectrometers and found the funding to buy one of the last 95GHz EIKs. The new EIK arrived in 2025 and has been successfully installed in the spectrometer. Also in 2025, via a User Collaboration Grants Program (UCGP) grant obtained by Dubroca and van Tol in 2023, two more significant enhancements were made. Firstly, a 10W solid state amplifier was acquired with 100% duty cycle. While this results in longer excitation pulses and a loss of sensitivity and time resolution in comparison to the EIK, this enables to avoid the limited duty cycle of the EIK. This enables significantly longer pulses and pulse sequences, which is important for some types of experiments, and e.g. provides a better hyperfine resolution in echo-detected NMR experiments. Also a laser-excited optical switch was installed, serving as a high power switch directly after the last pulse from the EIK. This significantly reduces the trailing power from the EIK after it is switched off and decreases the deadtime from about 100ns to a few ns.

Also in 2025, the commercial state-of-the-art Bruker X-/Q-band (9/34GHz) pulsed EPR spectrometer with many advanced features such as in situ optical and nuclear excitation for double resonance investigations came online. While delivered at the end of 2024, the full installation has not been completed yet as various aspects of the spectrometer had technical problems and needed repair by Bruker. In the course of 2025 more features were operational, and the user training by Bruker and the final acceptance of the installation is now scheduled for April 2026. While some user experiments were performed in 2025, it will be fully available for outside users in the EMR user program starting in 2026. This Bruker spectrometer was funded through a completely separate NSF Major Research Instrumentation award (CHE-2320338) with Steve Hill as PI. New capabilities will be pulsed EPR/ENDOR at Q-band, arbitrary pulse shaping with the AWG, and the possibility of optical excitation enabled by an accompanying OPO-laser.

In addition to the aforementioned major facility enhancements, Tomas Orlando also received support through the MagLab UCGP and a Florida State University internal funding program to undertake critical enhancements/upgrades to the 12.5T pulsed heterodyne spectrometer. These plans include integrating an

Arbitrary Waveform Generator (AWG) capability and installation of a new multiplier chain providing 300mW of pulsed power at 263GHz, an order of magnitude increase in power relative to the current 240GHz chain. Not only does this provide a new frequency in the pulsed arsenal of the EMR facility, but it will also give rise to a factor of ~3 improvement in time resolution, as well as enhancements in sensitivity. The system operates by upconverting a frequency around 130GHz with the signal from the AWG and amplifying the frequency ~131.5GHz and doubling that to 263GHz. This enables full pulse control over a 4GHz bandwidth. The system was tested in 2025 without full AWG capabilities and performs well. In 2026, the final installation of Specman EPR software will be completed and this new capability will become available to external users. The Specman software is also used on HIPER and will enable a more uniform software environment across the spectrometers in the EMR program.

The Florida State University Quantum Science and Engineering (QSE) initiative (<https://quantum.fsu.edu>) provided support for the hiring of a postdoc, Sabastian Atwood, who received his PhD in the group of EMR user Christoph Boehm at the University of Utah. Together with EMR Director Hill, Sabastian has obtained additional support from the QSE initiative to develop a tunable (2-18GHz) pulsed EPR spectrometer based on a qubit controller purchased from the company QBlox Quantum. Work has been ongoing in 2025, and the first experiments in the magnet are planned for spring 2026.

## **MAINTAINING FACILITY AND DEVELOPMENT OF NEW MAGNET SYSTEM INCLUDING OPERATION SCHEDULE AND SHUTDOWNS**

### **Facility Plans and Directions**

The main new facility plans/directions center around the major new infrastructure that was installed in 2025. With the two new magnets now installed and operating well, we will now have new capabilities and improve overall operational reliability on two workhorse spectrometers (HiPER and Broadband Homodyne Transmission). This will allow us to allocate more time for external users in comparison to 2025 where the downtime, installation, and testing took a non-negligible part of the instrument time. The enhancements with the 10W cw amplifier will allow for longer pulse sequences and higher resolution of selected application, while the optical switch will allow the study of fast relaxing systems.

The new commercial Bruker E680 spectrometer operating at X- (9GHz) and Q- (34GHz) band will allow significant new capabilities. This spectrometer is already in use by outside users that were involved in the MRI grant application. Full capabilities become available for users in 2026 for pulsed EPR applications. In order to use the limited available instrument time efficiently, it will not become available for more routine cw-EPR applications. A completely new capability is for EPR of optically excited systems. A standalone tunable laser system was included with the Bruker spectrometer acquisition: 410 – 2500nm, 40mJ at 10Hz repetition rate. This optical excitation capability is also compatible with many of the high-field instruments within the EMR program, thus opening a completely new experimental dimension to our users, for photophysical, photochemical, energy, and quantum science applications. The EMR Users Sub-Committee has been asking for such a capability for many years. The laser system is now operational, and we are starting to see users take advantage of this highly sought-after capability. The Bruker spectrometer also adds another quasi-high-frequency pulsed capability at 34GHz to the EMR arsenal, for which there is clear demand for many key applications of interest to our users. Meanwhile, the upgrade converts the spectrometer to a modern digital console, including integration of a SpinJet Arbitrary Waveform Generator. As well as the addition of the Q-band capability, the new system will include pulsed ENDOR and high-power amplifiers at X- (600W solid state), Q-band (TWT 300W), and for ENDOR (500W) – all new capabilities.

As mentioned elsewhere in this report, upgrades to the 12.5T heterodyne pulsed EPR spectrometer will provide a new operating frequency (257-264GHz), improved time resolution due to increased microwave power, and, most importantly, integrate a modern AWG-driven pulse shaping capability. The increased power and ability to precisely shape pulses will allow for wider excitation bandwidths without introducing artifacts that can be problematic with conventional on/off pulses. In turn, this gives rise to further enhancements in sensitivity, beyond those due simply to the increased operational field and microwave power. In addition, the AWG capability permits more advanced pump-probe experiments such as electron-electron double-resonance detected NMR.

Also mentioned previously in this report, a very wideband pulsed instrument is currently under development that leverages a single qubit controller acquired from the company QBlox Quantum (Delft, Netherlands). These devices are manufactured for use with real quantum computing devices, enabling programmable operation of quantum processors in the DC to 18.5GHz range. This development responds to a national need identified in a recent National Academies report (<https://doi.org/10.17226/26850>) – that of a widely tunable pulsed EPR spectrometer to characterize new quantum systems that operate optimally at frequencies not reachable with commercial spectrometers. We plan to integrate this new capability with an existing split-pair 7T superconducting magnet system. A future frequency doubling capability will further extend the wideband coverage of this instrument.

Finally, the EMR program continues to leverage the FSU-funded Quantum Science and Engineering (QSE) Initiative in various ways. A new broadband pulsed EPR spectrometer is close to completion. Based



on a commercial QBloX qubit controller funded by the initiative, it has been designed and assembled by QSE postdoc Sabastian Atwood. In addition, a new QSE hire in chemistry has been integrated into the EMR program and assisting in the integration of the new optical excitation capability into the various pulsed EPR spectrometers within the EMR program.

### Facility Operation Schedule

With the exception of the commercial Bruker spectrometer (see below) and the Transmission Spectrometer, overall user operations in the EMR program maintained pre-pandemic levels in 2025, i.e., the numbers of users, PIs, and proposals were all comparable to rates in 2018 and 2019. The workhorse Transmission Spectrometer operated for a total of **174** days during 2025, significantly down from 2024 (265 days). This is due to the significant downtime due to the fatal magnet quench while the new magnet was still in repair. This system became available only at the end of April 2025. Taking this into account, the use for the rest of the year was slightly up from 2024.

The 12.5T heterodyne quasi-optical spectrometer logged **151** days of usage, slightly down from **165** days in 2024. This instrument requires more intensive staff support, which is the reason the numbers are consistently lower than the broadband Transmission system, which can be operated by local students and users without supervision. Meanwhile, a total of **290** days were logged in 2025 on the high-power pulsed 94GHz EPR spectrometer, HiPER, significantly more than the **223** days 2024. These numbers do include about **100** days of maintenance, repair, and testing of the significant new capabilities, which is more than the 40 days or so for a typical year. We expect to be back to these **40** days of maintenance in 2026, which leaves more available days for external users.

While the new Bruker 680 commercial X- and Q-band was only available with reduced capabilities, it still logged **151** days of use in 2025. This is significantly more than the **98** days that were recorded in 2024. The low number in 2024 was due mostly to pulse capabilities of the old spectrometer having failed and only continuous wave operation was possible. With the completion of the installation of the new instrument in April 2026, we expect a high community interest and expect to user days to go up significantly.

As a whole, the four main instruments offered by the EMR User Program were oversubscribed by **186%** in 2025, i.e., **1,423** days were requested, and **766** total days allocated. Note that in spite of the installation and testing of the new capabilities the **766** days is up slightly from **751** in 2024. The oversubscription rate is somewhat typical for recent years (**84% in 2022, 98% in 2024**), and we expect that the number of submitted experiments was somewhat reduced due to the downtime of some instruments. The oversubscription rate in terms of experiment submissions was **121%**. This is slightly more than typical (**114.5% in 2024**), which reflects that some experiments had to be declined due to specific capabilities not being available. However, it still reflects that the facility aims to provide access to most users with approved proposals who apply for time. However, the number of magnet days that the facility is able to offer is limited by instrument and staff availability.

### CONDUCTING EDUCATION AND OUTREACH ACTIVITIES

The total number of proposals that received magnet time during 2025 was **52**, which is slightly less than in previous years (**57 in 2024**). The number of PIs receiving magnet time was **48 (also a bit lower than the 48 in 2024)**, of which **7 PIs** were first-time users of the EMR facility. The number of new PIs is significantly lower than in previous years, which might reflect that some of the limited capabilities discouraged potential users to apply. Meanwhile, the EMR program assisted **155** individual researchers in 2025, down from **175** in 2025, and similar to pre-pandemic numbers. Of these, **33** were first-time users of the facility in 2025. Only **42** users were present on-site, well below the **88** who were on-site prior to the pandemic in 2019. This is the fourth year in a row where these numbers are down, reflecting a concerning trend in more users sending samples as opposed to traveling to Tallahassee to participate in on-site measurements; as a percentage, **55%** of users were on-site in 2019, compared to just **27% in 2025**. There are some additional mitigating circumstances that account for this low number. Chiefly among these were the changes in rules for badging on-site users and reliability issues associated with magnet switchovers in two of the workhorse spectrometers. The latter resulted in significant instrument downtime, limiting scheduling of on-site users. The EMR staff made up for this by running experiments for users sending samples at every opportunity when systems were operational. Obviously, this mode of operation is less efficient and places significant strain on the already stretched EMR Research Faculty and is unsustainable. It is anticipated that the instrument reliability issue will be resolved quickly in 2026.

Members of the group continued their efforts to advertise the facility and recruit new users at regional, national, and international conferences and workshops around the globe, though financial constraints limited conference participation. Stephen Hill and other group members gave invited presentations at conferences, both in the US and in Europe. The EMR group also had a strong presence at the Rocky Mountain Conference (RMC) on Magnetic Resonance, for which the Stephen Hill served as the Chair, and the Southeastern Magnetic Resonance Conference (SEMRC), co-organized by Tomas Orlando; Tomas Orlando also in a member of the organizing committee of the IVEM seminars, which are well-attended

online seminars in collaboration with the International EPR Society. All, these events are frequented by existing users, providing excellent opportunities to showcase their outstanding work and to recruit new users.

Stephen Hill served on the organizing committees for the following events in 2025: The Rocky Mountain Conference EPR Symposium (Chair), which was held in August in Snowbird, UT; the 4th Magnetism in North America (MAGNA) Conference held at Florida State University (co-organizer); invited Symposium at the APS Global Physics Summit(organizer), a two-day Symposium at Pacificchem, Honolulu (co-organizer), and was on the Advisory Board of the Conference on Molecular Spin Qubits toward Quantum Computer and Sensor (ICMSQ 2025), in Sendai, Japan; the International Conference on Molecule-Based Magnets (ICMM), October, Bordeaux, France, and the Quantum Science and Engineering Symposium in Tallahassee. Furthermore, Stephen Hill was invited to two schools focusing on Electron Paramagnetic Resonance Spectroscopy in India in January/February. The first was a three-day school at IIT Bombay, with just six lecturers (from US, Italy and UK), and was attended by about 80 undergraduate students from across the country. The second was a half-day Symposium at IISER Thiruvananthapuram, where Stephen gave two tutorials.

EMR staff also supervised undergraduate internships during the spring and fall semesters and were mentors in the Research Experience for Undergraduates program during the summer semester.

Lastly, Stephen Hill wrote a popular article entitled “Making Qubits from Magnetic Molecules”, which appeared in the American Physical Society monthly magazine Physics Today in March 2025: <https://pubs.aip.org/physicstoday/online/43992>.



## 2.5 HIGH B/T FACILITY

### OPERATION OF A WORLD-LEADING HIGH-MAGNETIC-FIELD USER PROGRAM

#### Unique Aspects of Instrumentation Capability

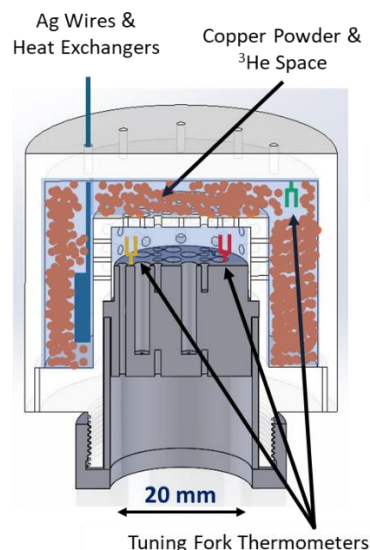
The High B/T Facility, located on the University of Florida campus, offers users a safe and welcoming atmosphere for performing research in high magnetic fields (up to 16T) and at ultralow temperatures (down to 0.5mK) with an ultra-quiet electromagnetic interference (EMI) environment. The Microkelvin Laboratory, the core of the High B/T Facility, is a separate, specially designed and built building with Tempest-quality shielded rooms to specifically afford access to the extremes of ultralow temperatures and high magnetic fields. Two demagnetization cryostats, one employing a  $\text{PrN}_5 + \text{Cu}$  refrigeration stage, known as Bay 3, the other equipped with a pure Cu stage, known as Bay 2, provide access to the ultralow temperature environments by using high magnetic fields of 8T to adiabatically cool the experimental regions. In other words, the high magnetic fields provide the means of refrigeration for cooling quantum materials in a steady high magnetic field applied to the sample region. In 2025, a Bluefors automated “dry” dilution refrigeration system, located in Bay 1, entered its second year of operating at temperatures below 10mK for user science with sample magnetic fields of 14T provided by a superconducting magnet. The introduction of a “dry” system to the inventory of unique instruments is a step in providing users with sustainable access to extreme environments needed to probe quantum materials while also equipping junior researchers with technical skills that are important for workforces in Florida and the nation. The combination of high magnetic fields with samples cooled to ultralow temperatures in an electromagnetically quiet environment provides users with access to parameter space that they cannot achieve in their home institutions or at other MagLab facilities. Briefly stated, the High B/T Facility provides users with opportunities to explore quantum matter, devices, and phenomena with unique, specialized probes, cells, and cryostats made in-house by staff in our facility and in our cryogenics, instrument design-fabrication, and electronics shops. The resulting enhanced understanding of quantum materials will guide the development of devices operating near ambient conditions.

### CARRYING OUT IN-HOUSE RESEARCH AND SCIENTIFIC INSTRUMENTATION DEVELOPMENT IN SUPPORT OF THE USER PROGRAM

#### Facility Developments and Enhancements

An important aspect of the HBT cryogenic instruments is the use of experimental cells that employ pure  $^3\text{He}$  immersion of the sample and the leads attached to the experimental platform. This approach and the presence of steel shielded rooms facilitate our ability to achieve electron temperatures in quantum materials and devices that are dramatically lower than can be achieved elsewhere. As mentioned in the preceding subsection, a Bluefors automated “dry” dilution refrigeration system with a 14T superconducting magnet entered its second year of operation for user experiments, and to meet the increased user demand for electron temperatures to the lowest temperatures, Assistant Scientist Rasul Gazizulin led an initiative to bring adiabatic demagnetization to the Bay 1 instrument. This work, funded by an award provided by the MagLab User Collaboration Grants Program (UCGP) which also funded the work of Alex Donald, a graduate student in Physics, added a special copper powder demagnetization refrigerant to the immersion cell design, **Figure 2.5.1**. Liquid  $^3\text{He}$  was successfully cooled to below 2mK using this new cell, which will perform user work in 2026.

In 2025, the uninterruptible and clean power infrastructure remained in an inoperative state, which has been in this condition since 2020. This critical infrastructure, which is crucial for realizing the MagLab HBT mission, was externally reviewed by a team commissioned by the NSF. The Facilities Condition Assessment (FCA) report listed the absence of the HBT clean-uninterruptible power as one of five Priority One issues recommended for immediate attention. Using UF funds, the HBT leadership initiated a facilities upgrade request to the UF College of Liberal Arts and Sciences (CLAS) which, due to the expected costs, established a project with UF Planning, Design, and Construction (PDC) office. A UF PD (Project Director) was assigned, and Campbell Spellicy Engineering was contracted for the initial phase of this project in

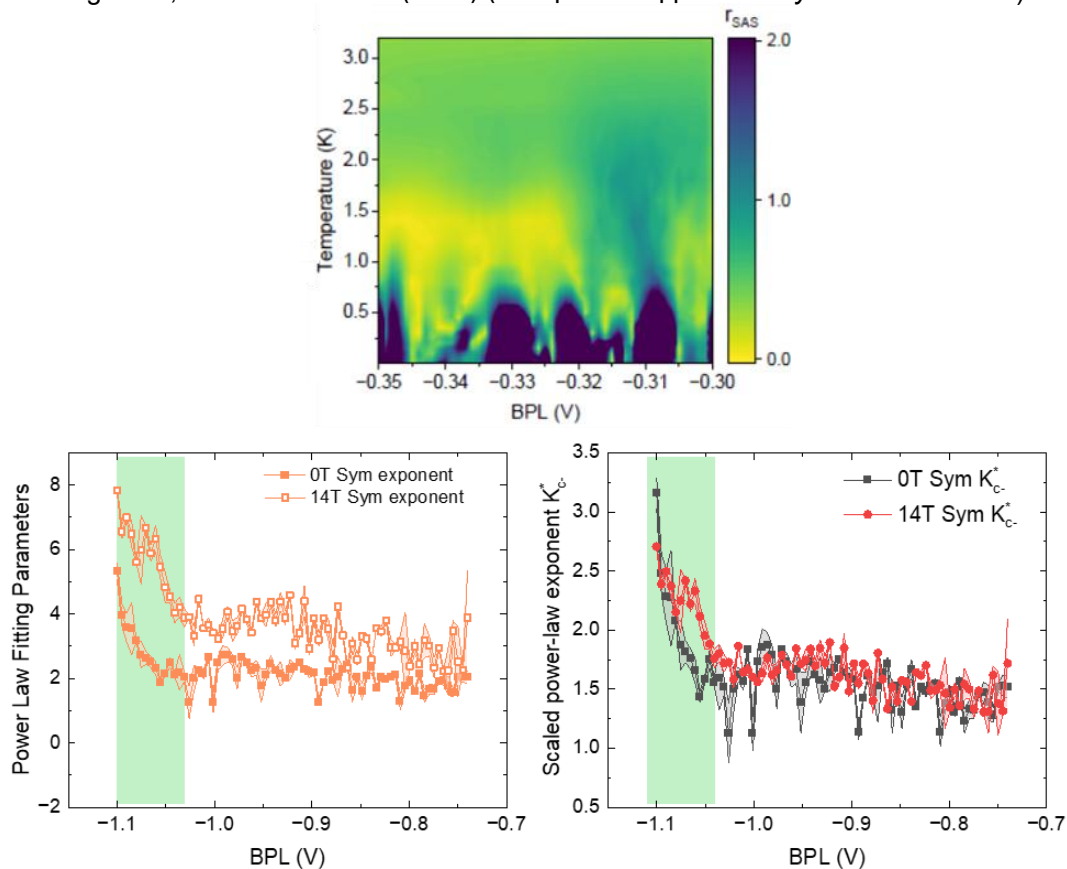


**Figure 2.5.1.** The use of sintered silver heat exchangers (central part of image) and copper powder (sketched as brown dots) immersed in pure  $^3\text{He}$  enables effective electron thermalization while minimizing eddy current heating, thereby providing access to  $T > 2\text{mK}$ .

October 2024. The estimates of the costs for the work were updated again a year later in 2025, but the sources of funding were still not identified. Ultimately, a modern system is needed to provide robust, uninterrupted, and clean power so routine electron temperatures below 10mK can be provided in the quantum materials being studied by users. Substantial progress toward identifying the funds for this project emerged in mid-December 2025, just prior to the Winter holidays of the academic calendar, so the resolution of this issue is expected in 2026.

### Major Research Activities and Discoveries

**Reciprocal and Nonreciprocal contributions to 1D Coulomb drag in the spin-polarized regime** (Mingyang Zheng\*, Rebika Makaju<sup>†</sup>, Dominique Laroche, UF Physics; Alex Levchenko, UW Madison Physics; Sathvikas J. Addamane, Sandia National Laboratories and Center for Integrated Nanotechnologies; Rasul Gazizulin, MagLab HBT and UF Physics; \*graduate student, <sup>†</sup>PhD awarded Dec 2024) In a series of experiments using the new Bay 1 Instrument (see **Figure 2.5.2**), aspects of one-dimensional (1D) electron transconductance in quantum wire pairs were explored for electron temperatures evolving to below 7 mK and in the spin-polarized regime with magnetic fields up to 14T applied along the quantum wires. These results are directly related to MagLab UCGP (User Collaboration Grants Program) funding from the previous NSF award (DMR-1644779) that were acutely delayed by the COVID pandemic along with a cold-leak on the Bay 3 Instrument. The low electron temperatures were made possible using the pure <sup>3</sup>He immersion cell, and due to the low level of external electromagnetic interference (EMI) present in the HBT Facility. The identification of two distinct drag-inducing mechanisms within multi-channel quantum wires was made and reported in a first publication, and the evolution of these mechanisms in the magnetically-induced spin-polarized regime was studied. Notably, beyond a cross-over temperature, the drag signal temperature dependence is well described by a power-law whose scaling between the spinless and the spinfull regimes matches predictions for ballistic and reciprocal Coulomb drag despite being in the non-ballistic and nonreciprocal regime. These findings highlight the need for future work to understand nonreciprocal Coulomb drag in 1D systems. References: M. Zheng *et al.*, *Nat Commun* **16**, 6963 (2025). and M. Zheng *et al.*, arXiv:2506.14967 (2025) (accepted to appear in *Phys. Rev. B* in 2026).



**Figure 2.5.2.** (left) Ratio between reciprocal and nonreciprocal drag voltage as a function of gate voltage and temperatures down to  $T < 7$  mK showing tunability with both parameters. M. Zheng *et al.*, *Nat Commun* **16**, 6963 (2025). (middle) Extracted power-law exponent of the Coulomb drag temperature dependence as a function of gate voltage both in the spin-full (0T) and in the spin-polarized (14T) regime. (right) Scaled power-law exponent at 0 and 14T, showing that the predicted scaling relations of Coulomb drag for ballistic reciprocal drag remain fulfilled in the non-ballistic and nonreciprocal regime. M. Zheng *et al.*, arXiv:2506.14967 (2025), (accepted to appear in *Phys. Rev. B* in 2026).

## MAINTAINING FACILITY AND DEVELOPMENT OF NEW MAGNET SYSTEM INCLUDING OPERATION SCHEDULE AND SHUTDOWNS

### Facility Plans and Access

**Table 2.5.1** summarizes the present and future capabilities of the High B/T facilities at the University of Florida, which are described in this section. Proposals for magnet time may be submitted at any time, and contact/discussions with staff are recommended prior to submission. Users work with the faculty scientists to mount and tune the experiments on site. When the experiments begin, a member of the user team remains to assist the staff to perform the instant-to-instant steps, or in some instances, the users consult from off-site locations when the experiments span long periods of time due to the nature of significant relaxation times at the extremes of parameter space.

**Table 2.5.1.** The instrumentation available in the MagLab High B/T Facility tabulated, and their unique combination of temperature, magnetic field, and techniques are highlighted. Specialty shielding and filtering of the equipment provides the ultraquiet electromagnetic interference environment.

| Equipment                                                                     | Features                                                                                                        | Supported Research                                                                                 |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Bay 3:</b> 16T superconducting magnet, 20mm dia. sample space              | Temperatures $\geq 1\text{mK}$ , by 8T demag $\text{PrNi}_5$ + Cu stage.                                        | Magnetization, quantum transport, torsional oscillator, viscosity, specific heat, dielectric, MEMS |
| <b>Bay 2:</b> 8T superconducting magnet, 32mm dia. sample space               | Temperatures $\geq 0.5\text{mK}$ , by 8T demag Cu stage.                                                        | NMR, quantum transport, magnetization, heat capacity, pressure cell, thermal transport             |
| <b>Bay 1:</b> 14T superconducting magnet, 32mm dia. sample space              | Temperatures $\geq 7\text{mK}$ , demag cell to be deployed in 2026.                                             | quantum transport, with rotation access planned, novel magnetometry, scanning probes               |
| <b>NPB B135 OBT:</b> on-boarding and testing facility, 28mm dia. sample space | NPB B135, $\geq 350\text{mK}$ with access to 9T possible for sample and cell tests before transfer to Bays 1-3. | Exploratory, novel technique development, sample/cell verification prior to use on Bays 1-3        |

### Facility Operation Schedule

Bays 1 and 2 in the Microkelvin Facility are operational and open to new proposals from users, while a leak in the dilution unit of Bay 3 is being addressed. The High B/T Facility is operational year-round, including during the University of Florida holidays and campus closure during the final week of December. Experiments can continue overnight and through closures when direct supervision of the experiment is not required. Visiting scientists from outside of Florida typically find short-term housing via online agencies when hotel options become prohibitively expensive. There are several times a year when local housing rates are at maximum levels due to sporting events, graduation weekends, and other special events. Users are encouraged to contact staff to obtain advice on housing and visiting options.

## CONDUCTING EDUCATION AND OUTREACH ACTIVITIES

The HBT team conducts impromptu tours of the facility throughout the year, often with little advance notice. When a tour is scheduled, the post-doctoral associate Nicolas Silva coordinates the event. Visitors receive a safety briefing before moving through the facility in small groups of fewer than eight people. They then engage in hands-on activities known as the rubber-band and magnetic-imaging “challenges.” In 2025, roughly 80 visitors toured the lab. Participants included a local Women in Science group, REU summer students, the Society of Asian Scientists and Engineers, several University of Florida students, and a physics class from Daytona State College. The HBT team also hosted a REU student, Nathan Good of Grinnell College. Encouraged by his enthusiasm, Nicolas joined the Department of Physics Broader Impacts (BIP) group. Through BIP, he presented a Zoom session to high-school students from Florida International University’s Center for Development, Support, and Success in Engineering and Computing (CDSSEC). The presentation covered engineering, undergraduate success, and career pathways. Annually, the University of Florida hosts a large outreach event, “STEM on the Lawn.” Many departments and student organizations set up demonstration tables. The MagLab HBT table showcased how to use magnets to sense what you cannot see, explained basic methods to reach microkelvin temperatures, and described the experiments probing quantum phenomena using the microkelvin laboratory. The event drew about 1,500 community members and families. Additional outreach activities are organized by Eli Wolf, the Research and Outreach Coordinator for the MagLab AMRIS and HBT facilities. Full details appear in the AMRIS Facility and Outreach section of this report.

## 2.6. ICR FACILITY

During 2025, the Fourier transform ion cyclotron resonance (ICR) mass spectrometry (MS) program continued to pursue instrumentation upgrades, automation, and novel applications of FT-ICR mass spectrometry. The associated methods were made available to external users through the NSF National High-Field FT-ICR Mass Spectrometry Facility. The Facility features ten staff scientists who support instrumentation, software, biological, petrochemical, and environmental applications, as well as a partial machinist, technician, and several rotating postdocs who are available to collaborate and/or assist with projects.

### OPERATION OF A WORLD-LEADING HIGH-MAGNETIC-FIELD USER PROGRAM

The ICR Facility provides sample analysis that requires the ultrahigh resolution ( $m/\Delta m_{50\%} > 1,000,000$  at  $m/z$  500, where  $\Delta m_{50\%}$  is the full mass spectral peak width at half-maximum peak height) and sub-ppm mass accuracy only achievable by high-field FT-ICR MS. The facility's FT-ICR mass spectrometers feature high magnetic fields (as high as 21T) and are compatible with multiple ionization and fragmentation techniques as well as online separation techniques, including liquid chromatography. **In 2025, a new spectrometer was acquired that includes trapped ion mobility spectrometry (TIMS) for rapid gas-phase separation of, e.g., isomeric molecules with identical molecular weight.** This acquisition brought our number of FT-ICR mass spectrometers available to the user program to four (**Table 2.6.1**).

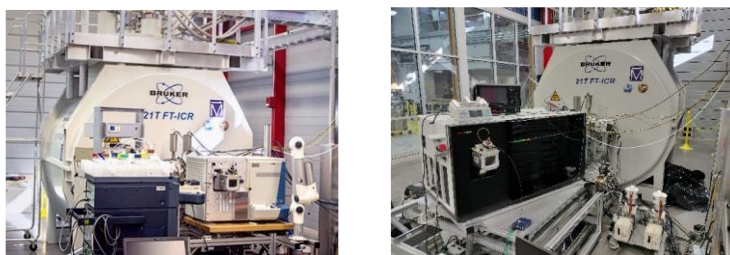
**Table 2.6.1.** ICR systems at the MagLab in Tallahassee

| Field (T), Bore (mm) | Homogeneity                                                       | Ionization Techniques  |
|----------------------|-------------------------------------------------------------------|------------------------|
| 21, 123              | <5ppm peak variation over a 60mm diameter by 100mm long cylinder  | ESI, APPI, APCI, MALDI |
| 14.5, 104            | <5ppm peak variation over a 60mm diameter by 80mm long cylinder   | ESI, APPI, APCI, MALDI |
| 9.4, 220             | <10ppm peak variation over a 60mm diameter by 100mm long cylinder | ESI, APPI, APCI        |
| 9.4, 155             | <10ppm peak variation over a 60mm diameter by 80mm long cylinder  | ESI, MALDI             |

### Unique Aspects of Instrumentation Capability

**21T hybrid quadrupole-linear ion trap-orbitrap-FT-ICR mass spectrometer.** In 2015, the ICR facility commissioned the first 21T FT-ICR mass spectrometer. The 21T magnet is the highest field superconducting magnet ever used for FT-ICR and features high spatial homogeneity, high temporal stability, and negligible liquid helium consumption (**Figure 2.6.1**) (*J. Am. Soc. Mass Spectrom.*, **26**, 1626 (2015)). The original implementation (**Figure 2.6.1, Left**) coupled a commercial dual linear ion trap front end with the 21 T FT-ICR mass analyzer. This dual linear ion trap features high sensitivity, precise control of trapped ion number, proton transfer reaction (PTR), and collisional and electron transfer dissociation. A third linear quadrupole trap offers high ion capacity and ejection efficiency, as well as rf quadrupole ion injection optics for delivering ions to a dynamically harmonized ICR cell.

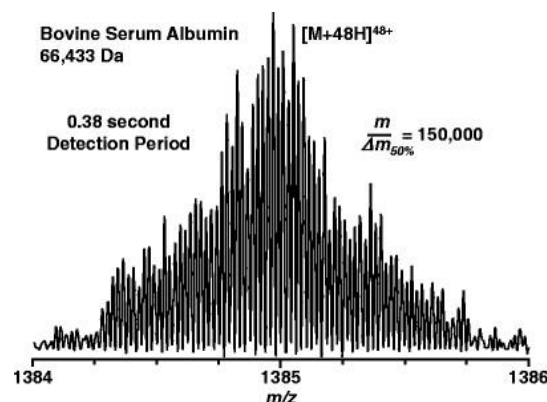
In 2024, the dual linear ion trap was replaced with an Eclipse tribrid commercial front end comprising a high transmission quadrupole mass filter, a dual linear ion trap, and an orbitrap mass analyzer (**Figure 2.6.1, Right**). This configuration represents the first quaternary hybrid mass spectrometer. This unique instrumentation provides improved sensitivity, precursor ion selection, and speed while offering unprecedented flexibility for tandem mass spectrometry experiments, enabling data acquisition within the FT-ICR, orbitrap, and linear RF ion trap simultaneously. Such parallelization improves duty cycle, an advantage of particular value in hyphenated liquid chromatography experiments.



**Figure 2.6.1.** The MagLab 21T FT-ICR mass spectrometer. Left: previous dual linear ion trap front end. Right: 2024 Eclipse tribrid front end upgrade.



Mass resolving power of 150,000 ( $m/\Delta m_{50\%}$ ) is achieved for bovine serum albumin (66kDa) over a 0.38-second detection period (**Figure 2.6.2**), and greater than 2,000,000 resolving power is achieved for a 12-second detection period. Externally calibrated broadband mass measurement accuracy is typically less than 150ppb rms, with resolving power greater than 300,000 at  $m/z$  400 for a 0.76-second detection period. Electron transfer dissociation results in 87% sequence coverage (94% if bonds with adjacent proline residues are ignored since they cannot be cleaved via ETD) for carbonic anhydrase (*J. Am. Soc. Mass Spectrom.* **28**, 1787 (2017)). The instrument is part of the NSF High-Field FT-ICR User Facility and is available free of charge to qualified users with optimized experimental conditions, including top-down proteomics (*Science*, **375**, 411 (2022)), ultrahigh-resolution ion isolation via SWIFT Fourier Transform mass spectrometry (*Anal. Chem.*, **92**, 3213 (2020)), single cell and subcellular MALDI imaging (*Anal. Chem.* **95**, 6089 (2023)), and natural organic mixture analysis (*Nat. Commun.*, **13**, 2153 (2022)).



**Figure 2.6.2.** Single-scan electrospray FT-ICR mass spectrum of the isolated 48+ charge state of bovine serum albumin following a 0.38s detection period. Mass resolving power is ~150,000 and the signal-to-noise ratio of the most abundant peak is >150:1. The ion accumulation period was 250ms and the ion target was 5,000,000.

**14.5T hybrid quadrupole-linear ion trap-orbitrap-FT-ICR mass spectrometer.** An actively-shielded 14.5T, 104mm bore system offers ultrahigh mass measurement accuracy (<300 parts-per-billion rms error) and a combination of high scan rate and mass resolving power (resolving power >200,000 at  $m/z$  400, at >one scan per second). In 2023, this instrument was also upgraded from a dual linear ion trap to an Eclipse Tribrid front end. The spectrometer features electrospray, atmospheric pressure photoionization (APPI), atmospheric pressure chemical ionization (APCI), and MALDI sources; linear quadrupole trap for external ion storage, PTR, collisional and electron transfer dissociation (CID/HCD+ETD); and automatic gain control (AGC) for accurate and precise control of charge delivered to the ICR cell. The combination of AGC and high magnetic field make sub-ppm mass accuracy routine without the need for an internal calibrant.

**The 9.4T, passively-shielded,** 220mm bore system offers a unique combination of mass resolving power ( $m/\Delta m = 8,000,000$  at mass 9,000 Da) and dynamic range (>10,000:1), as well as high mass range, mass accuracy, dual-electrospray source for accurate internal mass calibration, efficient tandem mass spectrometry (as high as MS<sup>8</sup>), and long ion storage period. A redesign of the custom-built mass spectrometer coupled to the 9.4T, 220 mm bore superconducting magnet designed around custom vacuum chambers has improved ion optical alignment, minimized distance from the external ion trap to the magnetic field center, and facilitated high conductance for effective differential pumping (*J. Am. Soc. Mass Spectrom.* **22**, 1343, (2011)). The length of the transfer optics is 30% shorter than the prior system, for reduced time-of-flight mass discrimination and increased ion transmission and trapping efficiency at the ICR cell (*J. Am. Soc. Mass Spectrom.* **25**, 943 (2014)). The ICR cell, electrical vacuum feed through, and cabling have been improved to reduce the detection circuit capacitance (and improve detection sensitivity) twofold (*Rev. Sci. Instrum.*, **85**, 066107 (2014)). The magnet is passively shielded to allow proper function of all equipment and safety for users. The system features external mass selection prior to ion injection for further increase in dynamic range and rapid (~100ms time scale) MS/MS (*Anal. Chem.*, **75**, 3256 (2003)), with ultrahigh-resolution ion isolation via stored waveform inverse Fourier transform (SWIFT) followed by infrared multiphoton dissociation (IRMPD).

**The 9.4T, actively-shielded,** 155mm bore system was previously fitted with a custom pulsed laser cluster source for nanocarbon and fullerene studies (*Nat. Commun.* **5**, 5844 (2014)). In 2025, a prototype gated TIMS-FT-ICR spectrometer (*Anal. Chem.*, **96**, 11343 (2024)) was procured to couple with this magnet system. This instrument arrived at the very end of the year, with the first data collected during the week of December 8, 2025. The instrument includes front-end trapped ion mobility spectrometry for rapid gas-phase separation of molecules based on their shape. Collision-activated dissociation can be performed both externally and inside the ICR cell. In-cell fragmentation through ion-electron reactions is also supported. The dual ESI-MALDI source can be operated in imaging mode down to 3 $\mu$ m spatial resolution. Routine operation offers resolving power of >1,000,000 (>1,500,000 in 2-omega mode) at  $m/z$  400 and fmol sensitivity. This instrument represents the first timsMRMS system in North America and will be released to users in 2026.



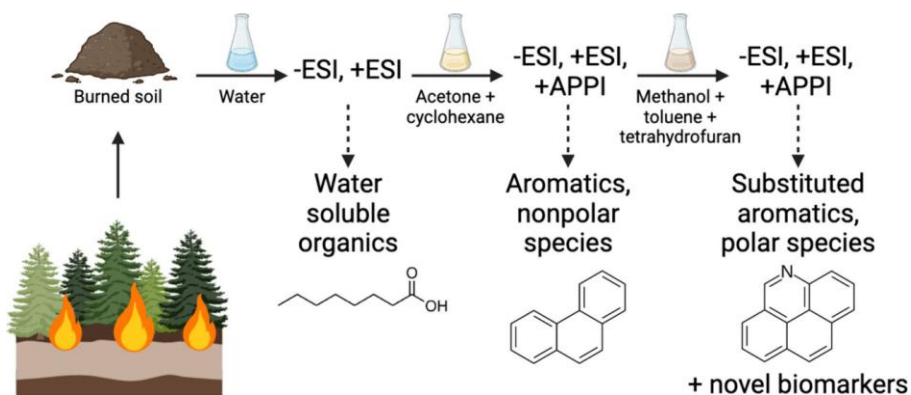
### Major Research Activities and Discoveries by ICR Facility Users

**Complex mixture direct infusion analysis** benefits from the 21T FT-ICR system through high mass-resolving power, mass accuracy, and dynamic range, which enable resolution and confident elemental formula assignment for tens of thousands of unique species in complex organic mixtures (*Anal. Chem.*, **94**, 11382-11389 (2022)). In 2025, this unique performance was leveraged to perform molecular composition analysis for a variety of highly complex samples from soils, lake sediment, river, ocean, and glacial waters, to tropical tree roots, and pyrolysis oils. Negative ion electrospray ionization (nESI) is particularly suitable for the analysis of acidic natural organic matter. Soil and sediment nESI data from the 21T FT-ICR instrument were used to gain insights into shifting organic matter pools with a warming planet, human activities such as land-applied biosolids from wastewater treatment, and during soil development in drylands (*J. Geophys. Res. Biogeosci.*, **130**, e2025JG008899 (2025); *J. Geophys. Res. Biogeosci.*, **130**, e2024JG008445 (2025); *Soil Environ. Health*, **3**, 100148 (2025); *Palaeogeogr. Palaeoclimatol. Palaeoecol.*, **663**, 112798 (2025); *Environ. Res.*, **287**, 123052 (2025); *Environ. Sci. Technol.*, **59**, 2665 (2025); *Geochim. Cosmochim. Acta*, **408**, 283 (2025)).

21T nESI data from solid phase extracted glacial water samples and surface ice revealed how anthropogenic carbon is deposited and exported from glaciers in the Arctic and Antarctic (*Global Biogeochem. Cycles*, **39**, e2024GB008359 (2025); *Biogeosci.*, **22**, 41 (2025); *J. Geophys. Res. Biogeosci.*, **130**, e2025JG008931 (2025); *Cryosphere*, **19**, 2769 (2025)). Data from extracted Amazon basin river samples over 8 years revealed seasonal changes in the delivery of dissolved organic matter to the ocean and an additional contribution of ~5 % (*Global Biogeochem. Cycles*, **39**, e2025GB008545 (2025)). Sinking particulate organic matter in the ocean was analyzed with the 21T instrument, revealing patterns of microbial organic matter transformation across regimes (distance from coastal regions) and depth that provided novel insights into global carbon sequestration (*Proc. Natl. Acad. Sci. U.S.A.*, **122**, e2504769122 (2025)). Samples from the ocean surface microlayer were characterized by the 9.4 T passive system and showed dissolved organic carbon and photobleached material, including sulfur-containing compounds proposed to act as surfactants, lowering the surface tension at the air-sea interface (*Marine Chem.*, **272**, 104547 (2025)).

The 21T ICR system was further employed to analyze root samples from wild vs. cultivated tropical trees, showing that, while the metabolomes differed, compounds of therapeutic interest were enriched under both conditions (*Phytochem. Anal.*, **36**, 1829 (2025)). 21T positive and negative mode ESI were used to characterize and source trace nitrogenates and

halogens in polyolefin waste pyrolysis oils, providing new fundamental insights into the formation, persistence, and possible origin of heteroatomic contaminants that hamper clean recycling of plastic waste (*Energy Fuels*, **39**, 22780 (2025)). Finally, a combination of ionization methods was employed for comprehensive analysis of burned soil organic matter, allowing detection of novel biomarkers for environmental monitoring and biogeochemical studies (*Anal. Chem.*, **97**, 24040 (2025); **Figure 2.6.3**).

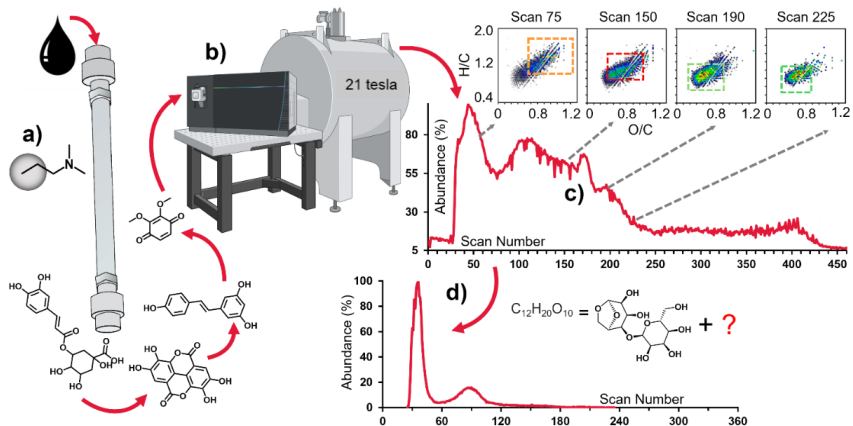


**Figure 2.6.3.** Characterization of burned soil organic matter via sequential solvent extractions and 21T FT-ICR mass spectrometry with electrospray and atmospheric pressure photoionization.

**Online LC-FT-ICR MS.** While direct infusion FT-ICR MS is highly powerful for molecular formula assignment in complex matrices, online liquid chromatography can resolve additional compounds and improve dynamic range. In 2025, online LC-FT-ICR MS at 21T was employed for detection and structural elucidation of copper binding ligands produced by a marine diatom (*J. Am. Soc. Mass Spectrom.*, **36**, 713 (2025)). Such ligands are important for determining the reactivity and bioavailability of copper in the ocean. Copper- and iron-binding organic ligands were further identified via 21T LC-FT-ICR MS analysis of rare whale fecal samples (*Commun. Earth Environ.*, **6**, 20 (2025)). Iron ligands had weak to intermediate binding strength (making iron bioavailable) whereas 47 novel copper-binding ligands showed strong binding, curtailing copper toxicity and illustrating an important ecosystem role of these whales.

Online 21T FT-ICR MS of wood pyrolysis biooils resulted in a doubling of the number of identified molecular compositions (*Energy Fuels*, **39**, 3575 (2025); **Figure 2.6.4**). This work also revealed isomeric diversity and promise to improve on other sample types, such as the environmental samples discussed above.

Online nanoflow LC is key to proteomic analysis due to the typical limited sample quantities, need for desalting, and improved ionization efficiency from smaller electrospray droplets. In collaborative work with the NMR user program, nanoflow LC coupled with the 21T ICR was used to confirm the sequence of an antibody, whose properties at an oil-water interface were studied (*J. Pharmaceut. Sci.* **114**, 103685 (2025)). During development, antibodies are exposed to such interfaces, which can trigger unfolding and loss of function.



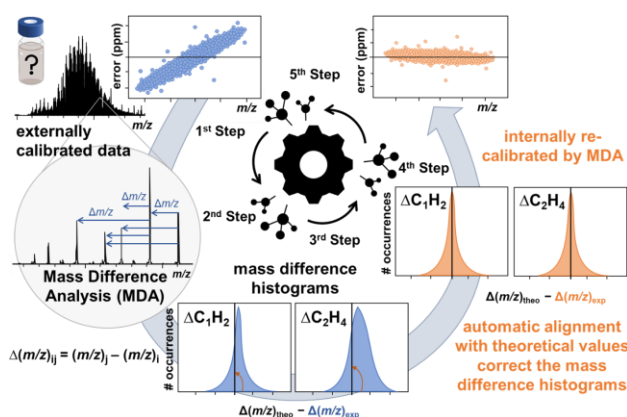
**Figure 2.6.4.** (a) Dimethylaminopropyl stationary phase separates bio-oil components by acid and polarity. Non-acidic species elute first; polyphenols, carboxylic acids, and polyfunctional compounds elute later. (b) Effluent is analyzed by 21T FT-ICR MS, acquiring one spectrum every ~5 seconds. (c) Total ion chromatogram with selected scans displayed as van Krevelen diagrams (H/C vs O/C), revealing compositional trends from carbohydrates to aromatic acids. (d) Single-ion chromatogram for  $C_{12}H_{20}O_{10}$  shows two peaks, indicative of isomers. The first likely matches cellobiosan (structure shown); the second may include acidic groups. The number of unique formulas detected with this chromatographic approach is nearly twice that of direct infusion.

## CARRYING OUT IN-HOUSE RESEARCH AND SCIENTIFIC INSTRUMENTATION DEVELOPMENT IN SUPPORT OF THE USER PROGRAM

In the area of **environmental and petrochemical applications**, in-house research by graduate student Frye-Jones showed that fractionation of photooxidation products from a heavy vacuum gas oil into water soluble, oil soluble, and interfacial material resulted in detection of novel compounds (*Energy Fuels*, **39**, 1031 (2025)). Photopolymerization products were detected in acidic fractions of high carbon number and aromaticity. Interfacially active material also revealed minor polymerization products. These methods will be shared with our users.

A major ICR user program effort in 2025 was implementation of an automated method for acquisition of direct infusion electrospray data. This method, termed DIADEM, has allowed thousands of spectra to be collected during 24-7 operation of the 21T ICR. Such automation is now being combined with automated data processing through the International – Complex Matrices Molecular Characterization (iC2MC) consortium of which the ICR Program is a member. A spectral averager was developed through the FSU-funded collaboration with the Department of Computer Science. Batch phasing of such data for improved resolution has also been realized and data processed in this manner have been released to users after vetting against conventional semi-manual processing. A key aspect of this data processing pipeline is the implementation of mass difference analysis, which allows complex mass spectra to be recalibrated without the use of internal calibrants (*Anal. Chem.* **97**, 18543 (2025); **Figure 2.6.5**).

The ICR Facility also continues to innovate in **instrumentation development** for FT-ICR mass spectrometry. In 2025, three-way parallelization of the linear ion trap, orbitrap, and ICR mass analyzers on the 14.5 and 21T instruments was demonstrated; a unique capability for structural determination.



**Figure 2.6.5.** Mass difference analysis using graph theory allows recalibration of complex mass spectra to within tens of ppb, thus greatly improving molecular formula assignment.

## **MAINTAINING FACILITY AND DEVELOPMENT OF NEW MAGNET SYSTEMS, INCLUDING OPERATION SCHEDULE AND SHUTDOWNS**

### **Facility Plans and Directions**

The ICR facility will continue to expand its user facility using the world's first 21T FT-ICR mass spectrometer, including expansion of the MALDI imaging sampling and acquisition capabilities, and LC FT-ICR MS for complex mixtures. A new MALDI imaging source, compatible with the front-end upgrades to the 14.5T and 21T instruments, has been acquired. The new timsMRMS instrument, installed into the 9.4T actively-shielded, 155mm bore magnet, is also equipped for MALDI imaging. The new trapped ion mobility spectrometry (TIMS) capability allows rapid gas-phase separation of isomers for improved imaging and analysis of complex mixtures. Other plans include improved automation of dissolved organic matter direct infusion analysis, an approach that, along with automated AI-driven data analysis, will significantly increase sample throughput in our Facility.

### **Facility Operation Schedule**

The ICR facility operates year-round, with weekend instrumentation time scheduled. Throughout 2025, we have continued the integration of the front-end upgrades from the Velos Pro linear ion traps to the Eclipse tribrid instrumentation. While user access has greatly increased compared with 2024, some capabilities, including detection of fragment ions in the ICR mass analyzer, remain to be fully available. Once this upgrade has been fully completed, the facility plans to grow our biological applications. The ICR facility operates with both on-site users and users sending samples for data acquisition by internal ICR support staff.

## **CONDUCTING EDUCATION AND OUTREACH ACTIVITIES**

### **Outreach to Generate New Proposals – Progress on STEM and Building User Community**

The ICR program provided magnet time to nine new principal investigators in 2025. ICR faculty participated in several conferences to increase the visibility of the User Facility, including the annual American Society for Mass Spectrometry conference (Baltimore, MD), the Breast - Gynecological and Immunooncology International Cancer Conference (Cairo, Egypt), the Gordon Research Conference (GRC) on Chemical Oceanography: Fingerprints in the Ocean (Manchester, NH), The Florida Undergraduate Research Conference (Tampa, FL), and the Transition Analytics for Decarbonization (TAD) Conference (Paris, France). In 2025, the ICR program also organized the 14th North American FTMS Conference, which attracted top scholars in the field to Lake Tahoe, CA. The conference provided financial support for graduate students and postdoc attendees.

### **Education and Training**

The ICR program provides education and training to students, postdoctoral associates, faculty, and technical staff. In 2025, one ICR staff member and one postdoc served as instructors on various topics at the Cold Spring Harbor (NY) proteomics course, a ten-day training intensive workshop on mass spectrometry that includes hands-on, individualized training in software and data processing for all users, along with tutorial workshop-style lectures. Prof. Hakansson taught an introductory analytical chemistry course at FSU in Fall 2025 with one postdoc as a guest lecturer.

The ICR Facility had several undergraduate students performing research in our program, including students from the Biology, Chemistry, and Computer Science Departments. Four new Chemistry graduate students were recruited to the program in 2025, as well as three new postdocs. Computer science graduate students are working under the supervision of Ryan Rodgers, Lissa Anderson, and David Butcher. Huan Chen is co-supervising graduate students in the Department of Civil and Environmental Engineering at the FAMU-FSU College of Engineering. Lissa Anderson worked with a high school student. Martha Aguilera and Kristina Hakansson supervised undergraduate students through the 2025 MagLab REU program.

### **Stem Outreach**

The ICR Facility actively participates in STEM outreach in local K-12 schools in Leon, Gadsden, Franklin, Jefferson, and Wakulla counties, with demonstrations designed to highlight fundamental principles of ICR. Several ICR staff also participate in the MagLab's Magnetic Momentum Scholars program.

## 2.7 NMR/MRI FACILITY

The *NMR/MRI User Program* at the MagLab in Tallahassee (FSU) is partnered with the *AMRIS User Program* in Gainesville (UF). The research facility in Tallahassee includes solid-state NMR (ssNMR) applications to materials science, chemistry, biology, and biochemistry, along with *in vivo* magnetic resonance imaging (MRI) of small animals and tissues. The NMR/MRI team comprises the *NMR Instrument Managers* (6 Research Faculty, 1 technical staff, 1 Postdoc), the *NMR Technology Group* (5 Research Faculty, 2 Technical Staff), the *Affiliated Faculty* (5 Affiliated Professors), and the *Management Team* (1 Director, 1.33 Support Staff). There are fourteen active NMR platforms on site, including three flagship instruments supported by the NSF core grant, including (i) the 36T Series Connected Hybrid (**36T-SCH**) platform, which operates at 35.2T/1.5GHz for  $^1\text{H}$  NMR, making it the highest-field magnet for NMR in the world; (ii) the 14.1T/600MHz/395 GHz MAS dynamic nuclear polarization (**600-DNP**) NMR platform (which also includes an Overhauser DNP setup for liquid-state NMR, **600-ODNP**); (iii) the 21.1T/900MHz (**900-MRI**) ultrawide bore (105mm) MRI platform, which is currently the highest-field MRI/S instrument in existence. In addition, there are (iv) one 20.0T/850MHz (**850NB**) and two 18.8T/800MHz platforms (**800#1**, **800#2**), which are configured for biosolids and materials ssNMR, as well as for methods development and staging of UHF NMR experiments on the flagship platforms. These instruments are unique, in part, due to their coupling with unparalleled staff expertise and some of the world's best NMR probes with multi-nuclei and channels, which are designed and constructed by our *NMR Technology Group*. Additionally, there are a series of moderate-field instruments (**600#1**, **600#2**, **600#3**, **600-SOL**, and **500**), which are essential for triaging experiments, running unique high-temperature and/or  $^1\text{H}/^{19}\text{F}/\text{X}$  (HFX) experiments, testing new HTS solution NMR probes, and supporting the research of numerous users from around the U.S. and the world.

The NMR/MRI User Program, which is run by our Research Faculty, Technical Staff, and Affiliates, annually serves ca. 225-375 users from around the world, including PIs, students, postdocs, and technicians. In 2025, our number of users was **225**, lower than in previous years (2024: **250**, 2023: **341**, 2022: **352**, 2021: **311**, 2020: **234**, 2019: **286**). Again, the deficit of users was again due to the **36T-SCH** being continuously down because faulty current leads, which resulted in no experimental time in 2025 and 2026. Finally, the number of peer-reviewed publications from the NMR/MRI User Program for 2025 was **71**, much higher than in 2024 (53).

We continue supporting our users associated with the NIH RM1 grant (GM148766) obtained in April 2023 by Drs. Rob Schurko (FSU/NHMFLL), Bill Brey (FSU/NHMFLL), and Joanna Long (UF/AMRIS) for the *National Resource for Advanced NMR Technology*, which supports three Technology Development Projects (TDPs), including **TDP1 - High Sensitivity NMR of Mass Limited Samples, Complex Mixtures, and Structural Biology**, **TDP2 - Dynamic Nuclear Polarization NMR**, and **TDP3 - Biomedical NMR Research Beyond the Reach of Conventional NMR Magnets**. This RM1 grant supports personnels in the *NMR Technology Group* (2 Research faculty in full, plus partial to others) by developing new probe technology in addition to maintain existing probes for the user program.

## OPERATION OF A WORLD-LEADING HIGH-MAGNETIC-FIELD USER PROGRAM

### Unique Aspects of Instrumentation Capability

**Ultra-High Field (UHF) NMR: 36T-SCH:** The **36T-SCH** platform has resulted in **74** peer-reviewed publications since its commissioning in November 2018 (including **6** in 2025, **8** in 2024, **9** in 2023, **11** in 2022, **9** in 2021, and **14** in 2020). Unfortunately, there was no experimental time on the **36T-SCH** in 2025 (usually, between 90-100 days are allotted) due to a series of issues. First, one of the six room-temperature circuit breakers overheated during normal operations. The magnet was restored to operation after repair in December 2024/early January 2025. Then, the HTS portion in one of the current leads became resistive. After an extensive root cause analysis, the damaged lead is in the process of being re-built. The **36T-SCH** magnet is scheduled to be back in operation in Q1 2027.

With growing competitions from a handful commercial 1.2GHz NMR instrumented being installed around the world, data acquired on the **36T-SCH** before 2024 continue to prove their value from the highest magnetic field for the ssNMR of half-integer quadrupolar nuclei (*i.e.*, nuclear spins of  $3/2$ ,  $5/2$ ,  $7/2$ , and  $9/2$ , which constitute 73% of NMR-active nuclides in the periodic table) in a wide range of materials, as evidenced by **6** publications in 2025. The **36T-SCH** affords enormous gains in signal especially for low- $\gamma$  and natural abundant nuclei such as  $^{17}\text{O}$ ,  $^{25}\text{Mg}$ ,  $^{91}\text{Zr}$  and  $^{99}\text{Ru}$  and resolution since the central transition (CT,  $+1/2 \leftrightarrow -1/2$ ) patterns of half-integer quadrupolar nuclides narrow as the inverse of  $B_0$ . It also enables rapid acquisition of ultrawide patterns by stepping the magnetic field as demonstrated for those nuclei which possess very large quadrupole moment such as  $^{79}\text{Br}$ ,  $^{127}\text{I}$  and  $^{209}\text{Bi}$ . However, the continuing down time of **36T-SCH** has reflected in the lower user count for 2025 and will impact the publications for the future.

**DNP NMR: 600-DNP/600-ODNP:** The 600MHz DNP platform, a joint effort between NMR, AMRIS, and EMR that opened for users in late 2018, has yielded **70** publications to date. It features the most efficient high field (*i.e.*,  $\geq 600\text{MHz}/395\text{GHz}$ ) MAS DNP instrument in the world serving a large user base (it accounts for ~40% of all publications from DNP platforms of 14.1T or higher worldwide). This unique DNP platform



has both MAS DNP ssNMR (**600-DNP**) and Overhauser DNP (**600-ODNP**) instruments with a quasi-optical table (built-in-house) that splits the  $\mu\text{W}$  beam from one gyrotron source to two separate magnets for solids and solutions platforms, respectively.

The **600-DNP system** managed by Drs. Fred Mentink-Vigier and Thierry Dubroca and assisted by postdoc Dr Shubha Gunaga operates continuously (24/7) supporting users over the world and across the career spectrum, including early-career professors without routine access to DNP NMR. A benchtop EPR spectrometer and spinner are available for sample screening and minimizing probe damage. **600-DNP** had **232** magnet days in 2025, close to the maximum of 240 days allowed annually after ca. 30 days for service and downtimes. **600-DNP** platform was upgraded in February 2024 with a 395GHz gyrotron from Bruker to replace the previous 10 years old and a Bruker NEO console (the older console was repurposed to **600#2**). A new cooling cabinet was purchased in 2026, thanks to the supplement funding of NIH RM1 (GM148766) grant. In-house development of MAS-DNP NMR probes continued in 2025 by the team of P. Gor'kov, W. Mao, F. Scott, and F. Mentink-Vigier. The 1.3mm HXY low-temperature (100K) DNP MAS probe (#65) was completed in December 2024 and we continue filling the number of tuning configurations for multi-nuclei DNP and improve the robustness of 1.3mm DNP MAS probe for routine user operation. The 1.9mm HXY low-temperature (100K) DNP MAS probe (#67) is still in progress, anticipating completion in 2026. We started implementing two new tools in 2026: an in-situ EPR detection and an adapter that will allow spinning and cooling with helium gas for faster spinning and lower temperature.

**The 600-ODNP**, supported by NSF-CHE 1808660 and 2203405 grants, aims at enhancing solution NMR signal through Overhauser effect. The system is equipped with a Tecmag Redstone console and operates two uniquely modified ODNP probes converted from conventional H(F)X and HXY liquid-state probes. In 2025, the team with Drs. Lucio Frydman, Sungsool Wi, Thierry Dubroca, Tomas Orlando and postdoc Jenica Lumata, has achieved  $^{31}\text{P}$ ,  $^{13}\text{C}$  and  $^{15}\text{N}$  DNP enhancements of up to several tenths—an unprecedented performance for 100 $\mu\text{L}$  sample volume and at 600MHz field.

In 2024/2025, Drs. Schurko and Mentink submitted an NSF Mid-scale RI-1 proposal entitled, “*Mid-scale RI-1 (M1:IP): National Facility for Ultra-High Sensitivity Solid-State NMR*”, which proposes the first ever ssNMR spectroscopy platform combining MAS DNP and cryoMAS at 1GHz field serving researchers from across the U.S. and around the world. This 1.0GHz/54mm bore/658GHz DNP and CryoMAS ssNMR platform will include a 23.5T magnet, a 1.0GHz spectrometer, a 658GHz gyrotron (for DNP) from Bruker, and an assortment of DNP and CryoMAS probes. This NSF Mid-scale RI-1 proposal is pending for decision.

**900-MRI.** The 900MHz/21.1T ultra-wide bore (105mm) magnet, which was built in-house at MagLab, has been in operation since 2005, yielding **132** publications. It is largely used for MRI of small animals and *in vivo* MRI studies, which are made possible by the 105mm bore; however, it is also used for ultra-wideline NMR of unreceptive nuclei. The **900-MRI** control room, which has cryogenics controls and electronic safety equipment is approaching the end of life (it is over 20 years old). Work is underway to replace this equipment to safeguard this MagLab's flagship instruments. We note that the **500** platform augments MRI capabilities and provides a staging ground for experiments at 900MHz. It is equipped with *in vivo* MRI, microimaging, diffusion, and MR rheology instrumentation from previous systems or built in-house.  $^7\text{Li}$  imaging and diffusion measurement are developed on both **900-MRI** and **500** for batteries and other kinds of materials.

**ssNMR from 800-850MHz.** The **800#1**, **800#2**, and the **850NB** (acquired in 2024) platforms are our high-field workhorses that serve a large community of users who require access to high-field ssNMR and have yielded hundreds of publications over the last 10 years. In addition to the time capacity of three instruments to serve wide user base, these platforms are unique due to the (i) wide array of probes that are available with virtually any tuning configurations that our users need (15 different probes are in service from 800-850MHz) and (ii) unmatched expertise in the development of NMR methods and applications of complex experiments to solve challenging problems in chemistry, materials science, and biology. The **850NB** was acquired in 2024 to replace the previous **830** magnet that quenched in November 2022. It inherited **830's** 2018-vintage NEO console and home-built probes for the 31mm bore. During 2025, the NMR Technology Group commissioned two new probes for **850NB**: a 1.3mm HX(Y) MAS probe and a 2.5mm HX low-E probe. Both probes take full advantage of larger bore size of the **850** relative to that of the **830** (*i.e.*, 54mm vs. 31mm, respectively). The 1.3mm MAS probe introduced for the first time  $^1\text{H}$ -detection capability with fast MAS for low- $\gamma$  and quadrupolar nuclei at the 850MHz field. The 2.5mm MAS probe increased the maximum spinning speed and  $r_f$  field strength over the previous 3.2mm probe for higher  $r_f$  field and samples with large quadrupolar couplings. A low-temperature ( $\sim 70\text{K}$ ) 5.0mm static HX probe was launched with **800#2** in 2025. The probe purchased from Phoenix NMR (Loveland, CO) provides users with unique capabilities of variable-temperature for studies of molecular-level dynamics and prolonging  $T_2$  relaxation time which is critical for QCPMG ultra-wideline NMR studies of unreceptive nuclides.

**ssNMR at 600MHz.** The **600#1** and **600#2** platforms continue to be of vital service to our users, providing opportunities for routine experimentation, triaging for higher fields, and unique HFX and H(F)XY capabilities. A new **600#3** platform is launched in 2025 with a magnet donated from University of Central Florida and an Avance-III HD console brought from University of Michigan with Ayyalusamy Ramamoorthy.



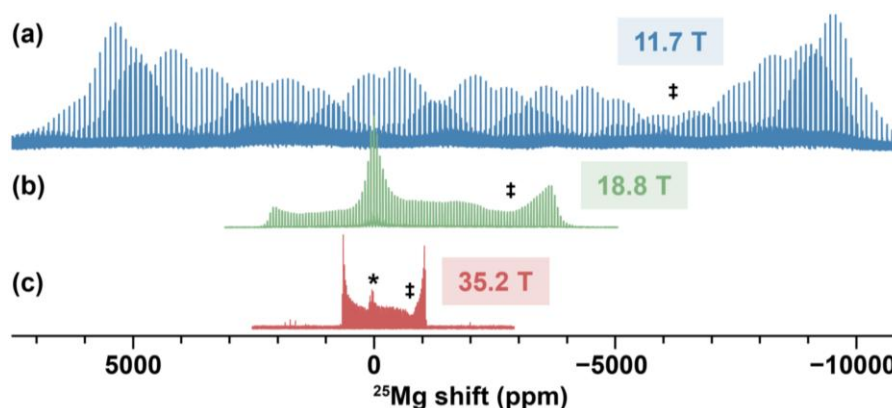
A BlackFox 3.2mm HCN MAS probe from the original owner is available with **600#3** providing routine  $^{13}\text{C}$  and  $^{15}\text{N}$  CPMAS and conventional triple-resonance MAS NMR capabilities for bio-solids.

### Major Research Activities and Discoveries

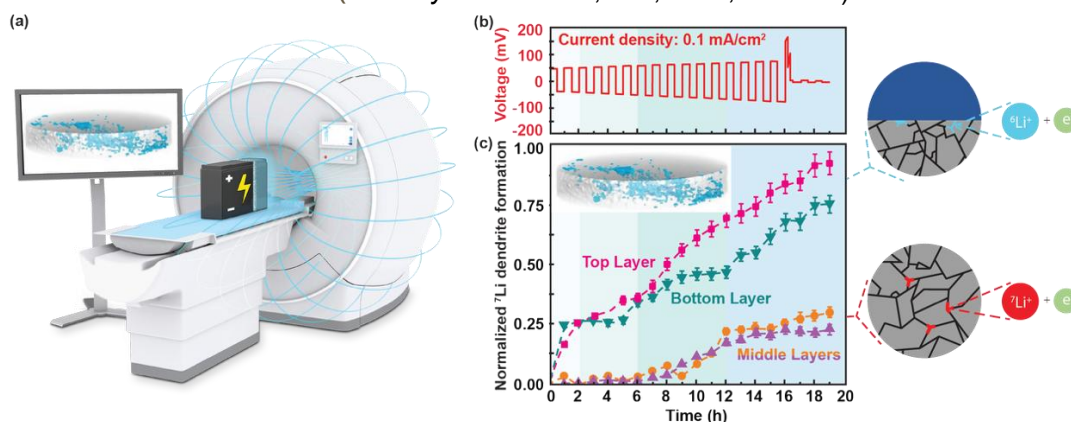
**36T-SCH:** The **36T-SCH** system managed by Drs. Zhehong Gan and Ivan Hung and supported by the RF group continues to publish ssNMR results acquired before the magnet went down providing significant enhancements in both signal and resolution especially challenging half-integer quadrupolar nuclei as demonstrated below.

Halat *et al* (*J. Am. Chem. Soc.*, 147 **2025**, 27949-27961) used  $^{25}\text{Mg}$  quadrupolar Carr-Purcell-Meiboom-Gill (CPMG) NMR to study antiperovskite solid electrolytes. **Figure 2.7.1** shows dramatic narrowing of the  $^{25}\text{Mg}$  quadrupolar patterns and, together with enhanced signals by the high field of **36T-SCH**, the rapid acquisition of the whole

pattern became possible in 30min as compared to two days on an 800MHz (18.8T) and two weeks on the 500MHz (11.7T) acquired at the users' own lab. Other highlights are the following: Y. Huang's group at U. of Western/Canada utilized the field stepping capability of **36T-SCH** to acquire ultra-wideline  $^{209}\text{Bi}$  and  $^{127}\text{I}$  solid-state NMR spectra for characterization bismuth- and iodine-containing metal-organic frameworks (MOFs) (*J. Am. Chem. Soc.*, 147 **2025**, 10823-10828). The unprecedented 8–50MHz patterns reveal very large quadrupolar couplings of  $^{209}\text{Bi}$  and  $^{127}\text{I}$  uncovering key structural details on dehydration, guest adsorption, phase transitions, and disorder in the MOFs;  $^{91}\text{Zr}$  NMR is challenging but very sensitive to differences in MOF short-range structure caused by guest molecules, linker substitution and post-synthetic treatment. W. Zhang *et al* carried out static  $^{91}\text{Zr}$  ssNMR of a series zirconium MOFs (UiO-66, MOF-801 and 808, and DUT-68 and 69) with fields up to 36T and utilized density functional theory (DFT) calculations to gain these information (*Physical Chemistry Chemical Physics*, 27, **2025**, 4704-4716);  $^{99}\text{Ru}$  is another challenging target for analysis by ssNMR. Schurko's group at NHMFL/FSU used **36T-SCH** to measure  $^{99}\text{Ru}$  EFG and chemical shift tensors and together with DFT calculation developed a protocol for the characterization of a wide range of Ru-containing compounds relevant to catalysis, advanced materials, and electronic devices (*J. Am. Chem. Soc.*, 147 **2025**, 20865–20877); Last but not least, Laurencin's group from U Montpellier/France utilized the high fields at the NHMFL to acquire  $^{17}\text{O}$  and  $^{43}\text{Ca}$  spectra as a part of multinuclear ssNMR study of octa-calcium phosphate, a widely studied material for bone substitution and precursor in biomineralization (*Faraday Discussions*, 255, **2025**, 451-482).



**Figure 2.7.1** Variable-field  $^{25}\text{Mg}$  solid-state NMR spectra of  $\text{Mg}_3\text{AsN}$  acquired at field strengths of (a) 11.7T, (b) 18.8T, and (c) 35.2T. Acquisition times of 2 weeks, 2 days, and 20 minutes, respectively, were required.

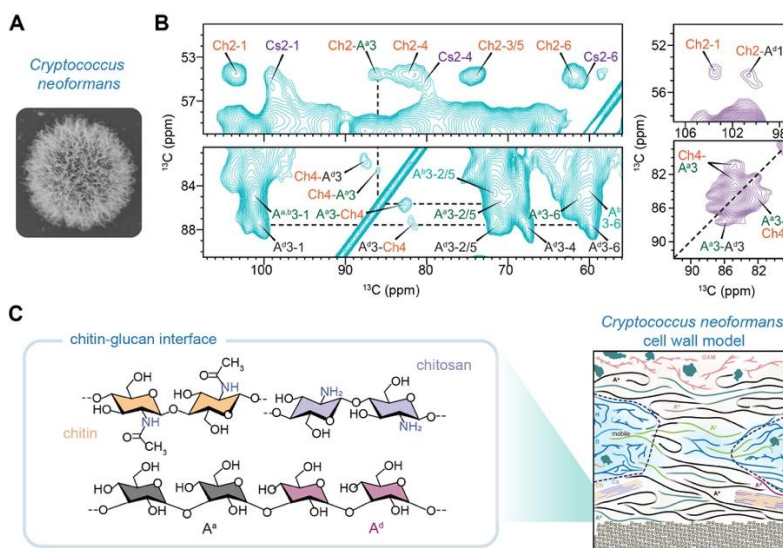


**Figure 2.7.2** (a). schematic illustrating in situ  $^7\text{Li}$  MRI applied to functional solid-state batteries (b) the electrochemical cycling profile of the battery during the in situ MRI acquisition, (c) the 3D  $^7\text{Li}$  MRI imaging of dendrite (blue) formed in batteries and the quantified amount of dendrite formed vs time at the interfaces.

**900-MRI:** The flagship **900-MRI** platform, the highest-field MRI system in the world, has been used from localized  $^1\text{H}$  NMR spectroscopy to  $^{23}\text{Na}/^1\text{H}$  small animal imaging and  $^7\text{Li}$  imaging of batteries. Y. Hu's group (NHMFL/FSU) utilized  $^7\text{Li}$  imaging to investigate the formation of dendrite in all-solid-state  $\text{Li}/\text{LLZO}/\text{Li}$

batteries. The dendrite image acquired in situ (**Figure 2.7.2 c**) reveals various stages of chemistries involved in Li dendrite formation for various layers inside the battery (*Nature. Materials.* 24 **2025**, 581-588). Bhagu *et al* investigated monoclonal antibodies (mAb) exposed to air-water or oil-water interfaces that may trigger partial unfolding of mAb. The localized  $^1\text{H}$  NMR spectroscopy at the 900MHz field offers the potential to probe and quantify alterations of mAb properties near interfacial layers. (*J Pharm Sci*, 114 **2025**, 103685). Helsper *et al* applied  $^{23}\text{Na}/^1\text{H}$  MRI and MRS at 900MHz field in therapeutic assessment of iron oxide labelled extracellular vesicles (*J Extracell Biol*, 4 (7), **2025** e70063).

**600-DNP** continued to produce a large number (**17**) of publications enabled by the sensitivity enhancement from MAS DNP. T. Wang's group from Michigan State U. detected a previously unidentified minor  $\alpha$ -1,3-glucan via DNP in *Cryptococcus neoformans* pathogenic fungus (**Figure 2.7.3**). These polysaccharides in **Figure 2.7.3.c** interact with chitin, chitosan, and  $\beta$ -glucans to create a molecular scaffold that underlies virulence and antifungal resistance. (*Ange Chem Intern Ed*, **2025** e202510409). Wang's group has carried similar studies utilizing MAS DNP of cell wall structure in *Aspergillus* species (*Carbohydrate Polymers*, 348, **2025**, 122907) and *Candida albicans* (*Nature Communications*, 16 (1), **2025** 6295). U. Akbey from U of Pittsburg employed ultrasensitive DNP ssNMR to characterize a native bacterial biofilm. (*Ange Chem Intern Ed*, 64, **2025** e202418146). This pioneering work expands the capabilities of ssNMR for analyzing a wide array of in vitro and ex vivo biofilms accelerating structure-guided efforts to combat infections caused by biofilm-forming microbes. Q. Qiang from SUNY Binghamton used DNP ssNMR confirming long-range tertiary contacts at early stages of nucleation of  $\beta$ -amyloid A $\beta$ 1-42 (*Communications Chemistry*, 8 **2025**, 1-10). In-house by Orlando *et al* and collaborative by Chatterjee *et al* research by have been carried out on the impact of non-polar solvents in high-field Overhauser DNP (*J. Magn. Reson.* 375, **2025**, 107885) and on the understanding the role of protons near biradicals to overall MAS-DNP enhancement (*J. Phys Chem Lett*, 16, **2025** 635-641).



**Figure 2.7.3** Solid-state NMR of intact *Cryptococcus* cells reveals five forms of  $\alpha$ -1,3-glucans (Aa, Ab, Ac, Ad, and Ae) in its cell wall that structurally bridge melanin and capsule layers.

**Other Major ssNMR Instruments:** Our 850, 800( $\times 2$ ), 600( $\times 3$ ), and 500MHz platforms are the workhorses for the majority of high- and moderate-field ssNMR experimentation, as well as serving as screening platforms for flagship instruments. The **800#1**, **800#2**, and **850NB** are of importance for ssNMR of biosolids (due to high sensitivity and large chemical shift dispersions) and for half-integer quadrupolar nuclides in chemicals, pharmaceuticals, and a wide range of materials (again, due to narrowing of CT powder patterns proportional to  $B_0^{-1}$ ). The 600( $\times 3$ ), and 500MHz platforms act in support of these instruments with some unique opportunities like  $^1\text{H}$ - $^{19}\text{F}$ -X ssNMR, ultrahigh temperature MAS NMR (ca. 700°C) with laser heating, and MRI and diffusion measurements.

A wide range of multinuclear ssNMR studies have been carried out for: **(a) Batteries and Energy Storage** such as ionic conductors (*ACS Materials Letters*, 7 **2025**, 4029, *Chem Sci*, 16, **2025**, 19857, *Chem. Sci*, 16, **2025** 10372, *Sci Adv*, 11 **2025**, 7795, *Solid State Ionics*, 429, **2025** 116962) and battery materials (*Chem Material*, 37 **2025** 6059); **(b) Biosolids and Biomaterials** including lipid membrane (*Biomolecules*, 15, **2025**, 994), and membrane protein (*J. Am. Chem. Soc.*, 147, **2025** 11117); and **(c) Chemicals and inorganic materials** of molecular thermometer (*Inorg Chem*, 64 **2025** 6531) and glasses (*J. Phys. Chem. C*, 129 **2025** 6869).

The ssNMR platforms were also used to develop new methods:  $^1\text{H}$ -Detected  $^{103}\text{Rh}$  and  $^{99}\text{Ru}$  NMR of static solids based on the PROSPR mechanism (*J. Phys. Chem. Lett* 16 **2025** 4596);  $^1\text{H}$ -Detected ssNMR under fast MAS condition for cellular carbohydrates (*J. Am. Chem. Soc* 147, **2025** 17416); using  $^2\text{D}$  and  $^{17}\text{O}$  ssNMR to study the dynamics of hydration shell water near proteins (*J. Chem. Phys.* 163, **2025**, 25101); widening the range of molecular dynamics probed by  $^{17}\text{O}$   $T_2$  relaxation via satellite transitions (*Solid State NMR* 137, **2025** 102004); applying  $^{17}\text{O}$  ssNMR and  $^1\text{H}$ - $^{17}\text{O}$  distance measurements to characterize Low-Barrier Hydrogen Bonds (LBHB) (*J. Phys. Chem. A* 129 **2025**, 5993).

## CARRYING OUT IN-HOUSE RESEARCH AND SCIENTIFIC INSTRUMENTATION DEVELOPMENT IN SUPPORT OF THE USER PROGRAM

### Probes

The probes designed by the *NMR Technology Group* are a major factor in setting the MagLab apart from other facilities around the world and keeping our user program on the cutting edge. This team, led by Dr. W. Brey and P. Gor'kov, designs, manufactures, and implements probes of high quality and versatility. They provide wide range of tuning configurations in response to users' need for multinuclear ssNMR, low-*E* coils for lossy biosolids samples, and some of the best rf circuits and coils for detecting weak NMR signals.

### New Probes, Tuning Configurations, and Related Hardware (2025)

- **900-MRI**
  - Developed dual-resonant birdcage volume coils in  $^1\text{H}/^2\text{H}$  and  $^1\text{H}/^{31}\text{P}$  configurations.
  - Designed and tested a  $^1\text{H}$  quadrature surface coil for mouse Alzheimer's studies.
  - Cost-effective RF shield development for ultra-high field MRI coils.
- **850NB:**
  - 3.2mm HX MAS low-*E* probe **#68** for materials and biosolids application - the new probe takes advantages of relatively large volume (44 $\mu\text{L}$ ) and spinning speed (24kHz) of Bruker-style rotor over the previous RevNMR pencil type rotor (36 $\mu\text{L}$  and 20kHz). This probe replaces the retrofitted 3.2mm MAS from the quenched 830NB magnet and is in the process filling the bank of swappable tune cards following users' demands and eventually covering 75% of all nuclides  $\leq ^{31}\text{P}$  including some of the very low-gamma nuclei.
  - 1.3mm HXY MAS probe **#69** for materials and biosolids applications with  $^1\text{H}$ -detection and 60kHz MAS speed - this probe enables  $^1\text{H}$ -detected experiment for the first time with **850NB**. The probe is configurable in 2-resonance mode to observe majority of isotopes in periodic table and 3-resonance mode covering many XY isotope combinations from  $^{31}\text{P}$  and below. It is currently used in 2-resonance mode until acquisition of 3<sup>rd</sup> channel for the **850NB** NEO console.
  - 2.5mm HX MAS probe **#63** for materials and bio application with 2-resonance configuration, 20 $\mu\text{L}$  sample volume and 29kHz speed – this probe expands range of quadrupolar broadening over 3.2mm probe with faster spinning speed and larger *rf* field.
- **800#1/800#2:**
  - 2.5mm HX MAS probe **#66** for materials application with 2-resonance and 2.5mm 20 $\mu\text{L}$  pencil rotor capable spinning up to 29kHz MAS. This probe expands the range of observable isotopes over the 3.2mm probes originally designed for bio-solids applications. This probe, released in 2023, now covers 80% of NMR-active nuclides in the periodic table.
  - 3.2mm HXY MAS probe **#53** (bio, 3-res, 36 $\mu\text{L}$ , 18kHz MAS) – created new tune cards to accommodate  $^1\text{H}$ - $^{31}\text{P}$ - $^{17}\text{O}$  and  $^1\text{H}$ - $^{13}\text{C}$ - $^{85}\text{Rb}$  triple-resonance experiments.
  - 5mm HX static probe with low temperature capabilities from Phoenix is commissioned after damaged rf coil was repaired.
- **600-DNP:**
  - 1.3mm HXY low-temperature (100K) DNP MAS probe **#65** – completed and released to users in 2025. Optimizing robustness of spinning at low temperature and expanding array of X-Y isotope combinations with new 3-resonance tune cards are ongoing along with user operation. The rf circuit is upgraded with additional switch to  $^{19}\text{F}$ -X-Y 3-resonance mode for decoupling at  $^{19}\text{F}$  frequency.
  - 3.2mm HXY low-temperature (100K) DNP MAS probe **#61** – Expanding array of covered X-Y isotope combinations with new 3-resonance tune cards, per users' demands. The rf circuit is upgraded with additional switch to  $^{19}\text{F}$ -X-Y 3-resonance mode for decoupling at  $^{19}\text{F}$  frequency.
  - 1.9mm HXY low-temperature (100K) DNP MAS probe **#67** – in construction phase, ETA 08/2026
- **600#1/#2:**
  - 1.3mm HFX MAS probe from Phoenix NMR (materials, 60kHz speed) – delivered in 2025.
  - Static goniometry probe **#37** (crystals, operational since 2024) – upgrade is made to rotator sample holder.
- **800 at AMRIS**
  - 3.2mm HXY MAS low-*E* probe (bio) built by the NMR instrumentation group for UF in 2024 – created new tune cards for additional 3-resonance experiments including  $^1\text{H}$ - $^{31}\text{P}$ - $^{13}\text{C}$ ,  $^1\text{H}$ - $^{13}\text{C}$ - $^{29}\text{Si}$ .



### Probes Under Planning

- Static single-resonance probe for **850NB** with interchangeable coil platform for low- $\gamma$  and wide-line NMR of insensitive quadrupolar nuclei.
- 0.7mm HCNO MAS probe – the ultimate probe for quad-resonance ssNMR of labelled proteins and peptides for **800#1** and **800#2**
- 1.3mm HFX fast MAS probe for **800#1** and **800#2**
- 5mm probe for *in situ* study of charging/discharging batteries for 400 MHz

### Platform upgrades.

- **600#3**: a 600MHz wide-bore Agilent magnet was obtained from donation by the University of Central Florida, fitted with an older Avance-III HD 500MHz console from University of Michigan. The console reconfiguration, integration with Agilent shim and the 3.2mm HCN MAS probe made by BlockFox were completed in 2025. **600#3** became a part of the NMR user facility since January 2026 relieving the **600#1** and **600#2** platforms.
- **400**: a 400MHz Bruker magnet was obtained from donation by Sanford Burnham and integrated with Avance-3 HD console from University Michigan in 2025. This system is primary used for *in situ* battery NMR, triaging experiments that require lower fields, and testing SCH field regulation equipment. A 3.2mm HX MAS probe with variable temperature has been ordered expecting delivery in Q2/2026. Once this probe is commissioned, we plan to retire the unshielded 300MHz magnet.

### Issues and Concerns

- **Computer OS and software upgrade** have become a serious issue to meet mandatory security requirement. Aging instruments can be run only with older versions of software that are not compatible with the minimum level of operating systems that meet security requirement. We are facing the dilemma between costly upgrades or being unable to be connected to the internet.
- **36T-SCH**: Offline from December 2024 due to a faulty current lead. The redesign and rebuild of both current leads is expected to finish in Q1 2027.
- **900-MRI**: Replacement of control room electronics (cryogenics controls and safeties) – fund has been allocated and the work is in progress.
- **800#1**: We had issues with multiple components of the aging Avance-3 HD console in 2025: the X 1kW-amplifier outputs ~1/3 of its specs power; the  $^1\text{H}$  1kW amplifier has abnormally high noises level at low frequencies affecting X-nuclei detection; both SGU boards were unstable resulting significant loss of users' time in 2025. Upgrading the 14-year-old console is our top priority for upgrade.

## MAINTAINING FACILITY AND DEVELOPMENT OF NEW MAGNET SYSTEM INCLUDING OPERATION SCHEDULE AND SHUTDOWNS

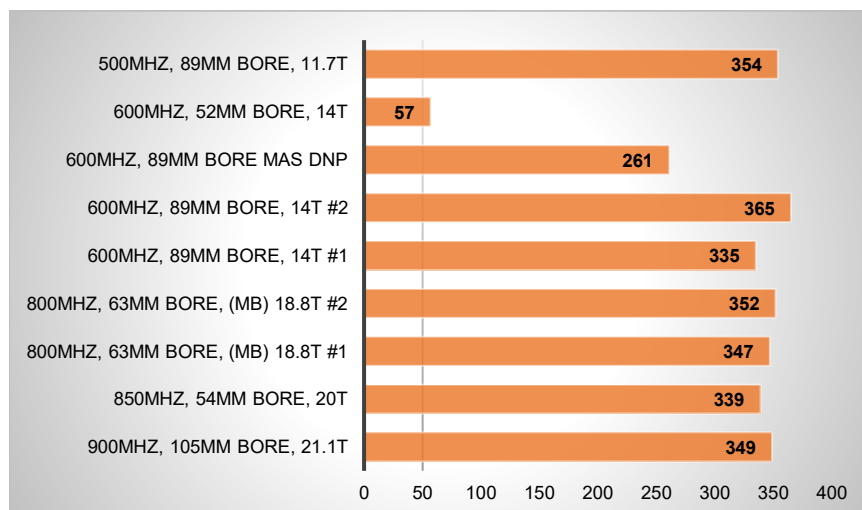
### Facility Plans and Directions

2024 saw the departure of imaging research faculty **Dr. Shiho Cho**, and the retirement of bio-solids research faculty III **Dr. Riqiang Fu**. **Dr. Samuel Grant** took an extended medical leave from 2024 leaving a void in prime activity of MRI/MRS for the flagship **900-MRI** system. On the positive side, we hired **Dr. Sean Holms** to fill the position vacated by Dr. Amrit Venkatesh who moved to University of Virginia as an Assistant Professor in 2024, and promoted **Dr. Faith Scott** (previously a postdoc at MagLab under the supervision of Drs. Schurko and Mentink-Vigier) to the research faculty I position vacated by Dr. W. Mao who took a position at United Imaging Healthcare in Wuhan, China in 2024. **Dr. Holms** will help maintain the expertise of DFT calculation and NMR crystallography. We continue to have one postdoc **Dr. Shubha Gunaga** funded through the RM1-GM148766 grant sharing between the 36T-SCH and 600DNP platforms. Overall, we are experiencing staff shortage especially on the MRI/MRS side.

The NSF core funding cuts (2023–2027) to the NMR/MRI User Program have had significant impacts, however the program remains strong and dynamic, with generally high morale. We are continuing to pursue initiatives including: (i) Continued expansion of the scope of UHF and DNP activities with the funding of the *National Resource for Advanced NMR Technology* (RM1-GM148766); (ii) a NSF RI-1 proposal titled, “*Mid-scale RI-1 (M1:IP):National Facility for Ultra-High Sensitivity Solid-State NMR*” to obtain the world's first 1.0GHz DNP/CryoMAS NMR spectrometer is pending for decision in 2025; (iii) the planned submission of an NSF-RI2 to acquire the world's first 1.4 or 1.5GHz ssNMR spectrometer (in collaboration with Bruker), which would open unprecedented opportunities in application of ssNMR to materials, chemical compounds, and biosolids with 7/24 access; (iv) the continued design, construction, and commissioning of new NMR probes, including a 1.9mm HXY DNP MAS NMR probe and several new probes for **850NB**, **800#1** and **800#2** [Gor'kov, Brey, Kitchen, Scott]; (v) commissioning of the Phoenix NMR “HFX” ( $^1\text{H}$ - $^{19}\text{F}$ -X) 1.3mm fast MAS probe for 600#2, to enable studies on pharmaceuticals and other fluorine-containing samples [Gor'kov, Kitchen, Schurko].

### NMR/MRI Facility Operations Schedule

The majority of our instruments operated at near 100% capacity (i.e., 365 user days, **Figure 2.7.4**), including **900-MRI**, **800#1**, **600#1**, and **600#2**. The **850** platform gave us **339** user days. The **800#2**, offered **352** user days. The **600-DNP** platform has a record 261 magnet days in 2025 (above the predicted 240 days). The HTS solution probe is still under development on 600 MHz 52 mm with 57 days usage. Our average subscription rate is ~112% (i.e., 12% oversubscribed).



**Figure 2.7.4.** User magnet time on major NMR/MRI platforms at the NHMFL in 2025.

Drs. Z. Gan, I. Hung, S. Holms, S. Wi, F. Mentink, T. Dubroca, and A. Blue continue to be responsible for great success on these instruments, in terms of doing great science and keeping the instruments and probes in top condition. Furthermore, our robust remote operation routines developed during the COVID pandemic continue to assist users with remote access to our spectrometers.

### EDUCATION AND TRAINING

The NMR/MRI team had another great year in educational and training outreach activities.

#### (a) Workshops, Symposia, and Scientific Engagement

The NMR/MRI faculty organized and contributed to multiple training workshops, domestic meetings, and international symposia that strengthened user expertise in ssNMR, DNP NMR, and MRI RF coil development. They also served in leadership roles—including program committee members, chairs, and co-chairs—helping expand the visibility of the MagLab and deepen engagement across the broader magnetic resonance community.

- M. Elumalai organized a 5-day Microimaging RF Coil Workshop (August 11–15, 2025). Six participants received training in RF coil design principles and gained hands-on experience constructing 500MHz birdcage volume coils for preclinical imaging. The program also included a one-day online Bruker ParaVision training taught by Bruker engineers and an in-person full-day electromagnetic simulation session delivered by COMSOL engineers. Additional technical lectures and practical sessions were provided by J. Kitchen, S. Ranner, W. Brey, and I. Litvak.
- A two-week PANACEA-supported Summer Research Visit (August 18–29, 2025) provided an intensive international training experience through the Pan-European Solid-State NMR Infrastructure for Chemistry-Enabling Access (PANACEA) program. Seven overseas participants received in-depth instruction in SSNMR, DNP NMR, and EPR spectroscopy, along with hands-on experience in hardware development. The program included lectures, practical demonstrations, and supervised instrument time led by F. Mentink-Vigier, F. Scott, W. Brey, I. Litvak, T. Dubroca, and M. Elumalai.
- A weeklong workshop on theory and practical applications of DNP-enhanced MAS ssNMR was conducted concurrently with the PANACEA visit. Seven U.S.-based participants joined the seven international participants of PANACEA visit for lectures and hands-on sessions covering MAS DNP, Overhauser DNP NMR, and SSNMR. The workshop was organized by F. Mentink-Vigier and F. Scott, with lectures and practical instruction provided by R. Schurko, W. Brey, Z. Gan, I. Hung, S. Holmes, T. Dubroca, S. Gunaga, and S. Wi.
- MagLab Summer School on Solid-State NMR Spectroscopy was held May 12–16, 2025. R. Schurko and Robbie Iulucci led the school with support from F. Scott, F. Mentink-Vigier, P. Gor'kov, A. Ramamoorthy, S. Holmes, Z. Gan, I. Hung with more than a dozen lectures covering a broad range of NMR topics, a career panel, six facility tours, data-analysis workshops, and hands-on laboratory sessions on sample preparation, hardware, and experimental setup.
- W. Brey and M. Elumalai served as committee chairs of the 2025 Southeastern Magnetic Resonance Conference (SEMRC), held November 14–16, 2025 at UF–Gainesville.
- A. Ramamoorthy co-chaired “Advances in Biological Solid-State NMR,” symposium featured more than 30 invited international speakers.



- A. Ramamoorthy chaired “Protein Aggregation, Biocondensation, and Biomolecular Self-Assembly” symposium highlighted research on molecular mechanisms underlying protein aggregation relevant to ALS, type II diabetes, Alzheimer’s disease, Huntington’s disease, Parkinson’s disease, and other disorders featured 40 invited speakers.
- A. Ramamoorthy organized a Magnetic Resonance Seminar Series featuring speakers from the MagLab (N. Ahmad, R. Smith, and S. Gunaga) and external institutions from France, Italy, and India. M. Elumalai organized a session for NSF-funded REU undergraduates to present their summer research projects and practice conference-style talks.

**(b) Student supervision and training.** Our team participated in the supervision of graduate (GR), and undergraduate (UG), students through 2025. UG/GR efforts include:

- M. Elumalai supervised 4 UGs and 1 GR in spring (MRI sample development, MRI sustainability – UROP, MRI surface coils, STEM outreach – UROP; mouse quadrature coil development), 1 UG (REU) in summer (RF shielding), and 2 UGs and 1 GR in fall (CST simulations, power-logger setup; dual-resonant coil development).
- Litvak supervised 3 UGs in spring (ferroshim testing; STEM outreach – UROP/InternFSU) and 3 UGs in fall (600-SOL field-homogeneity improvements; STEM outreach – UROP).
- Ramamoorthy supervised 18 UGs, including 4 HITM students, engaged in ongoing laboratory research projects, and 3 high-school students who participated in year-long mentoring activities that introduced them to magnetic resonance research practices and laboratory skills.
- R. Schurko supervised 4 UGs in spring (HITM, UROP, research assistant roles) and 1 UG in summer that introduced them to NMR spectroscopy, spin physics, and applications to pharmaceutical research.
- F. Scott supervised 1 UG in 2025.
- T. Dubroca supervised 3 UGs in spring (3D-printed components for a magnetic resonance spectrometer; solubility studies in various solvents; ferroshims to improve magnetic-field homogeneity), 3 UGs in summer (design of a high-power microwave switch; PFAS solubility and potential for liquid DNP; software control of a spectrometer component), and 6 UGs in fall (manufacturing and testing of a high-power microwave switch; senior electrical-engineering group project to design a double RF-coil NMR probe head for the HiPER spectrometer).

### **(c) STEM Outreach**

STEM outreach continued to be exceptional in 2025. Across 2025, NMR/MRI personnel delivered department-wide outreach to K–12 students and families, the general public, and undergraduate visitors—through STEM nights, school science fairs, camp talks, facility tours, and Title I–focused engagement. Major contributors included I. Litvak, M. Elumalai, F. Scott, R. Schurko, and A. Ramamoorthy, who organized and supported a wide range of activities.

- Neighborhood Camp Fair (K–12, Title I focus): Organized and led by I. Litvak and M. Elumalai, with R. Schurko volunteering. The event drew 60+ attendees from Title I schools and included hands-on science activities led by scientists and graduate students.
- School engagements & science fairs: STEM demos and activities were delivered by I. Litvak (Canopy Oaks; Ft. Braden; Oak Ridge; Hartsfield; Pine View; School of Math and Science), M. Elumalai (Ft. Braden), F. Scott (Godby), and S. Grant (Godby, summer program). In addition, I. Litvak organized judging for the Pine View Elementary science fair competition (K–5).
- Open House: Major participation in the MagLab Open House (February 2025), where W. Brey, J. Collins, M. Elumalai, F. Mentink-Vigier, I. Hung, Z. Gan, S. Wi, A. Ramamoorthy, and F. Scott presented demonstrations and volunteered throughout the event, which welcomed ~10,000 visitors from the general public.
- Media & community programs: F. Scott was featured in the Discovery Education/Sesame Workshop virtual field trip Meet the Magnets. M. Elumalai and S. Grant delivered summer camp talks; M. Elumalai presented to RET teachers; and M. Elumalai and F. Scott led a panel and tours for FAMU Magnetic Momentum Scholars and Miami-Dade students. T. Dubroca delivered a virtual career-development workshop for University of Idaho chemistry students.
- Tours & visiting groups: A wide range of MagLab tours were provided by M. Elumalai, J. Collins, F. Scott, S. Grant, A. Ramamoorthy, T. Dubroca and others. In particular, A. Ramamoorthy led ~25 tours for visitors, faculty candidates, and seminar speakers; provided a tour for 4 Molecular Biophysics graduate-applicant visitors; and hosted 6 international visitors from Sookmyung Women’s University.

## 2.8 PULSED FIELD FACILITY

The Pulsed Field Facility (PFF), located within Los Alamos National Laboratory (LANL) in Los Alamos, NM, utilizes both LANL and U.S. Department of Energy assets to provide pulsed magnetic fields to our international community of users – from undergraduate students to senior investigators. Along with our magnets, we provide users with robust scientific instrumentation engineered to operate in the transient pulsed magnetic field environment, along with the support of scientists who are active researchers with expertise in high magnetic field-driven science.

### OPERATION OF A WORLD-LEADING HIGH-MAGNETIC-FIELD USER PROGRAM

#### Capabilities

The suite of magnets and associated techniques supported at the PFF are listed in **Table 2.8.1**. At the heart of our magnet operations is a fully multiplexed (9 output) computer-controlled 4MJ, 16kV capacitor bank. Currently, this capacitor bank is responsible for providing power to all operational pulsed magnet systems, including our workhorse 65T Short-pulse magnets and the higher energy 60T Mid-pulse and 75T Duplex magnets. A new magnet cell, rated for 55T maximum field, was built and commissioned in 2025 specifically for studies on actinides and other radioactive materials. LANL is uniquely home to a 1.4GVA generator, which the PFF utilizes as a pulsed-power system to provide the hundreds of megajoules required to run our 100T multi-shot and 60T Controlled Waveform (“Long-pulse”) magnets; the former is the first and only magnet in the world to provide repeatable, non-destructive magnet fields for science experiments at 100T. Furthermore, the rectification of the generator output enables the control of the pulsed power waveform, allowing for the optimization of both the 100T and 60T Long-pulse for existing experimental research techniques. Currently, these two magnets are unavailable to users while the generator is under repair.

**Table 2.8.1** Pulsed-field magnets available to users at the NHMFL-PFF

| Capacitor-Driven Pulsed Magnets        |                                    |                            |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------------------------------------|------------------------------------|----------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Magnet System                          | Bore, <sup>3</sup> He Sample Space | Rise Time, Max dB/dt       | Pulse Duration                      | Supported Research*                                                                                                                                                                                                                                                                                                                                                                                                   |
| 65T Short-pulse (x4)                   | ø15mm, ø 9mm                       | 8ms, 8.1T/ms               | 80ms                                | Magneto-optics – IR through UV<br>Magnetization – Extraction, Torque<br>Magnetic Susceptibility<br>Magneto transport – DC through MHz; incl. Critical Current Measurements and RF<br>Pulse Echo Ultrasound Spectroscopy<br>Fiber Bragg Grating Dilatometry<br>Polarization<br>Magnetocaloric<br><br>Sample Temperatures: 400mK to 300K<br>For compatible techniques: Pressures up to 5GPa and in-situ sample rotation |
| 55T Short-pulse for Actinide Science   |                                    | 8ms, 8.1T/ms               | 80ms                                |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 75T Duplex                             |                                    | 1.8ms, 25T/ms (30 - 75T)   | 80ms                                |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 60T Mid-pulse                          |                                    | 32ms, 1.8T/ms              | 300ms                               |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Generator Driven Pulsed Magnets**      |                                    |                            |                                     |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Magnet System                          | Bore, <sup>3</sup> He Sample Space | Rise Time, Max dB/dt       | Pulse Duration                      | Supported Research*                                                                                                                                                                                                                                                                                                                                                                                                   |
| 100T Multi-shot                        | ø 10mm, ø 5mm                      | 8ms, 7.5T/msec (40 – 100T) | 3s                                  | All techniques listed above                                                                                                                                                                                                                                                                                                                                                                                           |
| 60T Controlled Waveform (“Long-pulse”) | ø 25mm, ø 18mm                     | Adjustable                 | 3s, Up to 100ms full field flat top | All techniques listed above, plus:<br>Magnetothermal studies (Heat Capacity and Magnetocaloric)<br>Larger Sample Volumes                                                                                                                                                                                                                                                                                              |

\*Resources available to work with users to develop and field new and novel techniques as needed in our magnet systems.

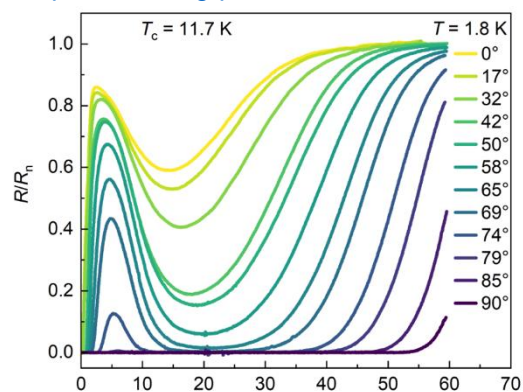
\*\*Offline while LANL’s 1.4 GVA generator is being repaired.

### User Research Highlights

Magnetic fields typically suppress superconductivity through orbital and Pauli pair-breaking effects. However, as dramatically discovered in  $\text{UTe}_2$  at the PFF, extreme magnetic fields can instead stabilize new superconducting states. Now, building on that discovery, high-field studies by two different user teams of the Pulsed Field Facility have discovered that rare-earth substitution in infinite-layer nickelates can induce and enhance superconductivity in fields previously thought destructive. In  $\text{Sm}_{1-x-y}\text{Eu}_x\text{Ca}_y\text{Sr}_z\text{NiO}_2$ , measurements up to 70T demonstrate clear magnetic-field-induced re-entrant superconductivity and extraordinarily large upper critical fields. A sample with  $T_c \approx 12$  K exhibits two distinct superconducting phases separated in field, while higher- $T_c$  samples show merging of low- and high-field phases and non-saturating  $H_{c2}$  (see **Fig. 2.8.1**). Modeling within a modified Werthamer–Helfand–Hohenberg framework indicates a large exchange field (approximately  $-70\text{T}$ ), consistent with a Jaccarino–Peter compensation mechanism arising from Eu-derived magnetic moments. A concurrent study of  $\text{Nd}_{1-x}\text{Eu}_x\text{NiO}_2$  by another group likewise discovered magnetic-field-enhanced superconductivity and strong violations of the weak-coupling Pauli limit for both in-plane and out-of-plane field orientations. Density functional theory identifies exchange coupling between Eu  $4f$  moments and  $\text{Ni}_{d_{x^2-y^2}}$  electrons that produces a compensation field of order  $-20\text{T}$ , quantitatively consistent with experiment. Infrared spectroscopy further demonstrates a large superconducting gap corresponding to  $2\Delta/k_B T_c \approx 5\text{--}6$ , providing direct evidence for strong-coupling superconductivity in nickelates. Crucially, these results constitute the first observation of magnetic-field-induced or re-entrant superconductivity in a high-temperature superconductor and may be a platform for engineering significantly large upper critical field superconductors. The 60T Mid-pulse and 75T Duplex magnets at the PFF, coupled with steady state measurements in the 41T resistive magnet and 45T hybrid magnet at the DC facility, played vital roles in these results, enabling users to induce re-entrant superconducting phases and track their evolution with angle of applied field and temperature. Further details can be found at : <https://arxiv.org/pdf/2508.15968> and <https://arxiv.org/pdf/2508.16290>

Nonreciprocal light propagation, an optical “diode” effect, typically requires materials that break both inversion and time-reversal symmetries. This effect has rarely been explored in rare-earth  $f$ -manifold excitations at technologically relevant wavelengths. A recent study of  $\text{h-Lu}_{0.9}\text{Er}_{0.1}\text{MnO}_3$  by users of the PFF revealed pronounced nonreciprocal directional dichroism across the telecom E-, S-bands, and C-band ( $\approx 1460\text{--}1565\text{nm}$ ) relevant for optical communications through optical fibers. High magnetic field magneto-optical measurements up to 55T were essential for mapping out the dichroic response as a function of wavelength, revealing strong field-dependent shifts, avoided crossings, and large asymmetry between optical absorption for light propagating in opposite directions ( $+k$  versus  $-k$ ). This demonstrates robust magnetoelectric coupling at high fields. Remarkably, the nonreciprocity persists at low fields and even at room temperature despite the absence of long-range Mn magnetic order. These results open a pathway toward magnetically controlled optical diode functionality in solid-state platforms. Further details can be found at *npj Quantum Materials* 11, 18 (2026)

<https://doi.org/10.1038/s41535-026-00848-w>



**Figure 2.8.1** Normalised resistance at different field orientations  $\theta$ , rotated from  $c$ -axis ( $\theta = 0^\circ$ ) toward the  $a$ -axis ( $\theta = 90^\circ$ ) in the nickelate superconductor  $\text{Sm}_{1-x-y}\text{Eu}_x\text{Ca}_y\text{Sr}_z\text{NiO}_2$ . Superconductivity is suppressed with a few tesla, but is re-established at larger magnetic fields.

Further details can be found at *npj Quantum Materials* 11, 18 (2026)

## CARRYING OUT IN-HOUSE RESEARCH AND DEVELOPMENT

### In-House Research Highlight

The nature of the Fermi surface in the pseudogap phase of the cuprates has remained one of the central unresolved problems in high-temperature superconductivity. In underdoped  $\text{HgBa}_2\text{CuO}_{4+\delta}$  ( $\text{Hg1201}$ ), pulsed magnetic field measurements up to  $\sim 72\text{T}$  now reveal a clear Yamaji peak in the  $c$ -axis magnetoresistivity above the superconducting temperature  $T_c = 74\text{K}$ , providing direct evidence for closed Fermi-surface pockets in the pseudogap state. The Yamaji effect manifests as a pronounced maximum in magnetoresistivity, a hallmark of warped quasi-two-dimensional Fermi surfaces. From the Yamaji angle, the Fermi surface geometry is extracted directly, implying small elliptical pockets occupying only  $\sim 1.3\%$  of the Brillouin zone. The presence of a small Fermi surface absent long-range broken translational symmetry strongly suggests a breakdown of canonical Fermi liquid theory. Observation of the Yamaji effect at elevated temperatures (e.g.,  $85\text{K}$ ) required the use of ultrahigh pulsed magnetic fields to cause quasiparticles to complete coherent cyclotron orbits. The full angular dependence was constructed from many individual high-field pulses, demanding exceptional shot-to-shot reproducibility and magnet reliability

from the 75T Duplex system. Further details at Nat. Phys. 21, 1753 (2025), <https://doi.org/10.1038/s41567-025-03032-2>

### **Magnet Development**

The implementation of fast-cooling designs across all short-pulsed magnet platforms enabled the Pulsed Field Facility to produce approximately 3,500 pulses at magnetic fields of 60 tesla and higher. Operational reliability was ensured by maintaining a minimum inventory of four spare short pulse magnets and one spare duplex and mid-pulse magnet. The 75T duplex magnet was redesigned to utilize newly developed CuAg conductors to mitigate supply uncertainty of the 1.1GPa CuNb conductor from Russia. The redesigned 75T duplex achieved peak field of 74T for user experiments despite the 25% reduction in conductor strength, significantly reducing supply side risks.

A major focus of the magnet program in 2025 was the completion of critical large coils for the 60T Controlled Waveform (CW) magnet and the 100T outsert magnet, ensuring readiness for user operations when the generator returns to service in 2026. The rebuilt magnets will incorporate a newly developed magnet health monitoring system comprising a distributed network of optical strain sensors. Final assembly of all nine coils for the 60T CW magnet has been accomplished. Furthermore, coil #1 and #2 of the 100T magnet system were completed, and final assembly of the new 100T system will be completed prior to the return of the generator.

## **MAINTAINING FACILITY AND DEVELOPMENT OF NEW MAGNET SYSTEM INCLUDING OPERATION SCHEDULE AND SHUTDOWNS**

### **Generator Related Activities**

In 2025, the effort to return the 1.4GW LANL motor generator to service reached several key milestones. Notably, the fabrication of the replacement rotor reached 95% completion in June 2025. However, subsequent high-voltage testing revealed issues that required significant mediation. Importantly, the necessary rework was completed enabling the rotor to pass the high-voltage retest early in 2026. Throughout the rotor design and construction, the Pulse Field Facility's engineers have been actively engaged with the contractor in monitoring every step of the process to ensure quality and conformity. While the work on the rotor continued in Birr, Switzerland the pulsed field facility's power delivery team has focused efforts on key sub-system upgrade activities. These have included power electronic systems such as the new generator drive and exciter, new sensors and instrumentation to enable additional methods to track facility health for informed planning and maintenance, and inspection and maintenance of the rectification control system (the PSRs). Consistent with the 2024 Facility Condition Assessment, the original equipment manufacturer of the PSRs concluded that whilst currently operational, they are beyond further repair confirming the necessity for immediate replacement of this vital infrastructure for powering the 100T and 60T controlled waveform magnets. This work is planned for 2026, funds permitting. The PFF engineering team has also been instrumental in completing the upgrade of the open loop cooling system that is vital for both helium recovery and reliquification, and generator operation. In short 2025 marked the completion of a multi-year, multi-million dollar project to help ensure reliable Pulsed Field Facility operations in the future through the replacement of the entire open loop part of the system, including the tanks, pumps, cooling towers, and associated foundations and pipes as well as the control systems.

### **85T Duplex Magnet**

Efforts have continued to deliver the 85T all-capacitor bank-driven duplex magnet, a unique magnet that requires the tandem operation of both the 16kV, 4MJ Short-pulse and 18kV, 2MJ 100T capacitor banks. Installation of all hardware and power infrastructure required for the operation of this new magnet is now complete. Separate pulsed power to the insert and outsert magnets, separately, has been successfully delivered. The control software required to operate this system in combined mode is presently being tested with an anticipated commissioning of the system prior to the end of 2026.

### **Mode of Operation**

Jointly with the DC Facility, the PFF solicits proposals through a common call three times a year to streamline the application process and ensure the availability of personnel and magnet resources. The capacitor bank-driven magnets operate Monday through Friday from 7am to 7pm, with a later start of 10am on Mondays due to weekly maintenance. Generally, no more than three pulsed magnets – either three 65T magnets or two 65T magnets and either the 75T Duplex or 60T Mid-pulse – are scheduled for users each week to enable turnaround and continuation of an experiment following a magnet failure. The generator-driven magnets – the 100T and 60T Long-pulse continue to be offline while we await the new rotor for the motor generator.

## **CONDUCTING EDUCATION AND OUTREACH ACTIVITIES**

In 2025, LANL Pulse Field Facility members participated in the 9th annual Los Alamos National Laboratory Summer Physics Camp. The free camp for about 30 middle and high school students from across New Mexico aims to empower students to consider careers in science, technology, engineering, and math (STEM). Activities included coding Arduino boards and hands-on exploration in optics, chemistry, computer



science, and astrophysics. Our staff, comprising scientists, technicians, postdocs, and students — Km Rubi, Shalese Lovell, Danielle Yvonne, Stefan Marinkovic, Tim Noe, Chis Mizzi, and Boris Maiorov — were instrumental in developing and showcasing hands-on magnet-related demonstrations. Students were also given a tour of the PFF facility at LANL. Additionally, throughout the year, many of the scientists at the PFF gave talks about high-field research at universities all over the country.

### 3 EDUCATION AND OUTREACH

#### 3.1 EDUCATION

The Center for Integrating Research and Learning (CIRL) guides the K-12 educational and broader mentoring efforts of the MagLab's education and outreach mission. Our programs are designed to include research-based best practices in science and engineering education for K-12 students and in mentoring for students, teachers, postdocs, and faculty in STEM. Our staff participate in, and facilitate, professional development in their specific disciplines so that we can ensure the MagLab is aware of best practices for building a more diverse STEM workforce. The K-12 education and broader mentoring efforts would not be possible without the CIRL team. Below are some examples of the leadership and relative professional development initiatives that CIRL staff have engaged in over the last year.

CIRL Personnel Highlights in 2025:

- CIRL's K-12 Education Director, Carlos R. Villa presented at the Florida Association of Science Teachers Annual Conference in Orlando, FL. This year Carlos Villa partnered with Leon County School's 21st Century Program and LCS's Title IV to offer ten activities from the MagLab's Camp TESLA at local schools. This partnership created a curriculum that was offered at Fairview Middle School, Nims Middle School, and Griffin Middle School, all Title I schools. These activities were offered during the 21st Century Summer Schools. Carlos Villa was also asked to assist with science factchecking for Marvel's Iron Man Goes Magnetic (National Geographic Kids Readers), ensuring the story aligned with real-world physics. Originally, Captain America's shield was magnetized, but since Vibranium isn't magnetic, Villa suggested making Thor's hammer magnetic instead, based on its origin in a star rich in iron. This change was adopted, and Villa also contributed trivia questions and verified scientific accuracy throughout the booklet.
- CIRL's Mentoring Director Dr. Kawana Johnson implemented the first MagLab/Lively Professional Development Program in February using funds received from an ECMC Foundation mini grant. The 5-week program exposed a small group of 5 career and technical education (CTE) students at Lively Technical College to skilled technical career paths at the MagLab. Sixteen Lab employees served as role models or general program participants. The program was featured in a video spotlight during the 2025 ECMC Foundation CTE Leadership Collaborative Convening in Austin, TX. Dr. Johnson also presented a session on the program at the 2025 Mentoring Institute and published a related article in the Chronicle of Mentoring and Coaching entitled "Creating a Sense of Belonging by Engaging Skilled Technical Workers as Role Models in STEM." Additionally, Dr. Johnson published an article in the Experiential Learning and Teaching in Higher Education Journal entitled "Mentored Research Experiences and Their Impact on Black Students in STEM."
- CIRL's Director Dr. Roxanne Hughes was invited to participate in the inaugural cohort of the prestigious, newly launched Collaborative for Advancing Science Teaching and Learning in K-12 (CASTL-K12) an initiative led by the Board on Science Education (BOSE) at the National Academies of Sciences, Engineering, and Medicine (NASEM). The purpose of CASTL-K12 is to serve as a unique coordinating body that brings together a diverse group of science education stakeholders at both the national and state levels, to develop and promote evidence-based policies and practices for effectively implementing and supporting effective science teaching that serves all students. NASEM and BOSE staff are bringing these groups together to facilitate partnerships and joint action for identifying, designing, planning, enacting, and documenting short-term "actions" aimed at improving the implementation of science standards. It is anticipated that the tools designed by the CASTL-K12 membership will serve as a resource for improving science education across the United States. Thus far, Dr. Hughes has attended multiple sessions and worked with a team at FSU to develop support for science teachers locally. She was also invited by the American Physical Society to submit graduate student mentoring best practices for the APS' Effective Practices for Physics Programs.

#### Inclusive Excellence in CIRL Education Programs

Diversity and inclusion are focal points of all MagLab educational and outreach activities. **Table 3.1.1** highlights the number of participants for CIRL's programs (i.e., one week or longer).

**Table 3.1.1.** *Participants of Education Programs*

| 2025                                                 | Total             |
|------------------------------------------------------|-------------------|
| Research Experiences for Undergraduates (REU) summer | 16 undergraduates |
| Magnetic Momentum Scholars Program                   | 10 undergraduates |
| Research Experiences for Teachers (RET) summer       | 10 K-12 teachers  |

| 2025                                             | Total                     |
|--------------------------------------------------|---------------------------|
| High School Externship (2024-2025 Academic Year) | 17 high school students   |
| MagLab High School Summer Scholars Program       | 7 high school students    |
| Camp TESLA (Two 1-week camps)                    | 44 middle school students |

## WEB-BASED OUTREACH

### Magnet Academy

The Magnet Academy is MagLab's web-based home for free resources on magnetism and electricity for educators and learners of all ages. Magnet Academy resources include lesson plans, recorded science demonstrations, and interactive activities for teachers, students, and parents. **Table 3.1.2** shows the Google analytics for 2025.

**Table 3.1.2.** Pageviews for Magnet Academy in 2025

| Page Title                              | Page Views <sup>1</sup> | Active Users <sup>2</sup> | Avg Number of Views per User | Event Count <sup>3</sup> |
|-----------------------------------------|-------------------------|---------------------------|------------------------------|--------------------------|
| Total Magnet Academy Views              | 582,425<br>+94%         | 327,856                   | 1.59                         | 2,342,277<br>+0.61%      |
| Watch and Play                          | 189,131<br>-3.42%       | 93,482                    | 2.07                         | 736,495<br>-2.75%        |
| Read Science Stories (Learn the Basics) | 18,799<br>+11.33%       | 14,025                    | 1.34                         | 78,528<br>+13.33%        |
| Explore history                         | 288,155<br>+2.43%       | 184,383                   | 1.57                         | 1,167,022<br>+0.79%      |
| Try this at home                        | 40,232<br>+23.76%       | 30,168                    | 1.33                         | 185,227<br>+23.54%       |
| Plan a lesson                           | 8,730<br>-15.14%        | 7,560                     | 1.16                         | 37,369<br>-13.25%        |

## K-12 EDUCATION PROGRAMS

### MagLab Field Trips

CIRL brings 5<sup>th</sup> – 12<sup>th</sup> grade school groups to the MagLab for educational field trips that include a tour of the MagLab's Tallahassee location led by a MagLab scientist or engineer, along with a hands-on activity facilitated by CIRL's K-12 Education Director, Carlos Villa. The goal of these field trips is to expose students to MagLab related science and engineering activities and tell them about the research that occurs here. (**Figure 3.1.1**). The full description of the hands-on activities offered can be found on the MagLab's website: <https://nationalmaglab.org/education/teachers/>. For the 2024-2025 school year, field trips were advertised through an email sent to all local school administrators, the MagLab Educators Club (a mailing list of over 570 educators and parents), and through regional and national organizations such as the Big Bend/Leon Association for Science Teaching, the Florida Association of Science Teachers, and the National Science Teaching Association.

During the 2024–25 school year, Carlos Villa provided outreach to 2,012 students across 45 schools, with the majority being fifth graders (47%), followed by seventh, eleventh, and twelfth graders (22%). Field trip requests came from Florida and Georgia, with the most popular activities being *Build an Electromagnet: Turn Magnets On & Off*, accounting for 47% of requests. In alignment with CIRL's goal to broaden participation, 75% of the school groups served were from Title I schools, ensuring access to innovative scientific resources for students from low-income communities.

**Metrics for Success.** After each field trip, teachers were sent a short online survey asking them about their experience. Overall, the teachers were very satisfied with their experience. 100% (n=38) of teachers would participate in a MagLab field trip again, and 100% (n=38) rated the overall experience as excellent or very good. 100% of teachers said that the details given in the email notification of official outreach were



**Figure 3.1.1.** Students learn about circuits during a field trip to the MagLab.

<sup>1</sup> Views of web pages including repeat views by the same user.

<sup>2</sup> Unique users who engaged with the site.

<sup>3</sup> The event count shows a specific interaction or occurrence on the website (e.g., views, clicks, downloads), highlighting how often a user interacts with specific elements on the website within a given time span.

sufficient for planning purposes and that the website provided them with enough information to appropriately select an activity and incorporate it into their class. **Table 3.1.3** presents average satisfaction scores (i.e., 5 rating = the highest) for the quality of the instruction that Villa provided. The high ratings show that the outreach experiences were well received by the educators.

**Table 3.1.3. Teacher Ratings of Classroom Outreach**

| Question (n=20)                                                                                                                                       | Mean Response |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| During the hands-on activity, the outreach educator employed instructional strategies that made the content/concept(s) understandable to my students. | 4.89          |
| During the hands-on activity, the outreach educator made connections between the content/concept(s) presented and the real-world.                     | 4.84          |
| During the hands-on activity, students were encouraged to ask scientific questions to shape their understandings.                                     | 4.87          |
| The hands-on activity was developmentally appropriate for my students.                                                                                | 4.95          |
| The hands-on activity aligned with relevant state/national standards.                                                                                 | 4.71          |
| I learned more about the MagLab during this fieldtrip.                                                                                                | 4.84          |

(5 pt. Likert scale 5=Strongly Agree, 1=Strongly Disagree)

**Lessons Learned.** The MagLab's field trip program continues to receive excellent ratings from teachers, with tours and hands-on activities praised for engaging students and meeting the goal of introducing them to MagLab science and engineering. To further enhance the experience for the 2025–2026 school year, Villa plans to add more interactive experiences for the students.

### **Gainesville**

The MagLab facilities at the University of Florida conduct their own educational programs, which are currently facilitated by Eli Wolf and Nicolas Silva. During the 2025 calendar year, staff from the AMRIS and High B/T MagLab facilities gave 17 tours of the facility to 276 people. These tours included K-12 students, graduate and undergraduate students, visiting scientists, and community members. By tabling at events and conducting presentations, AMRIS and High B/T staff were able to reach an additional 412 researchers, K-12 students, and members of the general public were reached through presentations and tabling at events. MagLab staff at UF also hosted and coordinated SEMRC, a conference attended by 120 scientists, a majority of whom were undergraduate or graduate students.

### **Los Alamos**

In 2025, LANL Pulse Field Facility members participated in the 9th annual Los Alamos National Laboratory Summer Physics Camp. The free camp for about 30 middle and high school students from across New Mexico and Hawaii aims to empower students to consider careers in science, technology, engineering, and math (STEM). Activities included coding Arduino boards and hands-on exploration in optics, chemistry, computer science, and astrophysics. Our staff, comprising scientists, technicians, postdocs, and students — Km Rubi, Shalese Lovell, Danielle Yvonne, Stefan Marinkovic, Tim Noe, Chris Mizzi and Boris Maiorov — were instrumental in developing and showcasing hands-on magnet-related demonstrations. Students were also given a tour of the PFF facility at LANL. Additionally, throughout the year many of the scientists at the PFF gave talks about high field research at universities all over the country.

### **MagLab Camp Tesla (Technology, Engineering, and Science in a Laboratory Atmosphere)**

In the summer of 2025, the MagLab hosted two sessions of our Camp TESLA, a co-ed camp that runs for one week. Campers attended the MagLab Monday through Friday, from 9 a.m. to 4 p.m., engaging with scientists across the lab to learn about their research, career paths, education, and even personal interests. This camp was designed to immerse participants in MagLab-related science while introducing them to STEM careers and role models connected to the lab. The camps successfully met these goals by featuring presentations and hands-on activities led by MagLab professionals, including five faculty/postdocs, one staff member, five graduate/undergraduate students, and one MagLab REU. Each activity was aligned with the presenter's area of expertise, giving campers a deeper understanding of real-world STEM applications. The week concluded with a celebratory reception where campers showcased their projects to their families.



44 students participated in Camp TESLA in 2025 (**Figures 3.1.2**). The three highest-rated activities were: (1) the liquid nitrogen demo showing the impacts of lower temperatures on materials and superconductors, and concluded with the creation of liquid nitrogen slushies for all to enjoy; (2) the electrophysiology activity where campers explored the relationship between electricity and the human body by using their own body to move a motor in a machine; and (3) the building of electromagnets where the campers built their own electromagnets using concepts of electricity and magnetism.



**Figures 3.1.2.** The 2025 Summer Camp TESLA groups.

**Metrics for Success:** To assess how successful the camps were at achieving their goals, willing campers completed a pre- and post-program survey. To assess the impact of the camp on “doing science”, we used a survey instrument that measured STEM self-efficacy along with survey questions asking them to rate the activities that they participated in. To measure whether we created a safe space for the youth, we used a sense of belonging within STEM survey and a survey that measures attitudes toward making mistakes. To assess goal 2, how well we introduced youth to careers and role models in STEM, we used surveys that measured the relevance of STEM and asked them to rate the tours and role model activities to help us determine ways to improve the program. Connecting these concepts of doing science and meeting role models and learning about their career paths has been linked to STEM identity development. **Tables 3.1.4-3.1.6** show that both camps achieved their goals by giving campers a space to do science and introducing them to role models who were working in STEM. The tables highlight that 100% of the campers **learned** about new STEM disciplines and STEM careers they had not heard of before. Furthermore, 100% of the campers said that they felt they were a part of the camp, that camp teachers made them feel wanted and accepted, and that they felt accepted by their peers at camp, thereby demonstrating that the camps are creating a safe space for participants to practice their science skills and learn about STEM careers. The tables referenced in this section are part of a comprehensive report that is available upon request. The information presented here highlights key results from that full report to provide a concise overview. The full report is available upon request. (Note: all programs listed in the annual report undergo their own internal evaluation, resulting in a comprehensive report. Each section provides highlights from these reports to save space in the MagLab annual report. CIRL can provide any or all reports at the reader’s request.)

**Table 3.1.4.** Participants self-reported learning about careers.

| During Camp...                                                | Percent (n=40) |
|---------------------------------------------------------------|----------------|
| Did you learn about new STEM disciplines and fields?          | 100%           |
| Did you learn about STEM careers you had not heard of before? | 100%           |
| Did you learn more about how to achieve a career in STEM?     | 80%            |

**Table 3.1.5.** Participant connections to STEM role models.

| During Camp...                                                                     | Percent (n=40) |
|------------------------------------------------------------------------------------|----------------|
| Did you meet any STEM role models?                                                 | 82%            |
| Did you meet someone who taught you more about what it is like to work in science? | 95%            |

\* For this item, n=41

**Table 3.1.6.** Sense of Belonging in Camp

| During Camp...                                            | Percent (n=40) |
|-----------------------------------------------------------|----------------|
| I was able to learn from any mistakes I made during camp. | 100%           |

| During Camp...                                      | Percent (n=40) |
|-----------------------------------------------------|----------------|
| I was a part of the camp.                           | 100%           |
| The camp teachers made me feel wanted and accepted. | 100%           |
| I was accepted by my peers at camp.                 | 100%           |

**Lessons Learned.** Camp TESLA 2025 was highly successful, with 93% of campers rating their experience as above average or outstanding and none rating it below average. The program effectively met its goals by offering engaging, hands-on STEM activities and meaningful interactions with STEM professionals, which increased students' interest in science and fostered a strong sense of belonging and STEM identity. Campers reported learning about new STEM careers and disciplines, and many met role models who helped them understand what working in science is like. Improvements from the previous year included more interactive tours and activities that encouraged curiosity and experimentation. Looking ahead to Camp TESLA 2026, planned enhancements include more interactive tours, expanded DNA activities with historical and technical context, and upgraded engineering challenges. Role model engagement will also be increased through bios and a "Wall of Role Models" created by campers.

### High School Externship

The MagLab High School Externship program aims to provide local high school students with real-world STEM experience by pairing them with MagLab scientists for a research project that lasts the academic year. Carlos Villa collaborated with local Tallahassee high schools to recruit 17 students. Recruitment was done through communications with the school counselors, through emails to alumni of MagLab K-12 programs, and through the MagLab website. Each student was matched with a mentor at the MagLab. Throughout the program, students engaged with research teams and STEM professionals, gaining insight into scientific careers. The externship culminated in an in-person poster session where participants showcased their work to family, friends, and MagLab staff (**Figure 3.1.6**). A detailed list of students, mentors, and research topics is available in **Table 3.1.7**.



**Figure 3.1.6.** A MagLab Extern explains her work during the High School Externship poster session.

**Table 3.1.7.** High School Externship 2024-25

| Student             | Mentors (MagLab Department)  | Research Subject                                                                                                  |
|---------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Himank Chhaya       | Kaya Wei (CMS)               | Investigating Thermoelectric Properties of $\text{YbIr}_2(\text{Cu,Ga})_{x}\text{Zn}_{20-x}$                      |
| Sadler Clifford     | William Scott Marshall (MST) | Quench Heaters for Double-Pancake Modules: Purpose, Design, and Tests                                             |
| Gabriella Dattoli   | Muhammad Garba (RECMIB)      | Ohm's Law                                                                                                         |
| David Davis         | Daniel Davis (ASC)           | Fuzzy Logic in the Control of Humidity in Furnace Implementation                                                  |
| Siri Davidi         | William Oates (CMS)          | Investigating Entanglement and Superposition for Enhanced Computational Models                                    |
| Benjamin Hill       | Theo Seigrist (CMS)          | Development of custom, low-cost, high-precision 3D-printed sample holders and labware for scientific applications |
| Kaylee Jeon         | Kwangmin Kim (MST)           | Test of Multi-Width No-Insulation Magnet at 77 K                                                                  |
| Karan Komuroji      | Hitesh Changlani (CMS)       | Statistical Simulation of Electron Activity                                                                       |
| Veronika Kulichenko | Vadym Kulichenko (CMS)       | Crystal Growth of $\text{LnBiTe}$ Phases by Flux Metho                                                            |
| Jesse Nathan        | Vince Toploski (MST)         | Mechanical and Energy Absorption Properties of Protective Headgear                                                |

| Student        | Mentors (MagLab Department) | Research Subject                                                                                       |
|----------------|-----------------------------|--------------------------------------------------------------------------------------------------------|
| Victor Shumnyk | Alexey Suslov (CMS)         | Literature Review Optimization Using AI                                                                |
| Vaneesha Sinha | Kaya Wei (CMS)              | Investigation of Sm <sub>0.5</sub> Mn <sub>3</sub> Ge <sub>3</sub> Crystals' Thermoelectric Properties |
| Daria Sulihan  | Jan Jaroszynski (CMS)       | Electric Transport in Different Materials                                                              |
| Alexander Wang | Eric Clark (WAG)            | QuantEval: Automated Quantitative Evaluation of NSF Proposals                                          |

**Metrics for Success.** To evaluate the effectiveness of the High School Externship program, willing participants completed a pre- and post-program survey. Results showed strong outcomes: 100% of respondents said they would recommend the program to a friend. On the post-survey, participants were asked about their career aspirations and all but one student indicated an interest in a STEM career. The exception was a student who expressed an interest in a film career and partnered with the MagLab's videographer for the program. All participants also found the program's instructions helpful and felt their personal goals were met. **Table 3.1.8** presents the average survey responses, further supporting that the program successfully provided meaningful, real-world STEM experiences aligned with its objectives.

**Table 3.1.8.** Benefits of participating in the externship program.

| My participation in externship...                                          | Pre-Survey Mean (n=20) | Post-Survey Mean (n=20) | Change |
|----------------------------------------------------------------------------|------------------------|-------------------------|--------|
| Led me to a better understanding of the skills needed for my career goals. | 3.25                   | 3.83                    | +0.58  |
| Increased my understanding of science career options.                      | 3.00                   | 3.75                    | +0.75  |
| Helped me engage in real-world science research                            | 3.00                   | 3.75                    | +0.75  |
| Increased my confidence to try out new ideas or procedures on my own       | 3.25                   | 3.67                    | +0.42  |
| Helped me to feel responsible for a project                                | 3.30                   | 3.67                    | +0.37  |
| Increased my interactions with scientists                                  | 3.25                   | 3.83                    | +0.58  |

(4 pt. Likert scale 4=Strongly Agree, 1=Strongly Disagree)

**Lessons Learned.** The MagLab's High School Externship program continues to be rated highly, with student feedback confirming that the program successfully meets its goal of providing real-world STEM career experiences. Participants reported increased understanding of science, greater confidence in engaging with scientific activities, and unanimously stated they would recommend the program to a friend. Valuable feedback from both externs and mentors has guided several planned improvements for the 2025–2026 academic year. These include clearer onboarding expectations for students, recorded orientation sessions, and monthly mentor check-ins. The program manager will also explore software licensing options to better support tech-based projects. Mentor onboarding will emphasize flexible scheduling and discourage mentoring one's own child to maintain professional boundaries. Mentors will be encouraged to assess students' knowledge early on to tailor projects effectively and will be given more opportunities to share feedback and communicate directly with Carlos Villa to address any issues. These updates aim to enhance the experience for all participants and ensure continued program success.

### High School Science Scholars Program

The High School Science Scholars Program is a partnership with Godby High School, a local Title I school in Tallahassee. In summer 2025, the MagLab hosted seven Godby students in this three-week program designed to help students from low-income families see their potential to participate in scientific research (**Figure 3.1.7**). During the three weeks, participants come to the MagLab Monday through Thursday for seven hours each day, where they engage in hands-on activities, facility tours, and presentations from MagLab scientists who serve as STEM



**Figure 3.1.7.** The 2025 Science Scholars.

role models. The program concludes with students presenting research proposals to MagLab scientists, opening the door for potential future research collaborations and participation in the MagLab High School Externship.

**Metrics for Success.** The High School Science Scholars program at the MagLab successfully met its primary goals of introducing students to research and careers in materials science and developing their STEM skills. Participants reported a deeper understanding of STEM career paths, as evidenced by 86% reporting that they were very interested in a STEM career after the program compared to only 14% on the pre-survey. Additionally, all respondents strongly agreed that they gained new STEM skills during the program and believed these skills would support their future career paths. Survey data showed growth across all eight measured STEM skill areas, with the most significant improvements in students' ability to interact with scientists, feel like scientists, and explain their projects to others—demonstrating the program's effectiveness in fostering both interest and competency in STEM. **Table 3.1.9** shows that the means for all the measured STEM skills increased, providing evidence that the program increased the students' STEM skills, thereby meeting the goals of the program.

**Table 3.1.9.** *Godby Science Scholars STEM Skills.*

| How would you rate your ability to...                          | Pre-survey Mean (n=7) | Post-survey Mean (n=7) | Change |
|----------------------------------------------------------------|-----------------------|------------------------|--------|
| Explain my project to others                                   | 3.43                  | 4.43                   | +1.00  |
| Feel like a scientist                                          | 3.00                  | 4.00                   | +1.00  |
| Interact with scientists                                       | 3.14                  | 4.29                   | +1.15  |
| Prepare a scientific poster                                    | 3.29                  | 4.14                   | +0.85  |
| Formulate a research question that could be answered with data | 3.50                  | 4.14                   | +0.64  |

(5 pt. Likert scale 5=Strongly Agree, 1=Strongly Disagree)

**Lessons Learned.** The Science Scholars program received overwhelmingly positive feedback, with all participants reporting valuable insights into STEM research and career opportunities at the MagLab and a deeper understanding of the skills used by MagLab staff. Key improvements, such as coaching scientists to share personal and professional details, allowing more time for poster development, and starting daily activities 30 minutes after arrival, enhanced student engagement. Evaluation results also identified areas for growth, including helping students feel part of the scientific community and improving collaboration. To address these, Mr. Villa will work with teachers to incorporate team-based challenges and encourage student-led idea sharing during poster development.

### Teachers And Informal STEM Educators

CIRL supports K–12 teachers and informal STEM educators through parent and educator workshops and the annual Research Experiences for Teachers (RET) program. These workshops, designed by Carlos Villa, introduce educators to MagLab-specific STEM topics that can be integrated into classroom instruction. Each session aligns with state and national education standards and engages participants in inquiry-based, hands-on science activities connected to MagLab research, ensuring teachers leave with practical strategies to inspire their students. **Table 3.1.10** highlights the workshops offered in 2025.

**Table 3.1.10.** *Educator and Parent Workshops offered by CIRL*

| Date  | Presentation Group                                         | Presentation Title                                                           |
|-------|------------------------------------------------------------|------------------------------------------------------------------------------|
| 1/28  | Woodville Elementary PLC (Professional Learning Community) | Science Fair                                                                 |
| 5/29  | Leon County Schools                                        | MagLab Summer Camp Activities at 21 <sup>st</sup> Century Sites              |
| 7/8   | Panhandle Aera Educational Consortium (PAEC)               | Empowering Teachers to Ignite Scientific Exploration (5 <sup>th</sup> Grade) |
| 7/9   | Panhandle Aera Educational Consortium (PAEC)               | Empowering Teachers to Ignite Scientific Exploration (8 <sup>th</sup> Grade) |
| 10/24 | Florida Association of Science Teachers                    | Florida's Tesla Tales                                                        |



### Research Experiences for Teachers (RET) Program

The Research Experience for Teachers (RET) program is designed to help educators integrate MagLab science into their STEM lessons and develop MagLab-focused lesson plans. It begins with a one-week, in-person experience at the MagLab featuring facility tours (ASC, ICR, NMR, MST, CMS, RECMIB, and DC Field) and presentations by MagLab scientists. This is followed by monthly virtual meetings in the fall, where Carlos Villa provides pedagogical support as teachers create lesson plans to be published on the MagLab website. Each teacher is paired with a MagLab scientist who serves as a consultant throughout the process. For 2025, 71 educators applied, and 10 were selected, representing elementary, middle, and high schools across five states (Arizona, Florida, North Carolina, Texas, and Virginia), all from Title I schools (**Figure 3.1.8, Table 3.1.11**). The completed lesson plans are publicly available on the RET webpage: <https://nationalmaglab.org/education/teachers/ret/>



**Figure 3.1.8.** The 2025 RET Cohort

**Table 3.1.11.** 2025 RET Participants

| RET Participant (School, State)                     | MagLab Mentor               | Lesson Plan Title                                                                                             |
|-----------------------------------------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------|
| Jacqueline Bromley (Pasco High School, FL)          | Wei Guo & Mikai Hulse (MST) | Superconductors and Where to Find Them                                                                        |
| Emily Capote (Sabal Palm Elementary School, FL)     | Scott Marshall (MST)        | Understanding the Relationship Between Energy and Motion Using Experiments and the Engineering Design Process |
| Tiffany Dial (Hoke County Schools, NC)              | Steve McGill (CMS)          | Can Magnetic Field Disrupt Seed Growth in Fast Plants?                                                        |
| Octavio Fernandez (Shenandoah Middle School, FL)    | Lissa Anderson (ICR)        | Protein Builders: The Central Dogma                                                                           |
| Jennifer Hanson (University High School, TX)        | Dan Davis (ASC)             | Ampere's Law Exploration                                                                                      |
| Kisha Jarret (Griffin Middle School, FL)            | Kaya Wei (CMS)              | Magnetic Mysteries: Creating Magnetic Crystals                                                                |
| Jaida Laramore (FAMU DRS, FL)                       | Cyprian Lewandowski (CMS)   | Electrifying Fields: Exploring Superconductivity and Magnetic Forces                                          |
| Angelique Martinez (Pembroke Middle School, VA)     | Malathy Elumalai (NMR)      | Exploring Matter: Understanding Solids, Liquids, and Gasses Through the Eyes of Military Children             |
| Leslie Oberry (Taylor County Elementary School, FL) | Munir Humayun (RECMIB)      | Earth Meets Outer Space: Meteorites                                                                           |
| Andre Pineda (Canyon Day Jr High School, AZ)        | Alexey Suslov (CMS)         | Crystal Clash: Battle of the Lattices                                                                         |

**Metrics for Success.** Evaluation of the RET program included three surveys: a pre-survey before the program began, a mid-point survey at the end of the in-person week, and a post-survey following the teachers' lesson plan presentations in November. To measure the program's impact on connecting MagLab science to classroom instruction, the mid- and post-surveys asked teachers to rate changes in their interest in STEM research, their understanding of scientific concepts, and their ability to incorporate research into teaching (see **Table 3.1.12** and **Table 3.1.13**). Results showed unanimous agreement that the RET program increased both their understanding and interest in MagLab research. Teachers also strongly agreed that the program enhanced their ability to apply research to STEM teaching, stimulated reflection on improving practice, and boosted confidence in guiding students through open-ended experiments. In addition, participants reported greater confidence in providing examples of current STEM research during instruction. Overall, the data demonstrates that the RET program significantly strengthened teachers' knowledge, confidence, and instructional practices, with both in-person and virtual sessions contributing to sustained engagement and effective application of MagLab science in the classroom.

**Table 3.1.12. Participant Reported Impacts of the RET Program**

| The RET Program... (N=10)                                                                                       | Mid-point Mean | Post-survey Mean |
|-----------------------------------------------------------------------------------------------------------------|----------------|------------------|
| The RET program increased my understanding of research at the MagLab.                                           | 4.00           | 4.00             |
| The RET program increased my interest in the research at the MagLab.                                            | 4.00           | 4.00             |
| The RET program Increased my understanding of the ways that MagLab research can be applied to my STEM teaching. | 3.80           | 4.00             |
| The RET program Increased my interest in the ways that MagLab research can be applied to my STEM teaching.      | 3.80           | 4.00             |
| This portion of the RET program stimulated me to think about ways I can improve my teaching.                    | 3.80           | 4.00             |

(4 pt. Likert scale 4=Strongly Agree, 1=Strongly Disagree)

**Table 3.1.13. Attitudes Towards Science Teaching**

| After participating in this portion of the RET program... (N=10)                                                        | Pre-survey Mean | Mid-point Mean | Post-survey Mean |
|-------------------------------------------------------------------------------------------------------------------------|-----------------|----------------|------------------|
| I understand STEM concepts well enough to be an effective STEM teacher.                                                 | 3.10            | 3.60           | 3.90             |
| I am confident in my ability to guide students through open-ended science experiments.                                  | 2.80            | 3.80           | 3.80             |
| I often provide examples of current STEM research into my STEM teaching.                                                | 2.60            | -              | 3.70             |
| When a student has difficulty understanding a STEM concept, I feel confident that I can help them understand it better. | 2.90            | 3.67           | 3.70             |
| When teaching STEM, I will usually welcome student questions.                                                           | 3.30            | 3.80           | 3.90             |

(4 pt. Likert scale 4=Strongly Agree, 1=Strongly Disagree)

To evaluate how well the program supported teachers in developing their MagLab-focused lessons, the post-survey asked teachers to rate the level of support they received (see **Table 3.1.14**). The results show that the program successfully met its objectives by helping educators integrate MagLab STEM research into their classroom instruction.

**Table 3.1.14. Support on Lesson Plan Development**

| How satisfied are you with the following elements of the RET program? (Post-survey) (N=10)     | Mean | Percent Satisfied |
|------------------------------------------------------------------------------------------------|------|-------------------|
| The support I received from the overall group of RET participants in developing a lesson plan. | 3.80 | 100%              |
| The support of my MagLab scientist mentor in developing my lesson plan.                        | 3.60 | 90%               |

(4 pt. Likert scale 4=Strongly Agree, 1=Strongly Disagree)

**Lessons Learned.** Overall, the program received very high ratings, with participant feedback confirming that its goals are being met. All teachers reported gaining valuable knowledge about MagLab science and feeling well supported as they developed their MagLab-focused lesson plans. Building on insights from the 2025 survey, Carlos Villa plans to increase the interactions with the teachers and scientists by including scheduled check-ins for teachers with their mentors. A dedicated time slot on the last day of the in-person week will be created to assist teachers in connecting the MagLab research to classroom ready lessons.

## UNDERGRADUATE STUDENTS

Undergraduate students are at a crucial stage in the STEM workforce trajectory, during which they are developing research skills in specific STEM fields. The MagLab offers two undergraduate programs that are facilitated by CIRL's Mentoring Director, Kawana Johnson: (1) the Magnetic Momentum Scholars Program and (2) the Research Experiences for Undergraduates (REU) Program.

**Magnetic Momentum Scholars Program.** The Magnetic Momentum Scholars (MMS) program is a partnership with Florida Agricultural and Mechanical University (FAMU). The goal of the MMS program is to expose FAMU students to STEM careers at the MagLab through tours and professional development sessions. For four weeks during the Spring 2025 semester, the MagLab hosted a cohort of 10 FAMU undergraduates in the MMS program. Students received a \$1000 stipend as a form of participant support. Fifty-eight FAMU students applied and 10 were accepted. Students were selected based on the following criteria: statement of interest included on the application and individual interviews conducted by the program director. (Figure 3.1.9).



**Figure 3.1.9.** Spring 2025 Momentum Scholars

The 10 participants represented the following undergraduate stages: 50% sophomores, 30% juniors, and 20% seniors and majors: 10% biological sciences, 50% engineering disciplines, 20% computer science, 10% agricultural science, and 10% food science. Dr. Johnson planned professional development sessions that were held each week. These sessions included panels by MagLab graduate students, postdocs, and faculty. These sessions allowed the students to gain professional advice and learn about various career paths in STEM. In addition, a group of MagLab faculty provided the students with weekly tours of the various departments and research areas within the lab to inform them of potential research opportunities. The program culminated with a focus group and appreciation lunch. A list of the Magnetic Momentum Scholars, majors, and classifications can be found in **Table 3.1.15**.

**Table 3.1.15.** 2025 Magnetic Momentum Scholars

| First Name | Last Name    | Major                                   | Classification |
|------------|--------------|-----------------------------------------|----------------|
| Ronnie     | Burns        | Computer Science                        | Senior         |
| Riqyra     | Cauthen      | Industrial Engineering                  | Sophomore      |
| Leah       | DuBose       | Biomedical Engineering Astrophysics     | Sophomore      |
| Zoe        | Fleurinord   | Biomedical Engineering                  | Junior         |
| Ryan       | Goodson      | Electrical Engineering                  | Sophomore      |
| Ryan       | Henry        | Biological Systems Engineering          | Junior         |
| Jordan     | Monts        | Computer Science                        | Sophomore      |
| Mariyah    | Moore        | Agricultural Science and Biology Premed | Junior         |
| Dorien     | Nixon        | Biology                                 | Sophomore      |
| Nana Ama   | Nsiah Ababio | Food Science                            | Senior         |

**Metrics for Success.** To assess whether the program is meeting its goal of exposing FAMU students to STEM careers at the MagLab, Johnson gives students a pre- and post-program survey and reaches out to speakers and tour guides through a post-program survey. For the students, only one participant had some knowledge of careers in STEM research prior to the start of the program. By the end of the program, 100% of participants said they had a substantial or fair amount of knowledge about careers in STEM research. 100% of respondents reported that they met scientific researchers, connected with potential STEM mentors, and peers interested in STEM research. 100% of participants also reported that they were able to explore whether STEM graduate school or a STEM research career may be the right path for them to pursue. In addition, 100% of participants said they felt comfortable following up with any of the professionals they met during the program. The pre/post survey also helped to demonstrate the type of careers students were interested in pursuing. **Table 3.1.16** highlights their career interest prior to and after the program. Overall, 100% of participants said they were satisfied or very satisfied with their program experience.

**Table 3.1.16** Participant Career Interest

| What type of career are you interested in pursuing?        | Pre-Program Percent (n=10) | Pre-Program Count | Post-Program Percent (n=9) | Post-Program Count |
|------------------------------------------------------------|----------------------------|-------------------|----------------------------|--------------------|
| <b>Medical Career</b> (e.g. MD, Physical Therapy, Nursing) | 20%                        | 2                 | 33%                        | 3                  |
| <b>Biological Science Career</b>                           | 10%                        | 1                 | 22%                        | 2                  |
| <b>Engineering or Computer Science Career</b>              | 60%                        | 6                 | 44%                        | 4                  |
| <b>Other (e.g. Plant Biology)</b>                          | 10%                        | 1                 | 0%                         | 0                  |

MagLab professionals were asked to participate as speakers and tour guides during this 4-week program. When asked to rate their degree of satisfaction with the program, 100% of responding participants (n=9) were satisfied. 100% of participants were somewhat or extremely satisfied with the amount/level of communication provided by the program manager (*e.g. expectations/timeliness*). After the program ended, 4 scholars were selected by mentors they met at the MagLab to continue as interns for an additional 5 weeks. When asked if they worked well together with their mentee, 67% of responding mentors (n=3) agreed or strongly agreed. To assess the quality of mentoring, we asked mentors to tell us what strategies they used to ensure the students understood their expectations. The most cited strategies for a successful relationship were discussing expectations for the mentee at the beginning of the program (n=3), encouraging the mentee to ask questions (n=3), and talking to my mentee about future career plans and providing advice (n=3). The full list of strategies can be found in **Table 3.1.17**. We plan to continue presenting this information to mentors who volunteer for future programs so that they can see what types of strategies are most useful.

**Table 3.1.17** *Mentoring Strategies Utilized by Mentors*

| What mentoring strategies did you utilize with your mentee(s)?                                                       | Percent (n=3) |
|----------------------------------------------------------------------------------------------------------------------|---------------|
| Discussing expectations for the mentee at the beginning of the program                                               | 100%          |
| Encouraging the mentee to ask questions                                                                              | 100%          |
| Talking to my mentee about future career plans and providing advice                                                  | 100%          |
| Pre-program meeting to answer questions.                                                                             | 67%           |
| Having mentee attend research meetings                                                                               | 67%           |
| Giving my mentee multiple opportunities to engage in research activities                                             | 67%           |
| Introducing mentee to other members of research team                                                                 | 67%           |
| Providing background reading material before the program                                                             | 33%           |
| Having regular communication and/or check-ins throughout the program to make sure the mentee understands the project | 33%           |

**Lessons Learned.** Overall, the program was a success as 100% of the students reported that they learned more about research at the MagLab, met scientific researchers, and connected with potential STEM mentors. Feedback indicated that tours, professional development sessions, and mentoring opportunities worked particularly well for the participants' experience. However, based on feedback concerning programmatic elements, students would like to have more interactive experiences like tours as opposed to panel discussions. The program manager will attempt to incorporate more tour opportunities into the program without eliminating the opportunity for professional development discussions. This will, hopefully, allow for a renewed focus on making connections and gaining more interactive experiences with peers and professionals. To ensure continued quality in participants, the program manager will continue to incorporate an interview process for potential candidates that will begin shortly after the application deadline.

### Research Experiences for Undergraduates (REU)

The MagLab's REU program invites undergraduates from across the country to participate in a 10-week research experience, aimed at providing participants with opportunities to learn research skills and explore MagLab-related research career options. The REU program also allows MagLab scientists and engineers to develop their mentoring skills. To recruit students, Johnson posted information about the program on multiple sites (*e.g.*, Handshake, Simplicity, multi-school listings via job management boards, Pathways to Science); sent details to deans and department chairs throughout the country as well as with REU alumni to share within their networks, and solicited assistance from MagLab faculty and staff in promoting the opportunity to students and colleagues within their spheres of influence. The MagLab REU program had 112 applicants. Based on students' responses to the application, most of the selected students heard about the program from a MagLab employee (31.2%), a friend/professor/advisor (31.2%), or the MagLab website (18.7%). The selection process relies on mentors to review the applications and send Johnson their top three choices. These choices are based on students' experience and



**Figure 3.1.10.** *Summer 2025 REU Participants*



interest in the mentor's respective research area or discipline. Johnson then finalized this list, accepting 16 participants from the mentor's top choices (**Figure 3.1.10**).

The 16 REU participants were divided across all undergraduate stages: 6% freshmen, 31% sophomores, 37.5% juniors, and 25% seniors. The participants represented a variety of majors: 6.25% engineering (e.g. *Biomedical-1*), and 87.5% physical science (e.g. *Physics-6*, *Chemistry-5*, *Biochemistry-1*, *Material Science-2*), and 6.25% Information, Communication & Technology-1.

Dr. Johnson planned professional development sessions that were held once a week to help students gain a broader understanding of various types of STEM careers. These sessions included: panels by MagLab research faculty, tenure-track faculty, graduate students, as well as MagLab alumni who are STEM entrepreneurs or industry professionals. Sessions also included information on graduate school applications and developing an elevator pitch. Each week, beginning in week 6, REUs led tours of their labs for the rest of the group (**Figure 3.1.11**). The program culminated in a 3-minute pitch presentation wherein the students described their research project in three minutes or less. MagLab faculty and staff were invited to serve as judges to provide participants with feedback and recognize the top three presenters. A list of the REU participants, their respective universities/colleges, research topics, and mentors can be found in **Table 3.1.18**.



**Figure 3.1.11.** REU Student During a Lab Tour

**Table 3.1.18.** 2025 REU Participants

| First Name | Last Name  | School                             | Research Area                                                                               | Mentor(s)                                | Department    |
|------------|------------|------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------|---------------|
| Emma       | Campbell   | Florida State University           | Forever Chemical Identification Using $^{19}\text{F}$ Liquid Dynamic Nuclear Polarization   | Thierry Dubroca                          | NMR           |
| Anne       | Carmichael | University of Wisconsin-Eau Claire | Ceramic Fiber Prevents Sagging in Superconducting Coils During Heat Treatment               | Eric Hellstrom & Shaon Barua (co-mentor) | ASC           |
| Darby      | Hanes      | Texas Tech University              | Multiscale Rheology of Soft Biological Materials                                            | Jamel Ali                                | CMS           |
| Carly      | Hill       | Juniata College                    | Investigating ultrasound-assisted fractionation method to determine more efficient bio-oils | Martha Chacon                            | ICR           |
| Megan      | Joyce      | Washington & Jefferson College     | Molecular LEGOs for Medicine: Stacking, Stabilizing, and Solving with Solid-State NMR       | Robert Schurko                           | NMR/CIMAR     |
| Hayden     | Kinstler   | University of Wisconsin-Eau Claire | Wide performance variation of REBCO coated conductors                                       | Aixia Xu                                 | ASC           |
| Julia      | Martin     | Florida State University           | Development of Cost-Effective RF Shields for 21.1T MRI Probes                               | Malathy Elumalai                         | NMR/CIMAR     |
| Naoum      | Mashraqi   | Florida State University           | A Measurement Scheme for Low Frequency Shot Noise Spectroscopy                              | Laura Greene                             | Admin/Physics |
| Mason      | McFarland  | Gettysburg College                 | Synthesis and Characterization of Potential Superconductive Materials                       | Shermane Benjamin                        | DC Field CMS  |
| Adam       | Mooers     | Florida State University           | Long Wavelength Electrodynamics of Transition Metal Oxides                                  | Guangxin Ni                              | CMS           |
| Kiera      | Powers     | Florida State University           | Assessing Cooling Efficiency with a NMR Thermometer                                         | Tomas Orlando                            | EMR           |
| Lily       | Schroeder  | Smith College                      | Using Cantilever Resonance to Measure Low Temperatures in Field                             | Ali Bangura                              | DC Field CMS  |

| First Name | Last Name | School                   | Research Area                                                                                                                      | Mentor(s)                                 | Department                           |
|------------|-----------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------|
| Noelle     | Simmons   | Rowan University         | Electron Based Dissociation of Fluorescently Derivatized Glycans using Fourier Transform Ion Cyclotron Resonance Mass Spectrometry | Kristina Hakansson                        | ICR and FSU Chemistry & Biochemistry |
| Charlotte  | Snow      | University of Denver     | Site-Selective Substitution in $RT_2Zn_{20}$ : Effects of R-, T-, and Dual-Site Disorder                                           | Kaya Wei                                  | DC Field CMS                         |
| Julia      | Sveen     | Florida State University | Power Supply Failure Detection using Machine Learning Models                                                                       | Julia Smith & Abigail Centers (co-mentor) | DC Field CMS                         |
| Keen       | Zhang     | University of Florida    | Studying the Effects of Different Membrane Scaffold Proteins on GPCR Functionality in Lipid Nanodiscs                              | Matthew Eddy (UF)                         | AMRIS UF/Chemistry                   |

**Metrics for Success.** Our pre-/post-survey of all participants helped us assess the success of the program. In terms of research skill development, we used a modified version of the undergraduate research student's self-assessment (URSSA) survey instrument (Weston & Laursen, 2015<sup>4</sup>). Although this survey has historically been administered post-program by other REU programs, we were able to incorporate a pre-survey to measure actual changes in skills rather than retrospective self-reported changes. **Table 3.1.19** highlights the mean changes from pre- to post-program related to skill development, demonstrating the success of the program. In addition, all participants indicated that the experience increased their positive perception of STEM careers or reaffirmed their already positive perception of STEM careers. Ninety-four percent of the REU students rated their mentor as above average or outstanding.

**Table 3.1.19.** *Changes in REU Skill Development*

| How would you rate your ability to...                   | Pre-Program Mean (n=16) | Post-Program Mean (n=16) |
|---------------------------------------------------------|-------------------------|--------------------------|
| Feel comfortable in working collaboratively with others | 4.19                    | 4.56                     |
| Work independently                                      | 4.19                    | 4.31                     |
| Problem-solving in general                              | 4.06                    | 4.06                     |
| Understand what everyday research work is like          | 3.56                    | 4.50                     |
| Explain my projects to people outside my field          | 3.50                    | 3.75                     |
| Understand the relevance of research to my coursework   | 3.63                    | 3.88                     |
| Manage my time                                          | 3.81                    | 3.88                     |
| Engage in real-world science research                   | 3.13                    | 4.38                     |
| Try out new ideas or procedures on your own             | 3.19                    | 3.94                     |
| Interact with scientists from outside your school       | 3.56                    | 4.38                     |
| Feel a part of a scientific community                   | 3.44                    | 4.31                     |
| Make oral presentations                                 | 3.50                    | 3.69                     |

To measure mentoring quality, we reviewed the categories of quality mentoring developed by the Center for the Improvement of Mentored Experiences in Research (CIMER) to determine which were most relevant to undergraduate mentees in the 10-week program. Three best practices for mentoring developed by CIMER are aligning expectations, assessing understanding, and maintaining effective communication. Our surveys to REUs and mentors focused on these practices to assess whether they were being utilized in the program. We asked REUs to rate their mentors and to tell us the effective strategies that their mentors used throughout the program. We also asked mentors to tell us what strategies they used to ensure the REU understood their expectations and completed their projects. 94% of REU participants said they worked well together with their mentor and 88% said their mentor was available when they needed them during the program.

<sup>4</sup> Weston, T. J., & Laursen, S. L. (2015). The undergraduate research student self-assessment (URSSA): Validation for use in program evaluation. *CBE—Life Sciences Education*, 14(3), ar33.

By asking both mentees and mentors to describe quality mentoring strategies, we were able to determine: (1) what strategies were rated most impactful by REUs and (2) whether mentors were using these best practices. The most impactful mentoring strategies were sharing knowledge and insight and frequent meetings. The full list of strategies can be found in **Table 3.1.20**. We plan to present this information to mentors who volunteer for future programs so that they can see what types of strategies are most admired by undergraduates.

**Table 3.1.20. Quality Mentoring Themes Triangulated by REU Students and Mentors**

| REU students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | REU Mentors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Students were asked what strategies their mentor(s) used to <b>check for understanding</b>. The themes from their responses were:</p> <ul style="list-style-type: none"> <li>• Encouraging mentee to ask questions (n=13)</li> <li>• Introducing mentee to other members of the research team (n=13)</li> <li>• Having regular communication and/or check-ins throughout the program (n=11)</li> <li>• Having mentee attend research meetings (n=11)</li> </ul> <p>REU participants were also asked about the overall <b>mentoring strategies</b> that mentors used that they found <b>particularly impactful</b>. The strategies identified were:</p> <ul style="list-style-type: none"> <li>• Sharing knowledge and insight (n=15)</li> <li>• Frequent meetings (n=12)</li> <li>• Constructive criticism (n=12)</li> </ul> | <p>REU mentors were asked how they <b>checked for understanding</b> when communicating expectations to REU students. They indicated that they used the following strategies:</p> <ul style="list-style-type: none"> <li>• Asking questions and engaging in discussion (n=10)</li> <li>• Frequent meetings (n=10)</li> </ul> <p>Mentors were asked what <b>mentoring strategies</b> they used that they thought were <b>impactful</b>. They provided the following strategies:</p> <ul style="list-style-type: none"> <li>• Encouraging the mentee to ask questions (n=10)</li> <li>• Having regular communication and/or check-ins throughout the program to make sure the mentee understands the project (n=10)</li> <li>• Introducing mentee to other members of the research team (n=10)</li> <li>• Giving mentee multiple opportunities to engage in research activities (n=10)</li> </ul> |

**Lessons Learned.** Overall, the program was successful in meeting its goals as evidenced by the survey results summarized above. Because of the feedback received, we were able to identify three areas that we plan to improve for next year: (1) We will explore hosting an in-person poster session as opposed to a virtual final presentation. This could provide students with more opportunities to elaborate on findings and respond to individual questions. (2) We will investigate adding professional development speakers that can also discuss industry careers in STEM as opposed to only focusing on academia. We will explore the possibility of organizing coordinated social activities for REU participants. This could provide the opportunity for an expanded network. (3) We will incorporate more discussion in mentor interest meetings and pre-program meetings on how to maintain effective communication throughout the mentored relationship.

## GRADUATE STUDENTS AND POSTDOCS

During the 2024-2025 academic year, Johnson held the 4<sup>th</sup> Mentoring Incubator. The Incubator was designed to give graduate students, postdocs, and faculty the resources and structure to grow professionally and achieve their goals while effectively supporting others in doing the same. In the fall of 2024, six faculty, and two postdocs participated in the program. By introducing the Center for the Improvement of Mentored Experiences in Research (CIMER) mentorship education curriculum, the incubator supports mentor and mentee skill development while engaging participants in understanding their individual needs and interests. To achieve the program goals, four sessions were held during the 2024/2025 fall and spring semesters. **Table 3.1.21** provides the list of sessions held and their descriptions. These sessions were facilitated by four MagLab employees who completed the CIMER training in 2021 (i.e., Kawana Johnson, Roxanne Hughes, Huan Chen, and Kaya Wei).

Participants received certificates of completion, a letter of acknowledgement sent to the Lab's director and their direct supervisor, and a personal thank you letter from the program director. After the program, Johnson conducted a follow-up survey with program participants to expand her knowledge and gain insight into the needed direction of the 2024/2025 program. Feedback from the program participants included a desire to continue the 4-session format and to include more discussion (e.g. conflict resolution) in the session on Maintaining Effective Communication. As a result, the format will remain, but presentation material will be reviewed to determine what information should be removed, modified, or enhanced. The 2025/2026 program began in October 2025 and will end in February 2026.

**Table 3.1.21.** 2024-2025 Mentoring Incubator Session Topics and Schedule

| Session topics                                                     | Dates/Times                              |
|--------------------------------------------------------------------|------------------------------------------|
| Meeting #1 (Aligning Expectations in the Mentoring Relationship)   | Wednesday, Oct. 2, 2024 @ 11:30 a.m.     |
| Meeting #2 (Maintaining Effective Communication)                   | Wednesday, Nov. 6, 2024 @ 11:30 a.m.     |
| Meeting #3 (Assessing Understanding in the Mentoring Relationship) | Wednesday, January 15, 2025 @ 11:30 a.m. |
| Meeting #4 (Articulating Your Mentoring Philosophy)                | Wednesday, Feb. 19, 2025 @ 11.30 a.m.    |

## EVALUATION AND RESEARCH

### Evaluation

In 2025, each program manager evaluated their respective programs. The results of these evaluation summaries are shared and discussed with the Director of CIRL to make decisions for next year's programs. Primary metrics for each program are determined based on the program's goals and mission and measured using appropriate methodology. The forms of evaluation are listed in **Table 3.1.22.**

**Table 3.1.22.** Evaluation Description for 2024 MagLab Education and Outreach Programs

| Program                             | Form of Evaluation                                                                                                                                                       |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MagLab Field trips                  | Post-program survey to teachers after field trip                                                                                                                         |
| Summer Camps                        | Pre-/post-program survey to students, post-survey to parents, and post-camp survey to teachers                                                                           |
| High School Summer Scholars Program | Pre-/post-program survey to students and post-camp survey to teachers                                                                                                    |
| High School Externship              | Post-program survey to externship participants, post-program survey to mentors                                                                                           |
| RET                                 | Pre-/Mid-/Post-program surveys to RET participants, post-program survey to mentors                                                                                       |
| Magnetic Momentum Scholars Program  | Pre-/post-program survey to Magnetic Momentum Scholar participants, post-program focus group and individual interviews with participants, post-program survey to mentors |
| REU                                 | Pre-/post-program survey to REU participants, mid-program and post-program focus groups with REU participants, post-program survey and interview with mentors            |

### Research

A cornerstone of CIRL's programs is that they are developed based on research conducted by CIRL staff. Our research not only informs our MagLab programs but adds to the broader national conversation around STEM education and mentoring programs. Hughes continues to lead CIRL's research efforts, which focus on building the STEM workforce. In the last year we have expanded our research to include understanding how to build the technical staff. In 2025, CIRL staff had multiple publications that add to the national and international dialogue related to STEM workforce development.

1. Hughes, R., Britsch, B., Dominguez, R., Lucas, K., Olukeye, A., Ndubuisi, S., Sullivan, A., Zogheib, K., (2025) Instilling a Sense of Belonging in STEM through a Virtual Summer Program for Girls. *Connected Science Learning*. 1–17 <https://doi.org/10.1080/24758779.2025.2552958>
2. Johnson, K. W. (2025). CTE, STEM, and mentoring: A winning combination. *Mentor Connect Magazine*, 7(3), 16-18. <https://www.mentoringassociation.org/publications>
3. Johnson, K. W. (2025). Mentored research experiences and their impact on black students in STEM. *Experiential Learning and Teaching in Higher Education*, 8(4), 30-41. <https://journals.calstate.edu/elthe/issue/view/455/307>
4. Johnson, K. W. (in press). Creating a sense of belonging by engaging skilled technical workers as role models in STEM. *The Chronicle of Mentoring & Coaching*.



### 3.2 PUBLIC OUTREACH

Public outreach is run by the MagLab's Public Affairs team who use a comprehensive communications strategy to reach a broad audience with content designed for varying levels of scientific understanding. In 2025, the MagLab posted 13 news stories and was mentioned in about 870 news articles, blogs, or social media posts in outlets such as the Associated Press, the Tallahassee Democrat, MSN, Yahoo News, Science Daily, Magnetics Magazine, and many others with an estimated reach of nearly four billion people.

#### WEBSITE AND SOCIAL MEDIA

In 2025, the website received more than 4.4 million total "events" (events are a measure of website interactions: view, watch, click, download, scroll, submit a form, etc.) - a 6.5% increase from 2024. Total pageviews increased by about 1% to nearly 1.1 million and total active users increased by more than 45%, to more than 700,000. Areas of the website that saw substantial growth included the research section, up 26%, News & Events, up 21%, Magnet Development, up 12%, and Education, also up 12%. The website continues to see many active users from outside the United States, including Canada, the United Kingdom, India, the Philippines, China, and Singapore.

The MagLab's Instagram account saw nearly 70,000 impressions in 2025, an increase of more than 230%, with a post reach of nearly 37,000, also up 230%.

MagLab's X account had nearly 4,000 followers in 2025. The lab's X account engagement was 3.2%, up nearly 30%. The top tweets of 2025 were about a record-breaking prototype magnet, the premiere of the MagLab virtual field trip, and the lab's Open House (**Figure 3.2.1**).

|                                                                                     |                                                                                                                                                                                                                      |          |       |             |                  |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------|-------------|------------------|
|   | September 11, 2025 12:23pm                                                                                                                                                                                           |          |       |             | ✕ NationalMagLab |
|                                                                                     | "An outstanding accomplishment": The MagLab sets a new world record.<br><a href="https://buff.ly/jPptGlw">https://buff.ly/jPptGlw</a>                                                                                |          |       |             |                  |
|                                                                                     | Clicks                                                                                                                                                                                                               | Retweets | Likes | Impressions | Eng. Rate        |
|                                                                                     | 47                                                                                                                                                                                                                   | 3        | 11    | 1,344       | 5.10%            |
|  | May 3, 2025 12:23pm                                                                                                                                                                                                  |          |       |             | ✕ NationalMagLab |
|                                                                                     | The MagLab takes over the BIG screen at Challenger Learning Center on Tuesday! Join us for this FREE event featuring the world premiere of a Virtual Field Trip created by Sesame Workshop, Discovery Ed. & the NSF. |          |       |             |                  |
|                                                                                     | Clicks                                                                                                                                                                                                               | Retweets | Likes | Impressions | Eng. Rate        |
|                                                                                     | 1                                                                                                                                                                                                                    | 3        | 5     | 1,307       | 0.70%            |
|  | February 20, 2025 12:23pm                                                                                                                                                                                            |          |       |             | ✕ NationalMagLab |
|                                                                                     | Just TWO DAYS and we're decking the halls for Open House 2025 -- celebrating the MagLab's ERAS with a free fun-filled day of activities and demonstrations! Join us!                                                 |          |       |             |                  |
|                                                                                     | Clicks                                                                                                                                                                                                               | Retweets | Likes | Impressions | Eng. Rate        |
|                                                                                     | 0                                                                                                                                                                                                                    | 2        | 10    | 1,159       | 2%               |

**Figure 3.2.1.** Top MagLab Tweets on X.

The lab's Facebook posts received 140,000 views in 2025 and its audience and followers grew by 5%, reaching different ages, genders, and geographic locations including India, Brazil, Pakistan, Bangladesh, and Mexico. The lab's Facebook audience remains split almost equally between men and women and is well positioned to reach 35-54+-year-old audiences, but with a holistic age distribution that remains broad.

LinkedIn saw nearly 107,000 impressions in 2025, up nearly 80%, along with 6,000 followers, an increase of 25%. Clicks were up more than 80% and engagement rate was at 5%, an increase of 23%. Top posts included installation of a new spectrometer, a User Committee visit, and Kathleen Amm's first anniversary as lab director.

MagLab videos received more than 3.3 million impressions on YouTube in 2025 and were viewed more than 400,000 times. The lab's YouTube channel added more than 500 subscribers to more than 158,000 and nearly 13,000 hours of MagLab videos were watched in 2025. Click through rate on videos increased from 5.4% to 6.5%.

MagLab YouTube viewers come from all ages with about 55% of viewers between 18 and 34. About a quarter of the MagLab's YouTube watchers are female and audiences come from around the globe including India, Canada, the Philippines, Pakistan, Australia, Indonesia, the United Kingdom, South Africa, Sri Lanka, Australia, Malaysia, Ethiopia, Turkey, Brazil, Kenya, Vietnam, Myanmar, Egypt, Germany, Thailand, Iraq, Uganda, Tanzania, and Nigeria.

The most popular videos on the MagLab's YouTube channel continue to be the See-Thru Science video series which shows viewers what electricity and magnetism might look like if they weren't invisible.

## EVENTS

The Public Affairs team engaged with excited and enthusiastic audiences throughout 2025. Events are an important way for people of all ages to connect with the MagLab by meeting our researchers, seeing our unique lab spaces, and enjoying the fun of hands-on science. Events excite and inspire young visitors and remind adults that science is important and worthy of continued support.

Our Open House returned on February 22, 2025, and hosted an estimated 10,000 visitors from across the southeast to play with the nearly 100 hands-on demonstrations at Open House 2025 (**Figure 3.2.2**). The 2025 **eras-themed** event invited visitors of all ages to come **celebrate the lab's 30<sup>th</sup> anniversary and the eras of visioning, building, launching, leading, and evolving over the lab's history**. Special experiences included:

- A **Quantum Dance Party** at the world's strongest magnet where participants compared binary computing with simple 0 and 1 dance moves to quantum computing with freestyle dances.
- An exploration of **Capacitors through Time**
- A **Bitter Disk of Fortune** activity to learn about magnet-making
- A **Magnetic Personalities** attraction where visitors created custom Woolly Willy-style magnetic games.
- A scavenger hunt around the lab to collect beads for a **MagLab Friendship Bracelet**.
- A giant **PlayLab** with spaces inspired by the MagLab, giving kids the chance to put on their lab coats and play the role of a researcher.

Survey data shows that about half of Open House visitors had never been to the lab before the event and that about 90% agreed or strongly agreed that the event helped them better understand the science at the MagLab and how it benefits our community.

The Public Affairs Team completed the 2024-2025 Science Night series at Leon County Libraries and launched the 2025-2026 school year as well (**Table 3.2.1**). Science Night is a public event targeting young children but also acts as a critical engagement point with parents, grandparents, and other guardians of all ages. The six science night events held in 2025 were attended by approximately 500 children and parents (**Figure 3.2.3**).



**Figure 3.2.2.** Photos from Open House 2025.



**Figure 3.2.3.** Photos from 2025 Science Nights.

Each Science Night features a topic/theme and starts with a science story read-along by a MagLab Scientist which is used to help the scientist explain their exciting research to the mostly elementary-aged students and their families. Following the story, students take part in hands-on science with brand-new dynamic activities designed to share the inspiration of science. Participants of all ages also get to engage with MagLab scientists and ask questions.

Results from the 2024/2025 school year Science Night season show that most student participants are elementary school aged and over 90% of kid participants leave feeling that science is fun. More than 90% of parent participants say they also learned something at Science Night.

The Public Affairs Science Night also continued to branch outside of the main library location to offer experiences at branch libraries across the community.

**Table 3.2.1. 2025 Science Nights**

| Date                        | Scientist/Topic                                                                                                                                                                                                                                                                             | Hands-On Activities                                                                                                                                                  | Location                  | Attendees  |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------|
| 1/16/25                     | <b>Kathleen Amm, MagLab Director</b><br><br>Magnets are like magic! We'll explore their invisible force and where it comes from. Then, see how you can use magnetic fields for your own magical activities!                                                                                 | <ul style="list-style-type: none"> <li>• What's Magnetic Exploration</li> <li>• Magnetic Trampoline</li> <li>• Magnetic Motors</li> </ul>                            | Main Library              | 120        |
| 2/13/25                     | <b>Steffanie Sillitoe-Kukas, Geochemistry</b><br><br>Journey back millions of years to the time of the dinosaurs! These creatures that once roamed the Earth left lots behind. We'll dig in to learn how dinos were discovered and how they affected our planet in ways we still see today! | <ul style="list-style-type: none"> <li>• Dig for Fossils</li> <li>• Dinosaur Stomp</li> <li>• Make your own dinosaur hat</li> </ul>                                  | Ft. Braden Branch Library | 25         |
| 3/20/25                     | <b>Abby Centers, DC Field Facility</b><br><br>What color hair is most common in your class? Does your top score in a video game measure up to your friends'? We'll make numbers come alive when we learn how to chart out the fun in gathering, organizing, and presenting information.     | <ul style="list-style-type: none"> <li>• Skittles Bar Graphs</li> <li>• Pie Chart Party</li> <li>• Venn Diagram Game</li> </ul>                                      | Main Library              | 90         |
| 9/18/25                     | <b>Ryan Rodgers, ICR</b><br><br>Scorching one second, pouring rain the next. Explore the science of our dynamic, dramatic weather!                                                                                                                                                          | <ul style="list-style-type: none"> <li>• Atmospheric Pressure Demo</li> <li>• UV Bead Bracelets</li> <li>• Make &amp; Take Rain Gauge and Weather Journal</li> </ul> | Main Library              | 70         |
| 10/16/25                    | <b>Dayna Richter, NMR</b><br>There's a lot going on between your ears. Discover what's happening in your amazing brain.                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Make a Brain Map Hat</li> <li>• Candy Neurons</li> <li>• Brain Cell Matching Game</li> </ul>                                | Main Library              | 124        |
| 11/20/25                    | <b>Marek Polak, ICR</b><br>Scientists find inspiration in everything from birds and bees to flowers and trees. What we've learned from nature — and what's next!                                                                                                                            | <ul style="list-style-type: none"> <li>• Camouflage Challenge</li> <li>• Inspired By Nature Match Game</li> <li>• Propagation Station</li> </ul>                     | BL Perry Branch Library   | 71         |
| <b>2025 TOTAL ATTENDEES</b> |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                      |                           | <b>500</b> |



Public Affairs also held three special events in 2025 to engage with new audiences:

A special **Magnetic Dances** performance on February 7 featured the debut of unique dances, poems and music created by FSU students and faculty in celebration of the MagLab's 30th Anniversary. Inspired by tours of the MagLab, artists worked together on the collection of original performances. The show was held free of charge at FSU's Nancy Smith Fichter Dance Theatre for more than 300 attendees.

The Public Affairs team worked with the National Science Foundation, Sesame Workshop, and Discovery Education to produce a **Virtual Field Trip** to the MagLab. The project was part of an NSF-led initiative to showcase NSF-funded facilities. A production crew spent three days filming with scientists and staff across the lab. The lab launched the virtual field trip in May at a **red-carpet premiere event** in celebration of NSF's 75th Anniversary. The video and paired curriculum resources have since resulted in more than 500 teacher registrations and reached approximately 191,000 students in 53 U.S. states and territories.

The Public Affairs team assisted with design, creation, and unveiling of a **magnetically-levitating sculpture**, nicknamed "Maggie," to celebrate the City of Tallahassee's 200th anniversary, its partnership with FSU and the MagLab, and its distinction as the "Magnetic Capitol of the World." The sculpture was unveiled at the 2025 Motor, Drive Systems, and Magnetics Conference in Tallahassee, garnering local and national media coverage. (Figure 3.2.4)



**Figure 3.2.4** The magnetically levitating sculpture unveiled at the 2025 Motor, Drive Systems, and Magnetics Conference in Tallahassee, commemorating the city as the "Magnetic Capital of the World."

### 3.3. CONFERENCES AND WORKSHOPS

Each year, the MagLab hosts or sponsors a variety of workshops and conferences related to high magnetic field research (Table 3.3.1) In 2025, ten conferences/workshops were hosted by the MagLab:

**Table 3.3.1.** List of 2025 sponsored workshops and conferences.

| Event                       | Date         | Location/ Type            | Description                                                                                                                                                                                                                                                                                                                                                      | Attendees                 |
|-----------------------------|--------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>Theory Winter School</b> | January 6-10 | In-Person Tallahassee, FL | The principal theme of this 13 <sup>th</sup> theory winter school is exploring strongly correlated physics across newly accessible length and energy scales. Many aspects of this subject (moiré graphene and transition metal dichalcogenides, fractional Chern insulators, Wigner crystals and strange metals) have become active areas of research leading to | 98 (speakers + attendees) |



| Event                                                       | Date               | Location/<br>Type                                                                                   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Attendees |
|-------------------------------------------------------------|--------------------|-----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
|                                                             |                    |                                                                                                     | new theories, experiments and computational methods to address them. This event worked to initiate closer dialogue between the various subfields and discuss the open questions at the forefront of this area of research.                                                                                                                                                                                                                                                                                                                                                                                                                                                        |           |
| <b>The Second Fusion Magnet Community Workshop</b>          | January 21-23      | In-Person<br>Tallahassee, FL<br><br><i>(moved to hybrid after snow and ice forced FSU to close)</i> | This workshop better defined R&D gaps, and research objectives of the U.S. fusion magnet community. The workshop included fusion companies, public fusion program participants, and universities in the U.S. fusion magnet community. Significant technology maturation efforts are underway to demonstrate the compact high field approach for commercial fusion.                                                                                                                                                                                                                                                                                                                | 80        |
| <b>The 14th North American FT MS Conference</b>             | March 30 – April 3 | In-Person<br>Tahoe City, CA                                                                         | The FT MS Conference is held every two years and is the premier of its kind in the field of Fourier Transform Mass Spectrometry and its applications. Presentations range from instrumentation and technique development to applications ranging from pharmaceutical metabolism to proteomics, environmental analysis and petroleomics, with special emphasis on new developments. As in the past, partial support for several contributed posters for graduate students and postdocs will be offered.                                                                                                                                                                            | 58        |
| <b>2025 Radio Frequency Coil Workshop</b>                   | May 5-9            | In-Person<br>Gainesville, FL                                                                        | The content of this five-day workshop is designed to introduce graduate and post-doctoral students to the fundamentals of MRI coil design, construction, and testing. The workshop will focus on technical details of coil design and construction, including practical aspects of circuit design and construction, coil assembly and tuning, and coil testing. Participants will gain hands-on practice with RF tuning and matching, coil pattern design, cable making, impedance matching, basic soldering, 3D printing, and trap circuits. They will each build their own working surface coil that they will be able to take to their home lab on completion of the workshop. | 4         |
| <b>MagLab Summer School on Solid State NMR Spectroscopy</b> | May 12-16          | In-Person<br>Tallahassee, FL                                                                        | The weeklong summer school features tutorials on NMR basics and lectures from experts in the field of solid-state NMR spectroscopy.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 18        |
| <b>MagLab User Summer School</b>                            | May 12-16          | In Person<br>Tallahassee, FL                                                                        | The weeklong summer school features tutorials on measurement techniques, practical exercises and plenary talks from experts in the field of condensed matter physics.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 17        |
| <b>Micro Imaging RF Coil Workshop</b>                       | August 11-15       | In-Person<br>Tallahassee, FL                                                                        | A 5-day advanced coil workshop on building radio frequency MRI (Magnetic Resonance Imaging) volume coils. This workshop focused on constructing a birdcage volume coil for a 500 MHz MRI micro-imaging system. Participants gained both theoretical knowledge and hands-on experience in coil construction, tuning, and impedance matching. Additionally, the workshop included a 1-day on-site training session on performing EM simulations by CST                                                                                                                                                                                                                              | 6         |

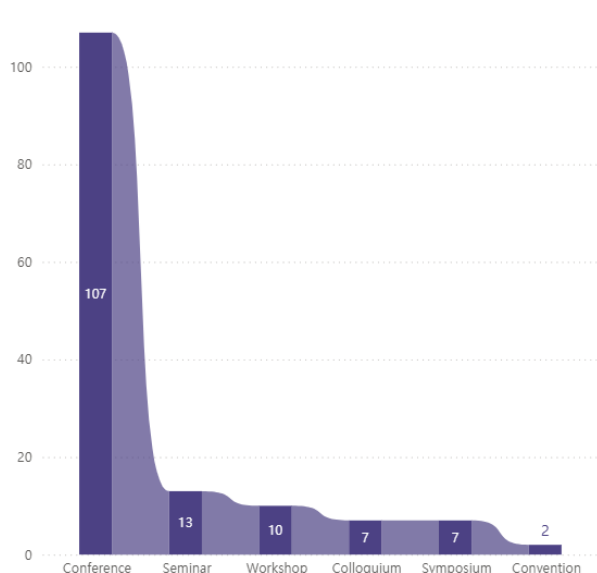
| Event                                             | Date           | Location/<br>Type            | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Attendees      |
|---------------------------------------------------|----------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
|                                                   |                |                              | engineers, and a 1-day Bruker Paravision training to learn about pulse programming and magnet experimental setups.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                |
| <b>External Advisory Committee Meeting</b>        | August 18-20   | In Person<br>Tallahassee, FL | The EAC is charged with reporting on the State of the MagLab to the leadership of its three partner institutions: Florida State University, the University of Florida, and Los Alamos National Laboratory.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 60             |
| <b>User Workshop &amp; Committee Meeting</b>      | November 4-6   | In Person<br>Tallahassee, FL | An annual meeting of users who represent the laboratory's broad multidisciplinary user community and advise lab leadership on all issues affecting users of our facilities. The User Workshop had a special focus on the 2028–2032 Renewal Proposal, offering a unique opportunity for users to contribute to long-term planning and priorities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 75             |
| <b>Southeastern Magnetic Resonance Conference</b> | November 14-16 | In Person<br>Gainesville, FL | <b>SEMRC 2025 brought</b> together students, postdoctoral researchers, faculty, and industry partners from 16 states for three inspiring days of scientific exchange and collaboration. The conference featured <b>86 abstracts and presentations</b> across NMR, MRI, and EPR, made possible through the support of <b>14 participating sponsors</b> , and fostered an atmosphere of energy, discovery, and connection. Excellence in research and presentation was celebrated through <b>18 Best Presentation Awards</b> , highlighting the exceptional talent and innovation within the magnetic resonance community. In addition to showcasing cutting-edge science, SEMRC 2025 proudly honored <b>Dr. Thomas Mareci</b> , whose influence has shaped generations of researchers and advanced the frontiers of MRI technology. | 30 registrants |

### 3.4 BROADENING OUTREACH

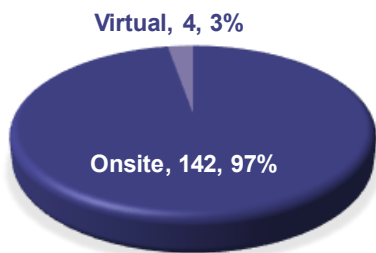
In addition to the Education and Outreach sections of this report, which speak to the MagLab's work to broaden participation through education and outreach, MagLab staff regularly take advantage of conferences and workshops to share information about the lab's user program with diverse researchers from around the globe. Each talk, presentation, poster, or abstract opportunity provides the chance for scientists to learn more about the lab's research capabilities and broaden our user program to new scientists from across disciplines and career levels – from graduate students and postdocs to track faculty.

In 2025, MagLab staff gave **146** lectures, talks, and presentations to organizations around the country and the world (**Figures 3.4.1, 3.4.2, and 3.4.3**).

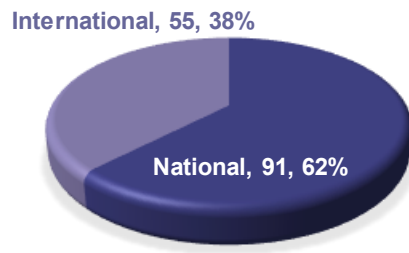
During the year, the MagLab continued the important work to broaden participation through outreach and presentations at prominent meetings and conferences including the American Physical Society (APS) March Meeting, 14th North American Fourier Transform Mass Spectrometry (FT-MS) Conference, 17th European Conference on Applied Superconductivity (EUCAS), Experimental Nuclear Magnetic Resonance Conference (ENC) jointly with International Society of Magnetic Resonance (ISMAR), and 29th International Conference on Magnet Technology (MT-29).



**Figure 3.4.1.** 2025 Presentation types.



**Figure 3.4.2.** Presentations given virtually in 2025.



**Figure 3.4.3.** Breakdown of 2025 presentations by geographic distribution.

## 4. IN-HOUSE RESEARCH IN SUPPORT OF THE USER PROGRAM

### 4.1 MAGNETS AND MATERIALS APPLIED SUPERCONDUCTIVITY CENTER

The Applied Superconductivity Center (ASC) supports the development of magnet technologies from materials through significant R&D feasibility validations. Work at ASC defines the limits of conductor, magnet components, and magnets with test magnets and post-test analyses using extensive materials science and physics tools. There is a natural transition from ASC to the missions of MS&T, DOE labs, and magnet manufacturers. ASC also develops characterizations of structure and properties that definitively connect processing with performance, with characterization tools to find processing origins and material root causes of performance shortfalls. This provides a natural pathway for collaboration with conductor manufacturers. ASC extends the boundaries of knowledge in materials, conductors, and magnets via a portfolio of high-impact research grants including the NSF core grant to MagLab, leveraging collaborations with other laboratories and institutions, and commercial partnerships. Teaching faculty in ASC aim to propagate knowledge and training via support of MS, PhD, and post-doctoral staff, interactions with industry and federal agencies, participation in review panels and oversight committees, and support of publications, conferences, and learned societies.

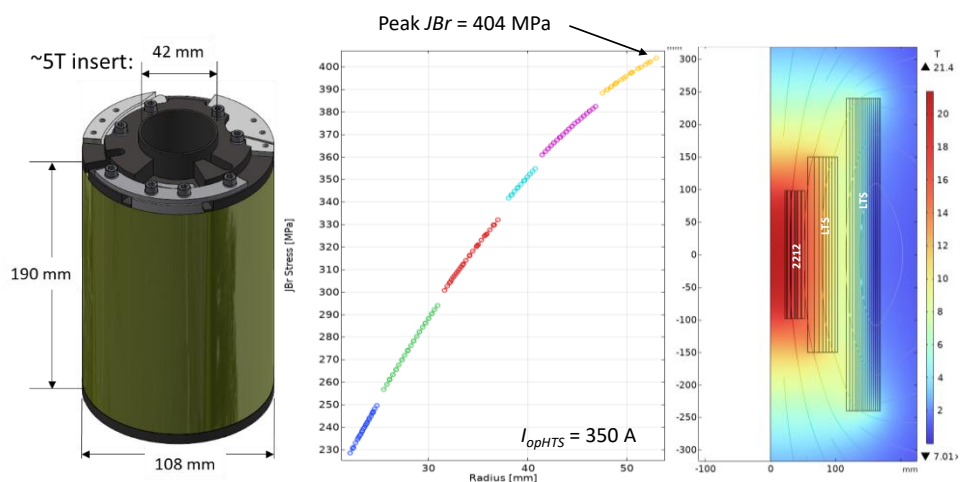
### MAGNET SCIENCE AND TECHNOLOGY

The Magnet Science and Technology (MS&T) division supports the NHMFL's Mission to develop, operate, and maintain existing and new magnet systems that enable a world-leading high-magnetic-field user program. MS&T continued to make important progress on the all-superconducting 40T magnet design and developmental coil testing; fabrication of large, pulsed coils for the LANL 60T Controlled Wave (CW) and 100T multi-shot magnets; development of the high-strength, high-conductivity materials required for pulsed and DC resistive magnets and continuing to maintain the suite of resistive magnets in the DC Field Facility including the world-record high fields produced by the 45T Hybrid, the 36T, 1ppm Series-Connected Hybrid, and the 41.5T all-resistive magnets. In addition, high temperature superconducting insert coils for a commercial 25T all-superconducting magnet have been developed in MS&T in collaboration with a commercial partner, Cryomagnetics. The following sections further describe the achievements in these areas.

### PROGRESS DURING THIS REPORTING PERIOD

**Bi-2212 coil technology at ASC:** Preserving coil integrity under high mechanical loads when generating and operating in high magnetic fields is a major challenge in the development of Bi-2212 based high field magnet technology. Since the mechanical properties of the bare wire are limited by the choice of the electrical stabilizer the Bi-2212 ceramic component is embedded in, reinforcement needs to be added on either, the

conductor level, coil level or both. In 2025, the ASC focused on a two-prong approach, understanding and developing reinforcement schemes on the conductor level as well as preparing a new series of coils with the goal for 2026 to reach 20T and exceed a supported source stress of about 400 MPa. A set of three coils with similar geometries and layouts is currently under preparation to pursue this goal. Two of these coils will be used to evaluate the design of the coil terminals and are



**Fig. 4.1.1** (left) Bi-2212 insert coil to generate 20 +T in the ASC 16T LTS magnet system. The coil will have 20 layers and use about 600m of conductor (middle) The  $\sigma(r)$  plot shows the expected source stresses across the coil's sub-sections. (right) shows a field plot of the coil inserted into the 16T LTS outsert magnet.





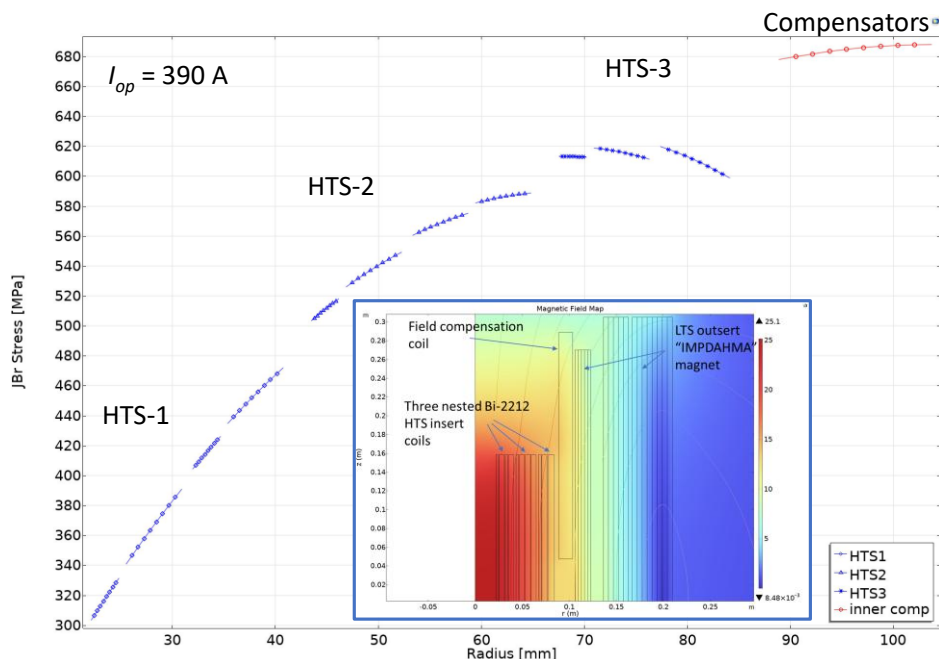
High-strength ceramic fiber reinforced winding pack

**Fig. 4.1.2** Large diameter Bi-2212 test coil with 3D printed mandrel to evaluate stresses on the order of 600MPa.

homogeneity NMR demonstrator magnet that is planned to operate in the ASC's 12T, 212mm cold bore test bed. This magnet is expected to withstand stresses of about 620MPa and ways are currently being explored how to get there, **Figure 4.1.3**. One of these ways is the introduction of a specific high strength ceramic braid around the conductor that besides the braid itself, will include six fibers that run in tensile direction along the length of the conductor. This type of reinforced conductor will be used in the coil with the 3d printed mandrel.

**Materials for Coil Reinforcement:** Due to the requirement that Bi-2212 conductor wound coils must undergo heat treatment at high temperatures to become fully superconducting, ceramic braids surrounding Bi-2212 wire are commonly used as electrical insulation. Previous experiments on rectangular composite winding pack samples revealed that this insulating braid also provides significant reinforcement to Bi-2212 coils. Until recently, Bi-2212 wires were braided externally, limiting our control over the structure and materials used for this braided insulation. The purchase of a braiding machine has allowed us to explore how changing various aspects of the insulating braid can influence the mechanical properties of the Bi-2212 winding pack. Our study into insulating braids has focused on two aspects: the structure of the braiding and the braiding material itself. The braiding machine can fabricate braids with various patterns and specifications. One of these specifications is the 'picks per inch' or PPI of the braids.

smaller in height while the third one will have full height as shown in **Figure 4.1.1**. All three coils will be tested with the taller third coil being expected to generate a combined field of 21.4T at an operating current of 350A. Parallel to this effort a series of large diameter test coils with small winding thickness of 4 to 6 layers are currently being prepared to explore stresses exceeding  $>400\text{MPa}$  with the goal to pave the way towards the design of magnet systems capable of reaching 30T. One of these coils will make use of an Inconel 3d printed mandrel, which, if proven viable during its evaluation, will allow for higher flexibility in the choice of bore sizes, which is of particular importance in a nested insert magnet design, **Figure 4.1.2**. Together with other coil reinforcement strategies, one objective of a nested coil design is stress management by dividing the insert magnet into sub-sections. Without using 3d printing the choice of where to section the magnet is limited to available Inconel tube stock. These coils will be tested in the ASC's 12T, 161mm cold bore magnet system and ideally provide information towards the design of a 25+T NIH funded high

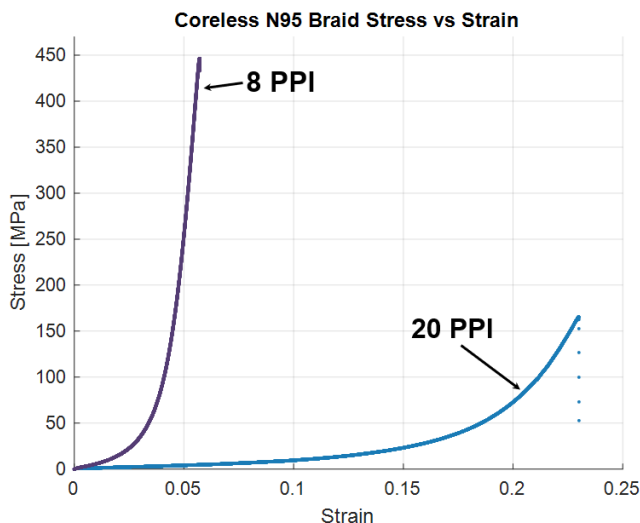


**Fig. 4.1.3**  $\sigma(r)$  plot of the NMR demonstrator coil assembly. The complete insert will consist of three Bi-2212 insert coils nested inside the ASC's 12, 212mm LTS outsert magnet. A pair of  $\text{Nb}_3\text{Sn}$  coils around the HTS insert will be used for first order field compensation.



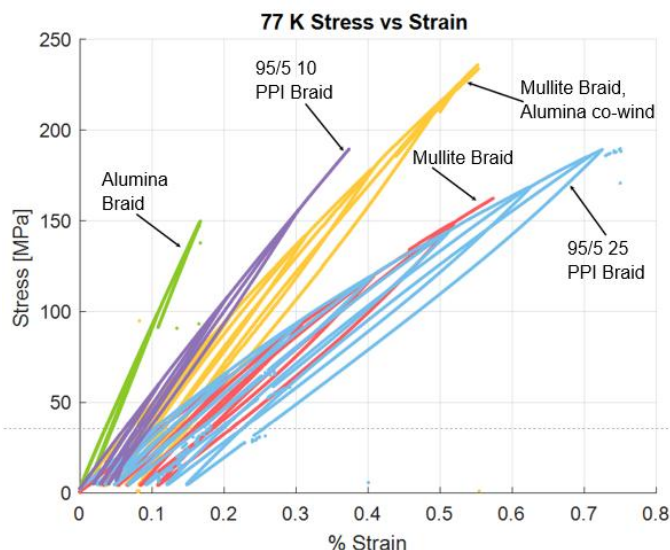
**Fig. 4.1.4** (a) 20 PPI coreless braid and (b) 8 PPI coreless braid, both made with 95/5 (95%  $\text{Al}_2\text{O}_3$ , 5%  $\text{SiO}_2$ ) ceramic fibers.

This is essentially the number of times the fibers cross over each other within an inch. **Figure 4.1.4** shows two ceramic fiber braids fabricated. **Figure 4.1.4a** shows a high density, 20PPI braid, while **Figure 4.1.4b** shows a lower density, 8PPI braid. Tensile tests were performed on these coreless fiber braids to establish how PPI influences their strength and stiffness. **Figure 4.1.5** shows the results of these tensile tests. The stress-strain curve for 8PPI braid was far steeper than the curve for the higher, 20PPI braid. The average Young's modulus of the 8PPI braid was found to be 28.4GPa, almost 7.5 times larger than the 20PPI braid, which was calculated to have an average Young's modulus of 3.8GPa. Furthermore, **Figure 4.1.5** shows that the 8PPI braid was also far stronger than the 20PPI braid, reaching almost 450MPa of stress before fracture while the 20PPI braid fractured at a stress closer to 150MPa. Previously, Bi-2212 magnets fabricated at ASC were insulated with mullite (72%  $\text{Al}_2\text{O}_3$ , 28%  $\text{SiO}_2$ ) fibers as supplied by the conductor manufacturer and co-wound with stronger pure alumina fibers for reinforcement. The braiding machine has allowed us to experiment with combining this insulation and reinforcement, by braiding the Bi-2212 wire with higher strength alumina fibers. We have braided lengths of wire with 10PPI braids made from mullite fibers, 95/5 fibers (95%  $\text{Al}_2\text{O}_3$ , 5%  $\text{SiO}_2$ ), and >99% purity alumina fibers. An additional length of Bi-2212 wire was also braided with a higher density 25PPI 95/5 fiber braid. To establish and compare the mechanical properties of Bi-2212 winding packs including these braids, rectangular winding pack samples were fabricated. The braid insulated Bi-2212 wire was wound in several layers onto a racetrack-type mandrel and annealed in flowing oxygen. These coils were then vacuum impregnated with epoxy and sectioned into several straight samples. These samples were then equipped with an array of film strain gauges, and load-tested in an MTS machine in liquid nitrogen at 77K. **Figure 4.1.6** shows the results of these tensile tests. The samples containing the pure alumina braids were the steepest and therefore the stiffest. The average Young's modulus of this sample group was 86.8GPa. The 10PPI 95/5 braided samples, whose fibers had the second highest alumina content, were the second stiffest, with an average Young's modulus of 53.0GPa. The group of samples that contained a mullite braid with the addition of a pure alumina co-wind had a slightly lower Young's modulus of 47.7GPa. However, these samples were still significantly stiffer than previously tested samples, which contained a mullite braid and no co-wind, as those had an average



**Fig. 4.1.5** Room temperature stress vs. strain curves for coreless braids made from 95/5 fibers.

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**Fig. 4.1.6** 77K stress vs. strain curves for rectangular winding pack composite samples.

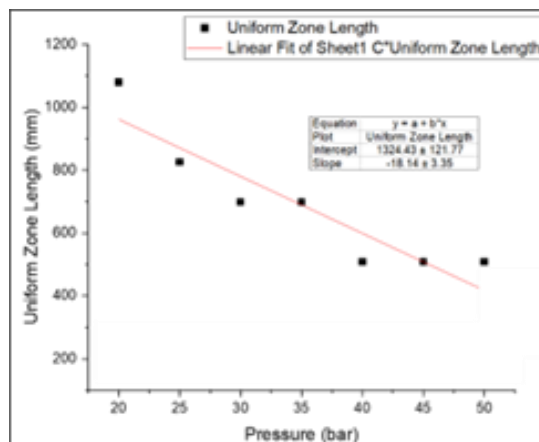
Young's modulus of 32.3GPa. The samples containing the 25PPI 95/5 braid had a Young's modulus of 31.8GPa, the smallest of all the samples tested. This is far less stiff than the samples containing the 10PPI 95/5 braid, following the same trend as the results of the coreless braid tensile tests discussed previously. Therefore, to best reinforce the Bi-2212 winding pack, insulating braids should have a high alumina content and low PPI.

**Coil heat treatment:** In 2025, we completed the commissioning of the large “Renegade” over-pressure furnace as well as the upgrade of the smaller “Deltech” furnace using a more robust heater technology than originally provided by the manufacturer, **Figure 4.1.7**. Magnets have been processed in both furnaces alongside efforts to understand and extend the uniform zone, cylindrical volume capable of  $\pm 2^\circ\text{C}$  across the Bi-2212 melt-phase of the heat treatment ( $> 872^\circ\text{C}$ ). The uniform zone has been extended to over 0.5m at 50 bar pressure for the Renegade by extending the temperature ramping time prior to melt to 38 hours and to 83 hours for the entire heat treatment, reducing the heating rates and approaching closer to steady-state temperature gradients in the super critical gas environment. As demonstrator magnets of 1m length are a key milestone of the HEP program, a study was conducted to find the trade-off between furnace pressure and uniform zone to achieve a 1 m uniform zone, with result shown to be between 20-25 bar, **Figure 4.1.8**. We plan to run a similar study on the Deltech furnace this year. The Renegade furnace has seen 11 full heat treatments, including 4 magnets, since November of 2024. This also includes the pressure to uniform zone relationship study and a radial-mapping-study that showed no significant radial temperature gradient within the uniform zone. The upgraded Deltech furnace has seen 5 heat treatments, including 3 magnets since June of 2025.



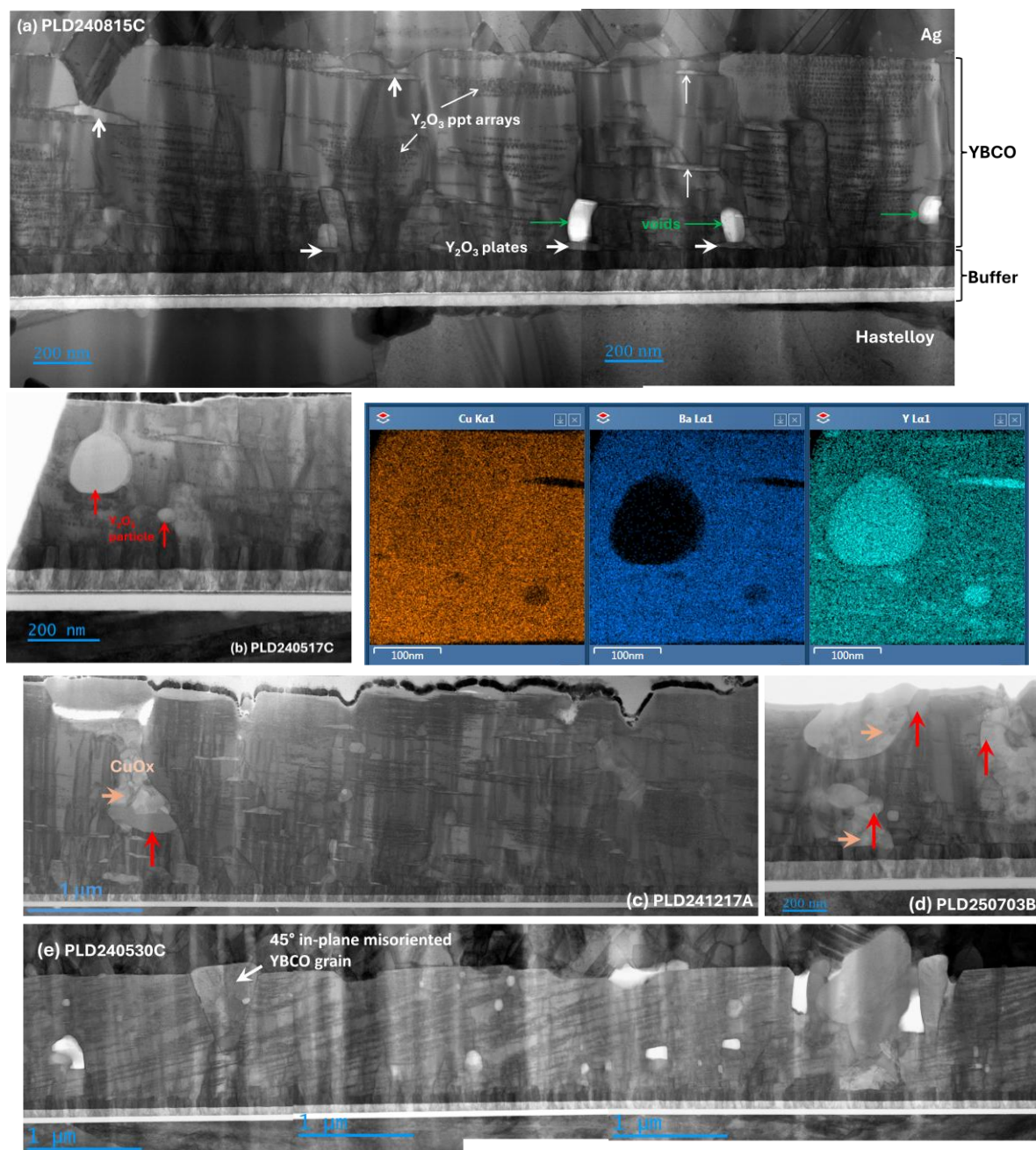
**Fig. 4.1.7** ASC's two over-pressure furnaces. The two overpressure heat treatment furnaces for reacting Bi-2212 magnets with the smaller one in the front and the larger one in the rear. A bank of gas bottles that provide the furnaces with a high-pressure gas mix of 98% argon and 2% oxygen can be seen to the right.

**Extensive collaboration at ASC with the REBCO vendors to improve the US coated conductor supply chain:** Among the various REBCO deposition techniques used in production, pulsed laser deposition (PLD) has been widely recognized as the most viable method for achieving adequate production throughput which potentially meets strict manufacturing cost requirements. Indeed, several major international REBCO suppliers have adopted PLD and remain globally competitive. However, no US company has employed PLD for REBCO conductor manufacturing, raising concerns about potential vulnerabilities in the domestic REBCO supply chain. Under the DOE ARPA-E program, Applied Superconductivity Center has been collaborating with the California-based venture company High Temperature Superconductor Inc (HTSI) to establish competitive PLD REBCO conductor manufacturing capacity in US by providing comprehensive superconducting and microstructural characterization. Nano-precipitation is a central strategy for introducing effective pinning centers in high  $J_c$  REBCO thin films and underpins modern high  $J_c$  REBCO coated conductor manufacturing. However, controlling the precipitation over the full width and length, between the production batches remains a major challenge. We comprehensively assessed  $J_c$  in fields to investigate how  $\text{Y}_2\text{O}_3$  precipitation occurs and affects  $J_c$  in production R&D PLD YBCO coated conductors (CCs) delivered by HTSI.



**Fig. 4.1.8** Height of uniform ( $\pm 2^\circ\text{C}$ ) cylindrical volume for reacting Bi-2212 magnets inside the large over-pressure furnace as a function of pressure. Achieving a 1m uniform zone is a key milestone for HEP demonstrator magnets.





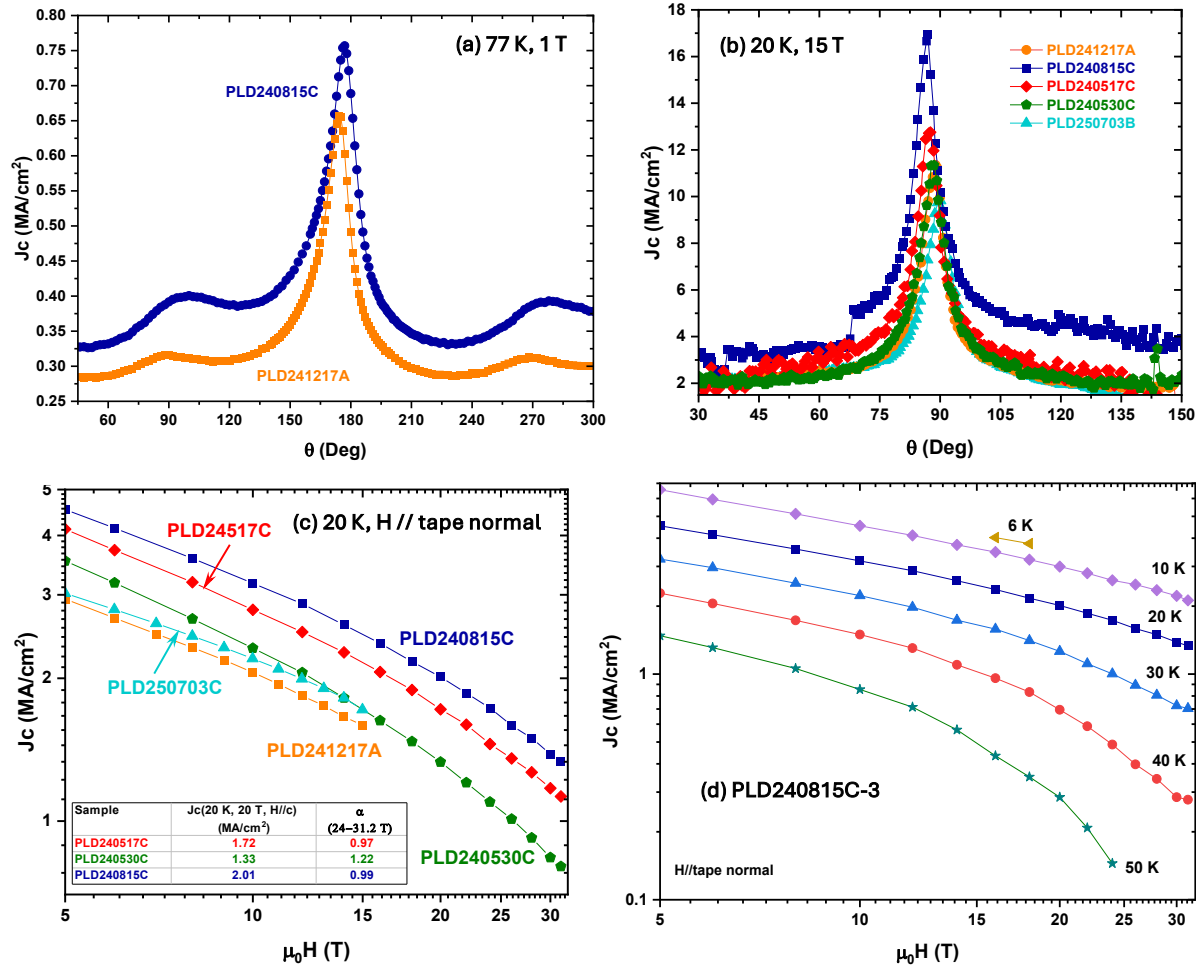
**Fig. 4.1.9** TEM images of PLD YBCO CCs that contains  $\text{Y}_2\text{O}_3$  ppt arrays as essential pinning centers, and various  $\text{Y}_2\text{O}_3$  phase related submicron defects. (a) PLD240815C that contains  $\text{Y}_2\text{O}_3$  ppt arrays that are pointed by the tilt arrows,  $\text{Y}_2\text{O}_3$  plates include those distributing at the interface between YBCO and the buffer layer and promoting void formation, those occurring inside YBCO layer and interrupting the growth of  $\text{Y}_2\text{O}_3$  precipitates, and those being at the top YBCO layer and depressing YBCO growth. (b) PLD240517C that contains, in addition to  $\text{Y}_2\text{O}_3$  precipitate arrays, large  $\text{Y}_2\text{O}_3$  particles inside YBCO. The EDS maps on the right identified the  $\text{Y}_2\text{O}_3$  phase of the plates and large second phase particles. (c) PLD241217A and (d) PLD250703B to highlight the  $\text{CuO}_x$  particles accompanied with  $\text{Y}_2\text{O}_3$  particles; (e) PLD240530C that contains dense, uniformly distributed  $\text{Y}_2\text{O}_3$  ppt arrays, along with occasional occurrences of plates, particles, voids, and misoriented YBCO grains.

Cross-sectional STEM images of five production R&D YBCO coated conductors (**Figure 4.1.9**) revealed that fine  $\text{Y}_2\text{O}_3$  precipitates (5–10nm in the ab-plane and 3–5nm along the c-axis) are the major correlative pinning center, but also a wide variety of larger sub-micron  $\text{Y}_2\text{O}_3$  phase ( $\text{Y}_2\text{O}_3$  plates (50–200nm  $\times$  20–40nm) and large rounded  $\text{Y}_2\text{O}_3$  particles (50–500nm)) which is not typically observed in well-controlled lab-grown films. PLD240815C exhibits the cleanest microstructure, containing only non-uniformly distributed  $\text{Y}_2\text{O}_3$  precipitate arrays, occasional  $\text{Y}_2\text{O}_3$  plates, and voids formed at the YBCO/buffer interface directly above the plates, which also interrupt precipitate array development and locally suppress YBCO growth. In PLD240517C, large  $\text{Y}_2\text{O}_3$  particles (~160nm and ~50nm) form within the YBCO layer alongside the precipitate arrays and  $\text{Y}_2\text{O}_3$  plates, with elemental mapping confirming their composition. A distinct feature in PLD241217A and PLD250703B is the presence of  $\text{CuO}_x$  particles co-nucleating with  $\text{Y}_2\text{O}_3$ .



particles, either as large  $\text{CuO}_x$  particles sitting atop large  $\text{Y}_2\text{O}_3$  particles or as clusters of smaller mixed particles, both of which tend to obstruct current flow.

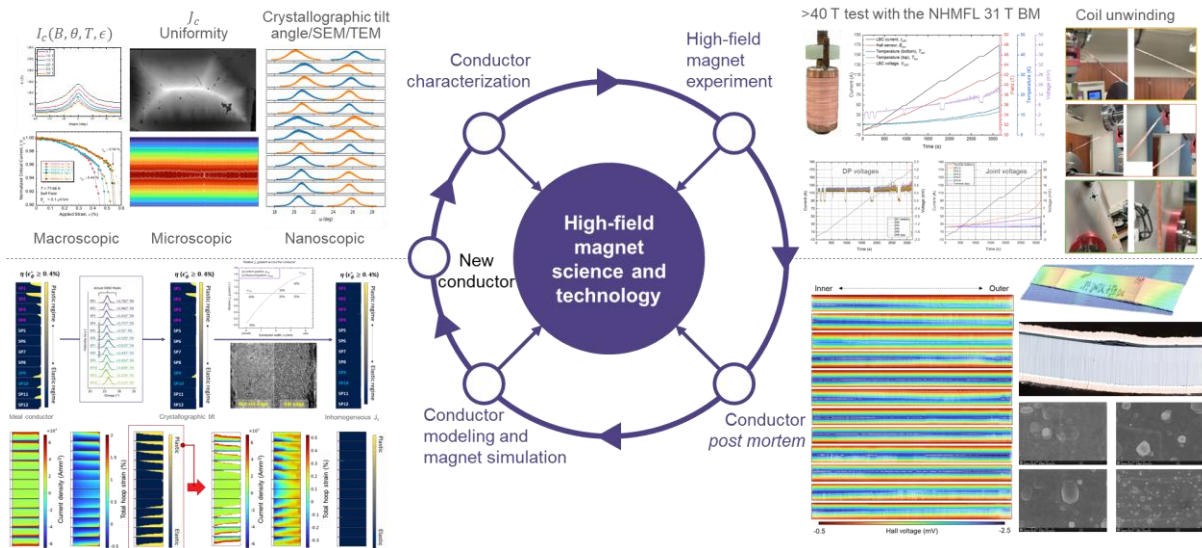
The angular and field-dependent transport measurements (**Figure 4.1.10a**) showed that PLD240815C consistently exhibits the strongest performance among the samples, while PLD241217A shows the



**Figure 4.1.10**  $J_c(\theta)$  at (a) 77K, 1T for PLD240815C and PLD241217A, and (b) 20K and 15T for all 5 CCs. At 77K and 1T, the 2 samples show similar angular dependence, and at 20K and 15T, all samples show GL-like  $J_c(\theta)$  with amplified  $J_c$  variation. (c)  $J_c(H/c)$  at 20K for all 5 CCs, and (d)  $J_c(H/c)$  from 10 to 50K for PLD240815C. The inset of (a) summarizes  $J_c(20\text{K}, 20\text{T}, H/c)$  and the corresponding  $\alpha$  value for  $J_c \propto H^{-\alpha}$ . Both  $J_c$  value and the field dependence vary from sample to sample, suggesting variations in both the dominant pinning and the current blocking mechanisms.

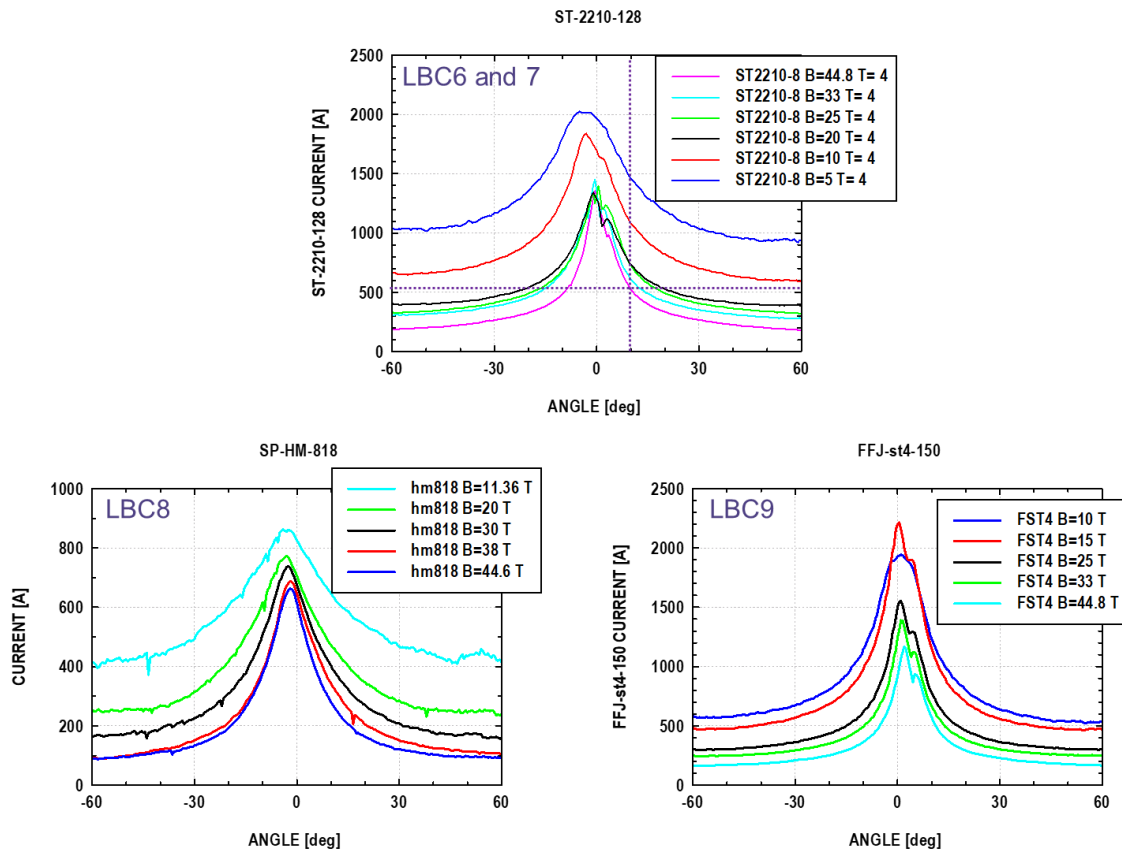
weakest. At 77K and 1T, PLD240815C and PLD241217A display nearly identical  $J_c(\theta)$  shapes with a small c-axis peak and a sharp ab-plane peak, indicating similar strong-pinning landscapes. But PLD241217A maintains lower  $J_c$  across all angles, implying current-blocking mechanisms. At 20K and 15T (**Figure 4.1.10b**), all samples show GL-like angular dependence of  $J_c$  with monotonic enhancement toward H//ab, but exhibit substantial variation in  $J_c$  magnitude and ab-peak shift. Notably,  $J_c(H//ab)$  ranges from 9.8 to 16.9MA/cm<sup>2</sup> with much larger sample-to-sample variation than at 77K and 1T, suggesting that different dominant pinning mechanism play the role at the 20K, 15T regime. Field-dependent  $J_c(H/c)$  (**Figure 4.1.10c**) further confirm the superior performance of PLD240815C, which reaches 2.01MA/cm<sup>2</sup> at 20K and 20T, while PLD241217A remains the lowest across intermediate fields. Power-law fits from 24–31T yield  $\alpha$  values ranging from 0.97–0.99 for PLD240517C and PLD240815C to 1.22 for PLD240530C, the latter indicating a strong weak-pinning contribution (**Figure 4.1.10d**), yet this sample paradoxically shows low  $J_c$ , highlighting the significant impact of current-blocking defects. Temperature-dependent  $J_c(H/c)$  for PLD240815C illustrates the shrinking high-field power-law regime with increasing temperature due to thermal depinning, an observation later used to analyze weak-pinning differences relative to PLD240530C.

In summary, our scientific and technical feedback of  $I_c/J_c$  and its nanostructural correlations has significantly contributed to the REBCO production R&D at HTSI. We will continue to work with HTSI to improve the production of US PLD REBCO.



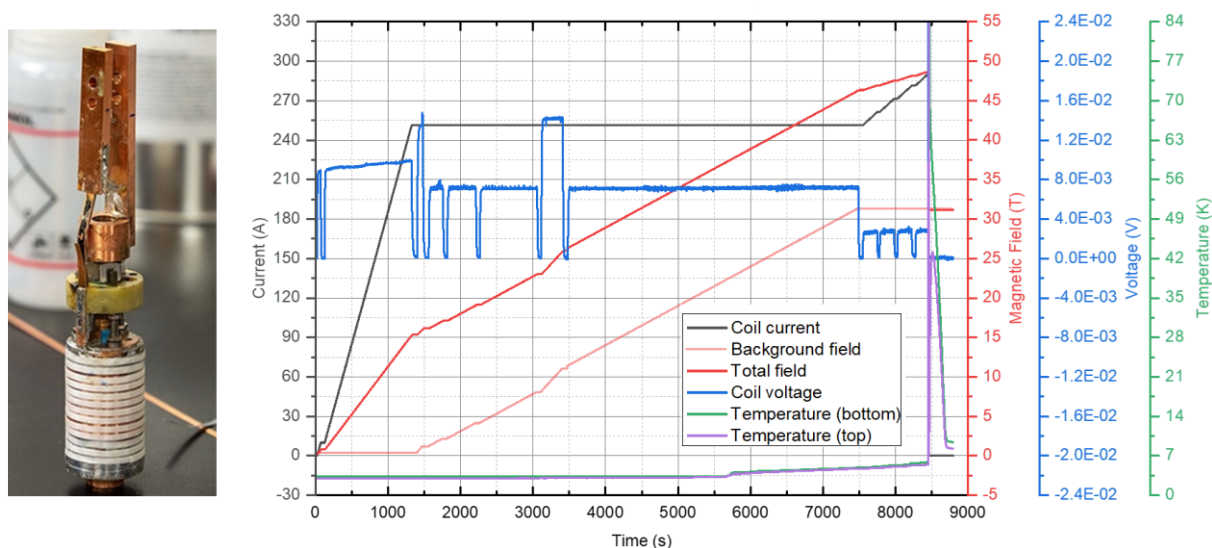
**Figure 4.1.11:** A well-defined recursive design-build-test loop designed by NHMFL-ASC

**Little Big (REBCO) coil program at ASC:** ASC has established a well-defined, recursive design-build-test loop for an R&D magnet test bed (Little Big Coil which generates stresses  $> 800\text{MPa}$  and fields now up to almost  $49\text{T}$  inside the  $31\text{T}$  Bitter magnet. This design-build-test-postmortem paradigm guides us in refining our conductor characterization needs and our coil simulation models (**Figure 4.1.11**). Under the key philosophy of “no magnets are better than their conductors,” we first perform detailed conductor characterizations, choose tapes for coil winding, design and fabricate a coil, test it in the NHMFL  $31.1\text{T}$  Bitter magnet, push it to its limits until the coil quenches, and then conduct a detailed postmortem. We continuously find new surprises about the response of the conductor to such high stresses that vary from



**Fig. 4.1.12** Torque  $I_c$  measurement results of REBCO samples of recent LBC6—9 tapes via the NHMFL  $45\text{T}$   $32\text{mm}$  ( $19\text{mm}$  room temperature bore) hybrid magnet, the world's first  $I_c(Q,B,T)$  measurement at  $45\text{T}$ .

manufacturer to manufacturer. We use this test bed as means to define a safer REBCO high-field superconducting magnet science and technology. Our postmortems are based on an almost unique variety of methods, such as reel-to-reel magnetization mapping, magneto-optical imaging, scanning electron microscopy, X-ray diffractometry, torque magnetometry to give the full  $I_c(Q,B,T)$ , Walters spring critical strain measurements, and uniaxial tensile tests. This variety of tests enables us to define the conductor properties in great detail with respect to many properties seldom considered: for example the length-wise critical current uniformity, the width-wise critical current uniformity, the presence of local defects (including micro-cracks, precipitates, misoriented grains, etc.) that may affect both mechanical and superconducting properties, the crystallographic tilt angle that strongly affects screening current stress enhancements, field and temperature dependent critical current properties, strain-dependent critical current property, and stress-strain curve, which are all important factors in the coil design, construction, test, and postmortem of our World Record Little Big Coil test beds.



**Fig. 4.1.13** (left) LBC9, the record coil for 48.7T. (right) shows test results during attainment of the world record 48.7T DC field. LBC9 was tested in the NHMFL 31.2T 50mm (42mm room-temperature bore) Bitter magnet.

**The world's first 45T conductor  $I_c$  characterization and a new world record of 48.7T via the NHMFL-ASC 'Little Big Coil (LBC)' testbed:** In 2025, we achieved several important new results. First of all, we characterized the full angular  $I_c(Q,B,T)$  of LBC tapes up to 45T using the MagLab 45 T hybrid magnet, a world's first (**Figure 4.1.12**). During 2025, we were able to increase our test rate to four a year (previously one coil a year), by innovating our coil fabrication process and modularizing it. Lastly, based on the characterized results, we designed, fabricated, and tested four LBCs (LBC6,7,8 and 9) in 2025, then finally, twice broke the previous DC field record of 45.5T with 46.0 and 48.7T coils (**Figure 4.1.13**). This achievement not only gives us hope that we can soon reach the next big benchmark magnetic field of 50T but also continues to make our understanding of conductors better. We now know very clearly that some conductors show permanent plastic yielding under such ultra-high field testing which generates stresses of ~1GPa or more. But others do not! Based on the lessons learned from our 2025 LBC6—9 test campaign, we plan to make 5 or 6 LBC tests in 2026.

**Higher Current Density Mechanically Robust REBCO Cable Solenoid Survives Fatigue Testing at ASC:** The second HTS Conductor On Round Core (CORC®) cable-wound solenoid was rewound, received, and tested in our large-bore 12T test bed, Magnet for Optimization & Novel Assessment of Realistic Cables (MONARC). The coil survived 99 operating current cycles to a peak 230MPa JBr Hoop stress, 155 cycles at lower stress levels, 14 quenches in liquid nitrogen and self-field, and 5 thermal-cycles from room temperature to below 77K. In-field testing was cut short by the extremely effective HTS quench protection circuit false positive protection causing an inductive trip of the LTS magnet prior to cycling at max current. However, follow-up testing in liquid nitrogen validated no loss in critical current, but a 18% drop in the index of transition ( $n$ -value) after the high stress operation showing that the current sharing has definitively changed, strengthening the observations of dynamic current redistribution observed in the testing of the first coil. With no clear signs of damage, we are looking to continue testing to higher stress. After completion of all testing, we utilize the Applied Superconductivity Center's extensive analytical and postmortem capabilities including composite imaging techniques and reel-to-reel characterizations to gain a deeper understanding of HTS cable mechanical limits and current-sharing in high magnetic fields. Additionally, we have developed plans with Advanced Conductor Technologies to test two CORC® Wire (cable diameter ~ 3 mm) wound solenoids of the same size as the Little Big Coils in the 31T DC Resistive magnet within an awarded user science proposal to demonstrate extremely high ramp rates (~1kA/s ~1T/s).



## MAGNET SCIENCE AND TECHNOLOGY

The Magnet Science and Technology (MS&T) division advanced the NHMFL's mission in 2025 through significant progress across a broad portfolio of high magnetic field technologies. This year saw major strides in the design of the all superconducting 40T magnet and its developmental coil testing; successful fabrication of large, pulsed coils for the LANL 60T Controlled Wave and 100T multishot systems, design of the Large Bore Resistive Magnet (LBRM) and continued improvement in high strength, high conductivity materials essential for pulsed magnets. MS&T also maintained the DC Field Facility's suite of resistive magnets—including the world record 45T Hybrid and 41.5T all resistive systems—while launching major repair efforts on the 36T, 1ppm Series Connected Hybrid and the HTS REBCO insert of the 32T all superconducting magnet. In addition, the division completed development and fabrication of HTS REBCO insert coils for a commercial 25T all superconducting magnet, delivered to our partner Cryomagnetics in addition to other collaborative projects. The sections that follow highlight these achievements in more detail.

### 1. DC Resistive Magnets

The 2025 Resistive Magnet Program has been marked by continued operational success, key maintenance milestones, and advancements in coil durability. The ongoing reliability of the suite of resistive magnets including the flagship 41.5T magnet ensures that the NHMFL remains a leader in high-field magnet technology, providing a stable and powerful platform for cutting-edge research. In addition, a 22.5T, 195mm large-bore resistive magnet design has been updated in detail in anticipation of starting construction and will be a key test bed to continue to expand our high-field user magnet capabilities to potentially 50T to 60T via high temperature superconducting (HTS) inserts.

#### i. Magnet Operations

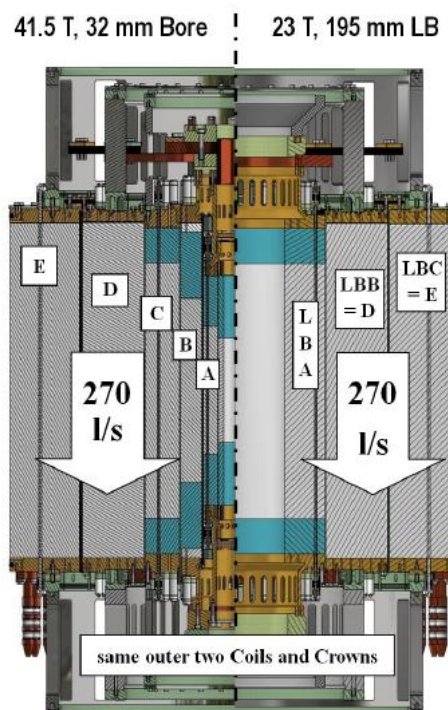
The 41.5T all-resistive magnet, which has been in operation since 2017, continues to set performance benchmarks. In June 2023, the A/B-coil assembly was replaced after exceeding 2,000 hours at full field—nearly twice the typical lifespan of similarly stressed coils. Their replacement coils have since added another 2,060 hours of operation. In August 2024, the D-coil was replaced after an impressive 2,900 hours, further demonstrating the durability of these high-stress components. The outer C and E coils, which have been in use since 2017, remain operational with over 4,000 hours of service. As a result, the 41.5T magnet remains the most frequently used system in the DC facility in 2025.

#### ii. Maintenance and Coil Longevity Improvements

To ensure continued reliability, the MagLab carried out extensive maintenance and fabrication efforts in 2025. This included the production of four spare resistive coils and the completion of over 30 major maintenance actions, such as coil tightening, replacements, and scheduled interventions. A notable advance this year was the development of a new D-spacer coil for the 41.5T magnet. By modifying the stacking pattern, the design maintains field strength while reducing current density, which is expected to enhance coil longevity. This innovation reflects ongoing efforts to improve the resilience and operational lifespan of resistive magnet technology.

#### iii Large Bore Resistive Magnet (LBRM)

The LBRM design continued to advance to the point where construction can begin. The LBRM will be capable of generating a direct current (DC) magnetic field of 22.5T within a 195mm room-temperature bore. This will position the NHMFL to lead development in high-field magnet scientific discovery, crucial for pushing the frontiers of condensed matter science, nuclear magnetic resonance (NMR), and other high-field applications. Just as importantly, the LBRM will provide the high-field test bed to develop higher field HTS inserts that may ultimately achieve 50T to 60T. A program has been initiated where rapid development



**Figure 4.1.14** The LBRM has three coils as shown in the right cross-section. The two outermost coils will copy the outermost coils of the 41.5T resistive magnet shown on the left side and the inner coil will be newly designed to achieve 22.5T in a 195mm clear bore.



of testing of HTS inserts will be performed in parallel with development of the DC field scientific techniques at these new higher fields. The present technology in large bore resistive or superconducting magnets worldwide peaks at lower fields, which are insufficient for the cutting-edge research anticipated. The magnet design utilizes Florida-Bitter disks, configured to maximize field strength while ensuring durability and reliability. As shown in **Figure 4.1.14**, two of the three coils directly use the design of coils in the widely used 41.5T resistive magnet and incorporate a new design of the innermost Coil A. The construction process will leverage NHMFL's extensive experience and existing infrastructure, ensuring a cost-effective and efficient design and construction process. Beyond its scientific contributions, the LBRM will enhance U.S. technological leadership in high-field magnet technology. It will provide critical infrastructure for developing next-generation high-temperature superconductors and their applications in various industries, including energy and healthcare. Furthermore, the project aligns with national goals for advancing scientific infrastructure and maintains NHMFL's position as a global leader in magnet technology research.

## 2. Pulsed Magnets

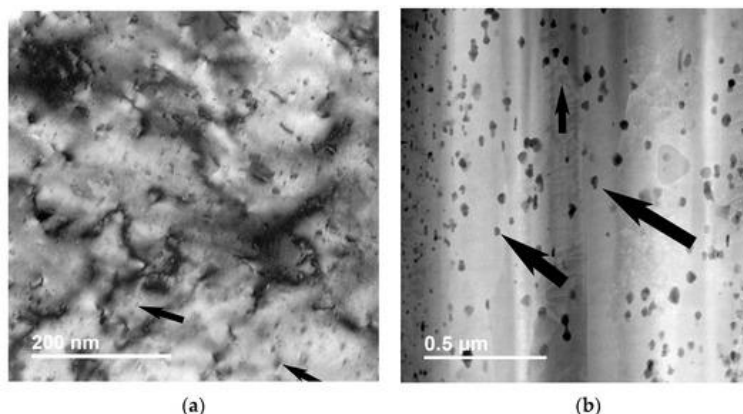
### i. High Strength Conductor Development

In order to supply users with ultra high magnetic fields without interruption, we have been developing new technologies that can supply improved materials for maintenance of our magnets. In 2025, we continued to improve both fabrication technologies and characterization methods for conductors that are immediately required for user magnets.

In collaboration with our vendors, we developed several lengths of conductors for 60T CW magnet and for coils 3 and 4 of 100T outer coils. The conductors were made by GlidCop Al60 before our recent development. The Glidcop, however, suffered property control issues. We therefore developed CuCrZr. Both GlidCop Al60 and CuCrZr can be considered as composites. These composites are manufactured through thermomechanical processing, which introduces a high density of particles that act as obstacles to dislocation motion (**Figure 4.1.15**). An increased density of these particles enhances the mechanical

strength of the conductors, which we tested under static loading in 2024 and 2025 (**Figure 4.1.16**).

Under certain conditions, such as cyclic loading, especially pulsed electrical mechanical loading, the conductors may either soften, harden, or even fail. Failure is likely to occur whenever the applied stress exceeds the flow stress of the conductors. Understanding and predicting the performance of conductors under cyclic loading can help MagLab scientists and engineers estimate the lifespan of any apparatus made from these conductors. The performance of conductors depends on whether the strengthening particles are characterized by ionic interatomic bonding (GlidCop) or metallic bonding (CuCrZr). During fabrication, we observed both the dissolution of particles (which added more solute atoms to the matrix) and the accumulation of dislocations. Because both solute atoms and dislocations tend to migrate at room temperature or higher, the complexity of microstructure changes increases in composites under cyclic loading. To minimize such complexity, we designed our test to determine fatigue properties at 77K, which is the temperature at which pulsed magnets operate. In 2025, we subjected the conductors to cyclic fatigue



**Figure 4.1.15** Comparison of microscopy images of Cu strengthened by two types of particles: a. TEM image of a CuCrZr sample prepared by electron-polishing. Some strengthening particles are marked by arrows. Most nanosized particles are rich in Cr with a face-centered cubic structure. b. STEM HAADF image showing Cu-alumina prepared by FIB. Some alumina particles are marked by larger arrows. Most nanosized alumina particles are in the  $\gamma$  phase. Some dislocations are marked by small arrows. The sample is in wire form with the drawing axis perpendicular to the micron-bar in the images.

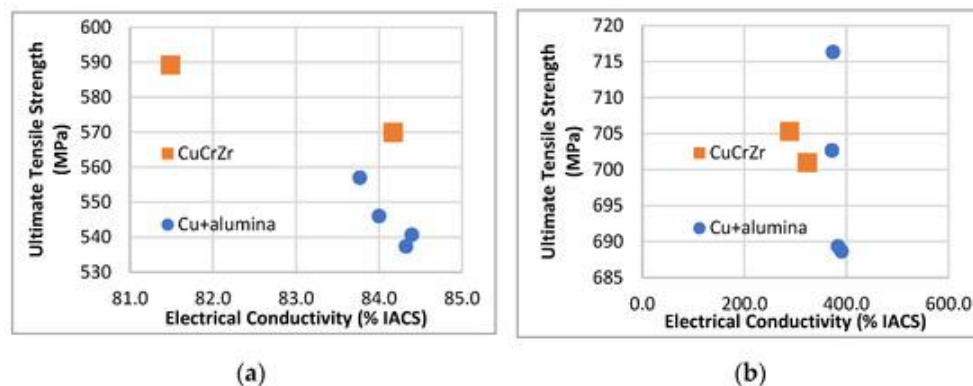
tests using a load-controlled mode, the most commonly used mode in applications. We performed our tests primarily under asymmetric tension-compression cyclic loads, designed to produce higher absolute values for tensile loading than for compression.

Throughout each series of tests, the relationship between tensile and compressive loads remained consistent from beginning to end. We tested each sample until failure, with most samples surviving more than 5000 cycles. The highest levels of plastic deformation strain appeared in each sample during its first half-cycle.

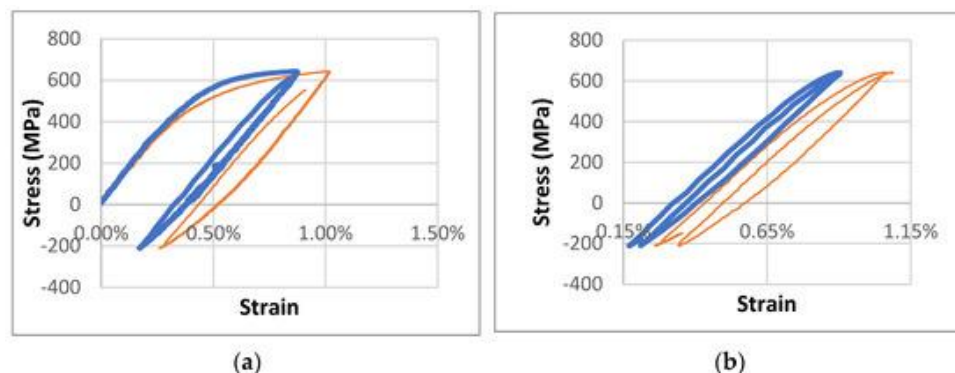
One of our tests was set for a tensile load of 643MPa and a compressive load of 211MPa, ensuring that (1) the stress amplitude level matched the average tensile strength and (2) the maximum stress level fell between the yield strengths of CuCrZr and Cu-alumina. Using dimetric strain measurements, we studied the differences in plastic deformation behavior under cyclic loading between CuCrZr and Cu-alumina. We found that the plastic deformation strain amplitude of CuCrZr at the end of the first half-cycle of loading was about 70% of that of Cu-alumina. At the end of the second full cycle of loading, the plastic deformation strain of CuCrZr was only about 50% of that of Cu-alumina. (Error! Reference source not found.).

In our second sequence of tests, we applied tensile and compressive loads of 643MPa and 243MPa, respectively. This maintained the maximum stress value from the first set of tests but increased the compressive load, raising the stress amplitude by 20%. Increasing the stress amplitude only marginally increased the strain amplitude. Although no significant difference was observed between CuCrZr and Cu-alumina after the first loading cycle, the plastic deformation strain of CuCrZr after the second cycle was about half that of Cu-alumina. After the tenth loading cycle, the plastic deformation strain of CuCrZr was just one-fifth that of Cu-alumina. Both sets of tests demonstrated that, under the same tensile stress level and stress amplitude used for cyclic tests, CuCrZr exhibited considerably less plastic deformation strain than Cu-alumina.

The data indicates that, although the two types of conductors chosen for cyclic tests had almost identical mechanical strength at 77K, samples strengthened by ionic particles appeared to need larger plastic deformation strain so that they could accommodate the same magnitude



**Figure 4.1.16** Graphs showing ultimate tensile strength versus electrical conductivity for samples representing two types of composites. Each dot in the graph represents at least six tests for electrical conductivity and mechanical strength. Round dots represent Cu-alumina, and squares represent CuCrZr. a. Data obtained from tests performed at room temperature. b. Data obtained from tests performed at 77K.



**Figure 4.1.17** Stress-strain curves at 77K for a Cu-alumina sample (thin orange solid line) and a CuCrZr sample (thick blue solid line) under maximum load of 643MPa and minimum load of 211MPa. a. Comparison of curves during the first cycle. Plastic deformation strain amplitude values are approximately 0.37% and 0.51% for CuCrZr and Al60, respectively. b. Comparison of curves during the second cycle. Plastic deformation strain amplitude values are approximately 0.08% and 0.16% for CuCrZr and Al60, respectively.

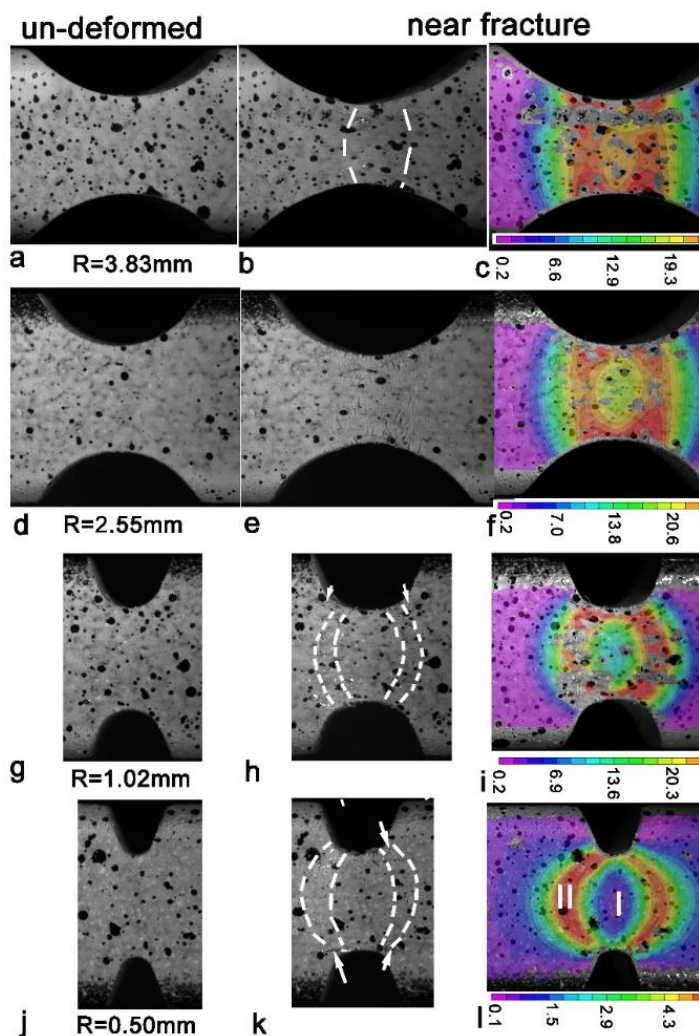
of load as could be accommodated by samples strengthened by metallic particles, even though the latter had slightly lower UTS. This work sheds light on the reason why our new 65T short, pulsed magnet with improved design and conductors delivered more shorts than old 65T.

Although CuCrZr can be used for some magnets, other magnets require conductors with higher strength than CuCrZr. In 2025, we continue our effort in development of Cu-Ag-based composites, which are known for both high strength and high conductivity and are currently used at the MagLab as conductors in several resistive DC magnets. To reduce the cost, we studied Cu-Ag with addition of Zr, which can make the conductor perform with relatively low Ag content.

During the fabrication of these high strength conductors, surface defects are commonly generated. The evaluation of the surface defects can be done by notch sensitive tests. One question of particular interest is whether the stress concentration mechanism at notch tips is the same in Cu-Ag-Zr and GlidCop composites since Cu-Ag-Zr is composed of nano-lamellae but GlidCop is composed of Cu+alumina particles. So far, there is no knowledge about the influence of notches on the strength and plasticity of these conductors. Considering the high-strength Cu-Ag-Zr and GlidCop can be achieved in wire form, the notch sensitivity was studied and compared under both plane-strain and plane stress in this work. This study also provides an insight of the slot impact on the performance of the Cu-Ag used in DC resistive magnets.

We explored notch-related plastic deformation mechanisms in both Cu-Ag-Zr and Cu-alumina composites via real-time strain mapping. Experiments demonstrated that notch-strengthening occurred in both under plane-strain conditions. A large plastic strain was generated in localized deformation bands. The localized deformation band initiated from notch tips, developing into an ellipse band and bridging the opposite notch pair. With increasing notch tip radius, localized deformation bands gradually moved toward the notch segment center. Cu-Ag-Zr nanocomposites became notch sensitive under plane-stress conditions. High plastic strain areas are concentrated only at notch tips. Current results provide unique insights into the endurance and performance of high-strength nanocomposites.

GlidCop wires are strengthened by aluminum oxide ceramic particles. Strength reached only about 600 MPa. Cu-Ag-Zr wires, strengthened by nanoscale Ag fiber in Cu matrix, can achieve a strength level greater than 800 MPa. Despite the different



**Figure 4.1.18** Real-time observation of local plastic deformation and crack development in notched Cu-Ag-Zr samples. In (a), (d), (g), and (j), double-notched samples are shown before tension. The tension direction is along the horizontal direction. In (b), (e), (h), and (k), microcracks appear at the notch tip right before fracture. The white dash lines outline cracks and fractured locations. In (c), (f), (i), and (l), images show DIC strain mapping related to samples in (b), (e), (h), and (k), respectively. In (a-c), NTR=3.83mm; in (d-f), NTR=2.55mm; in (g-i), NTR=1.02mm, in (j-l), NTR=0.50mm.

strengthening mechanisms and strength levels, we found that these two composites had the same notch-constrained deformation behavior.

The presence of double-edge notches in Cu-Ag-Zr wire changed not only the location of necking during the tensile tests, but also the strain magnitude within the strain-concentration area. In samples with large Notch Tip Radii (NTRs=3.83mm or 2.55mm), strain-concentration bands were concentrated in the segment center. Strain values differed very little between Zones I and II (We defined two deformation zones: Zone I, the inner island, was defined as the segment between notches; Zone II, containing the most deformed areas otherwise known as the strain-concentration bands, was characterized by a dense strain-gradient distribution. See **Figure 4.1.18 a-l**). The values of elongation in the sample with NTR of 3.83mm were 48% in Zone I and 55% in Zone II, a difference of only 7%. In the sample with NTR of 2.55mm, elongation values were only 37% in Zone I and 45% in Zone II. In samples with small NTRs (1.02mm or 0.50mm), strain-concentration bands reached outward beyond the notch segment into the unnotched region, and the area of Zone I was larger in these samples than in samples with larger NTRs. Elongation values were smaller in samples with smaller NTRs than in those with larger NTRs. In the sample with NTR of 1.02mm, for example, the elongation values were 20% in Zone I and 33% in Zone II, which were respectively about 46% and 27% smaller than in samples with NTR of 2.55mm. The elongations in the sample with NTR of 0.50mm dropped further to 7% in Zone I and 27% in Zone II. Accompanying the plastic deformation in Zone II, many cracks appeared within strain-concentration bands. See **Figure 4.1.18 b, e, h, and k**.

Deformation was NTR-dependent, not only in the plastic deformation regions but also in the nominal elastic regions (Zone I). In the elastic stage, the slopes on the stress-strain curves were  $122 \pm 8$  GPa,  $137 \pm 5$  GPa,  $175 \pm 2$  GPa, and  $196 \pm 2$  GPa at NTRs of 3.83mm, 2.55mm, 1.02mm, and 0.50mm, respectively. With an NTR of 3.83mm, the slope value was only 6% higher than the Young's modulus of Cu-Ag (115GPa). In the sample with sharp notch tips (0.50mm), the slope values ( $196 \pm 2$  GPa) were almost twice as high as the Young's modulus of Cu-Ag-Zr. Based on these slope values, we deduced that Zone I of samples with sharp notches was subjected to much less stress concentration than Zone II of the same samples.

Cu-alumina exhibited no notch blunting under tensile deformation, while Cu-Ag-Zr showed significant blunting, indicating greater plastic deformation capacity. In unnotched samples, Cu-Ag-Zr wires demonstrated higher local plastic deformation in necked regions compared to Cu-alumina. In notched Cu-alumina, local elongation decreased rapidly with smaller NTRs, whereas in Cu-Ag-Zr, the decrease was notably slower.

These contrasting behaviors stem from microstructural differences. In Cu-alumina, pre-existing decohesion between alumina particles and the Cu matrix facilitated crack initiation, with notches accelerating crack propagation and connection, thus sharply reducing local elongation. In Cu-Ag-Zr, the realignment of Ag fibers mitigated the impact of notches, slowing the decline in local elongation. The notch insensitivity of Cu-Ag-Zr wires is attributed to their fiber-reinforced microstructure, which provides more malleable interfaces and greater flaw tolerance compared to the particle-reinforced Cu-alumina.

## ii. Coil Fabrication

The Magnet Science and Technology (MS&T) division made substantial progress in advancing the MagLab's pulsed field capabilities through major fabrication efforts on two key highfield systems: the 60T Pulsed Magnet (Coil 7) and the 100T MultiShot Magnet (Coil 3). These accomplishments reflect significant gains in production efficiency, materials handling, coil engineering, and quality assurance—each essential for supporting world leading pulsed magnet science.

Together, the accomplishments on the 60T Coil 7 and 100T Coil 3 highlight MS&T's robust capacity for delivering complex, high precision pulsed field technology. These fabrication efforts directly support the MagLab's mission to provide the scientific community with reliable access to some of the highest pulsed magnetic fields in the world. By advancing production methods, improving tooling and facilities, and executing disciplined engineering workflows, MS&T continues to strengthen the laboratory's pulsed field infrastructure and ensure the long term vitality of the national user program.

**60 T Pulsed Magnet – Coil 7:** Fabrication of Coil 7 for the 60T pulsed system reached full completion this year, representing a major milestone in the ongoing upgrade of the LANL–MagLab pulsed field user program. The project spanned every phase of coil manufacturing, beginning with winding operations and concluding with final mechanical integration and shipment preparation.

MS&T completed the entire winding production, followed by successful execution of all conductor to lead transitions, including the leadout braze—a critical reliability step for high current, high  $dI/dt$  pulsed operation. Subsequent outer diameter insulation wraps and a carefully controlled vacuum impregnation



process ensured optimal mechanical consolidation and dielectric strength. After impregnation, the team installed exclusion plates and applied additional insulation layers to finalize structural reinforcement.

The coil was then inserted into its precision machined coil shell, after which all required facilities and tooling were configured to support the potting can assembly, epoxy transfer, and controlled epoxy cure. These steps together produce the rigid, monolithic coil structure needed to withstand the extreme Lorentz forces generated during 60T operation.

Following cure, the MS&T team carried out a complete coil breakout, removing the can, exclusion plates, and mandrel while methodically eliminating all excess epoxy. They then conducted electrical testing and dimensional measurements to validate performance and dimensional compliance ahead of final packaging. The project concluded with installation of the lead supports and coil support bracing, fabrication of a custom shipping crate, and preparation of the unit for delivery to the pulsed-field operations group at the Los Alamos National Laboratory site of the MagLab.

Collectively, this work completes one of the major production coils for the 60T Controlled Waveform pulsed magnet system and supports long-term reliability for the laboratory's high-impact user program.

**100 T Multi-Shot Magnet – Coil 3:** Substantial progress was also achieved on Coil 3, part of the multicoil assembly used in the 100T MultiShot Magnet, one of the MagLab's most advanced pulsed field systems. This coil requires highly structured, multilayered fabrication processes to meet field quality, strength, and thermal management requirements.

The year began with preparation of the winding production setup, including wire inspection and cleaning, and installation of mandrel insulation and supporting assembly hardware. MS&T then configured and tested the taping machine, enabling precise placement of insulation throughout the winding sequence. With these preparations complete, the coil underwent full winding, beginning with the conductor lead-in, followed by a lead-in braze, insulation wrapping, and application of G10 fillers and guide structures to shape the first layer.

At each stage, the team installed transition G10 ramps, inner-layer insulation, and layer-to-layer dielectric barriers to ensure structural integrity and electrical uniformity. This entire cycle was repeated for four total layers, culminating in the leadout braze, final insulation wraps, and full outer-layer insulation.

Once winding and insulation were complete, the coil underwent vacuum impregnation, ensuring uniform resin infiltration into the winding pack. After impregnation, engineers inserted the coil shell and alignment pins, followed by installation of exclusion plates and final insulation reinforcements. The team also completed all necessary facilities and tooling setups and assembled the potting can, positioning the project for the next stages of cure and breakout.

This year's progress places Coil 3 well along the critical path toward final consolidation, machining, and eventual integration into the 100 T multicoil system.

### 3. Superconducting and Hybrid Magnets

#### i. 40 T all-superconducting magnet design

The 40T superconducting magnet preliminary and final design project is funded through the NSF Mid-Scale RI-1 program and was awarded to the MagLab in 2021 (Award number: NSF/DMR 2131790). The objective of this five-year project is to validate the high-temperature superconducting (HTS) technologies required for the 40T magnet and to complete the final design needed to advance to the construction phase.

The all superconducting magnet is required to generate 40T at the center of a 34mm diameter cold bore, with a magnetic field homogeneity better than 500ppm over a one centimeter diameter spherical volume. Once completed, the 40T SC magnet will be installed in the Millikelvin lab of the DC Field facility at the MagLab, near the existing 32T SC magnet. The 40T superconducting magnet will provide an ultra-low-noise environment for experiments lasting several days at a time – significantly longer than what is possible with powered resistive or hybrid magnet systems. Upon commissioning, the 40T SC magnet will become a flagship in the MagLab's suite of high-field user magnets, greatly expanding scientific capabilities for the User Community.

The paragraphs below highlight the achievements in 2025.

#### a. 40T superconducting magnet user survey

A guided survey was conducted within the user communities of DC field and Pulse field facilities. The goal is to engage users through established channels to prioritize high-impact experimental capabilities and to guide the development of experimental techniques that will maximize the scientific impact of the 40T

magnet. Superconducting magnets provide unique and unmatched performance advantages over resistive magnets, including long test times, lower noise levels, etc. Based on the survey results, the most requested instrument capabilities include higher magnetic fields, 10–20mK base temperatures with low electron temperatures, rapid turn around and fast field sweeps, in-situ sample rotation (1 and 2-axis), electrical transport measurements, thermal measurements, condensed Matter NMR, scanning probe (STM), optics(FTIR/THz).

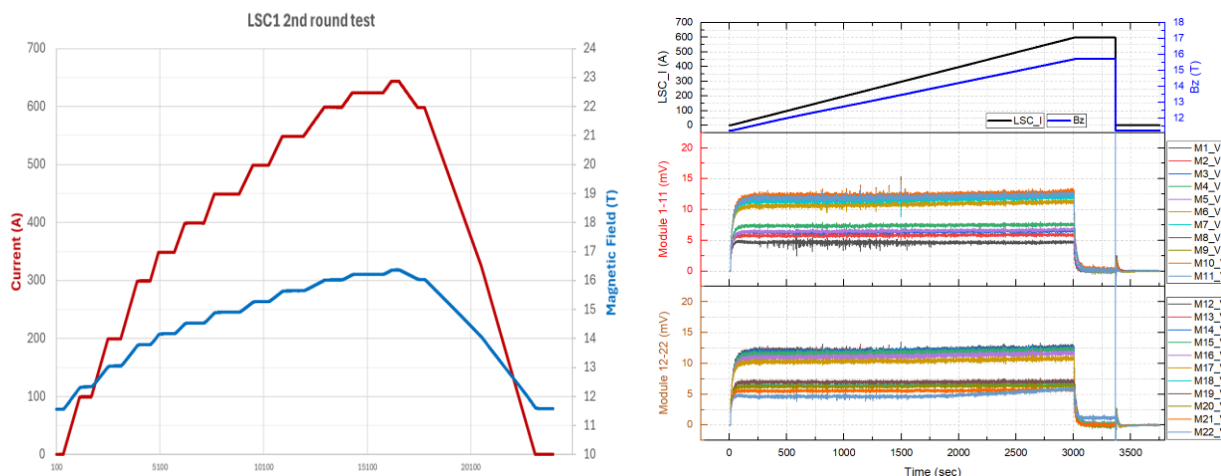
To ensure these capabilities are available for the users when the 40T magnet transitions to operation, a suite of advanced user instruments is being planned for development and construction once the 40T magnet is approved for the construction phase.

#### b. Large Scale Coil 1 second round test

In 2024, the first round test of Large Scale Coil 1 did not produce desired results due to the issue of the HTS coil and instrument wiring. The coil was damaged during the quench tests. After the test, the LSC was rebuilt by replacing the damaged modules and a second round test of LSC1 was successfully performed in October 2025. This marks the successful completion of LSC1 and the milestone of the preliminary design completion is achieved. **Figure 4.1.19** shows the LSC1 being installed for the second round test.



**Figure 4.1.19** The LSC1 was being installed for the 2<sup>nd</sup> round test.

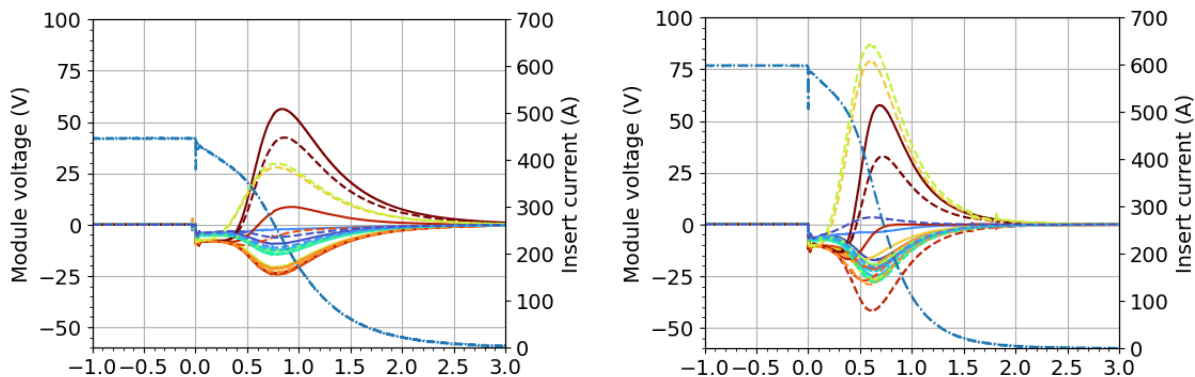


**Figure 4.1.20** LSC1 was ramped to its design current of 645A in an 11.4T background field (Left); The LSC1 was ramped up to 600A in an 11.2T background field at a continuous ramp rate of 0.2 A/s with no interruptions (Right).

The second round test of LSC1 was a major success of the 40T project. The coil reached the target operating current in the first run. Then the quench protection system for the coil was tested by repeatedly firing the protection heaters with the coil energized. The protection system performed well with no observable degradation of the coil. An internal review was held to fully review the test results. The key accomplishments of the LSC1 2<sup>nd</sup> round test include:

1. Achieved the designed operating current of 645A in a background field of 11.4T, shown in **Figure 4.1.20**, corresponding to 70% of the critical current. This is the very first time for such a large HTS coil to reach this ratio of  $I_{op}/I_c$ .
2. Demonstrated required ramp rate of the HTS coil, shown in **Figure 4.1.20**.
3. Verified HTS coil quench protection through repeated quenches at various operational currents ( $I_{op}$ ): 600A (twice), 584A, 560A, 540A, 495A, 445A. No observable degradation was observed during the tests. **Figure 4.1.21** shows the quench behavior of LSC1 at 445A and 600A.

4. Validated the design and analysis methodologies for the HTS coil.
5. Generated extensive benchmarking data for HTS coil design codes, including quench simulation, heater design, and electromagnetic structural analysis.
6. Demonstrated the quench detection CRIO system with the improved logic for filtering the voltage noises, shown in **Figure 4.1.22**.
7. Confirmed that the insulation is adequate to withstand high voltage during quench events.
8. Demonstrated the high magnetic field quality can be achieved through effective field control.

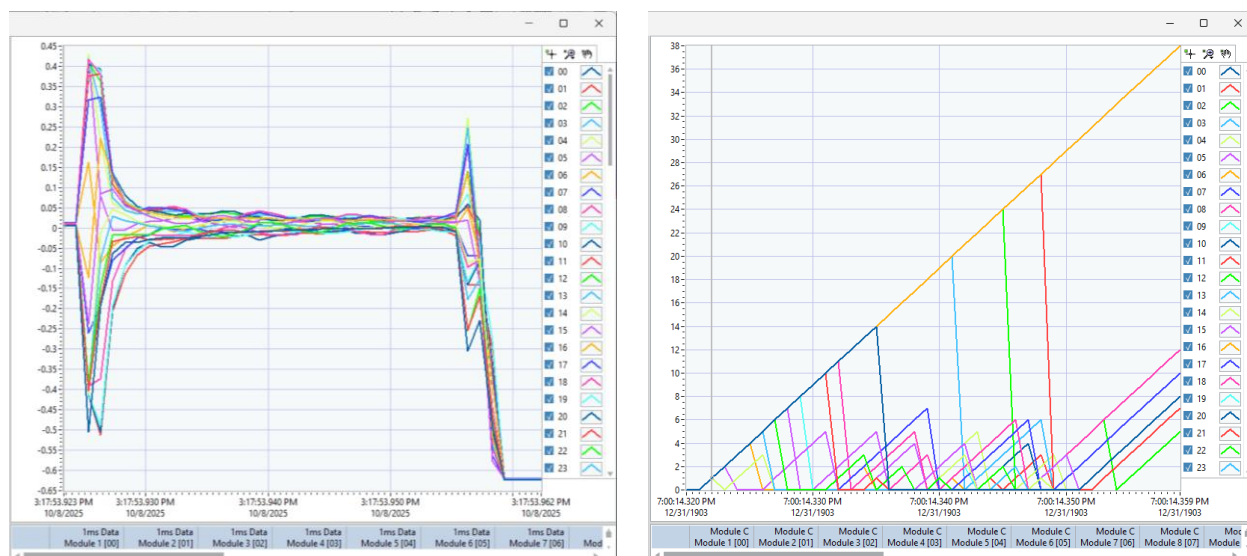


**Figure 4.1.21** Quench test of LSC1 at an operating current of 445A (left) and 600A (right). The dotted blue line is the current in the HTS coil. The solid and dash lines are the module voltage.

After the test, the coil was warmed up and disassembled for visual inspection for damage. Several issues were observed on the inner crossovers (innermost turn transition from one pancake to the other within a module) and the crossovers at the outer diameter and the lower terminal. They were caused by the coil motion, which is inherent to dry-wound HTS pancake coils. Their design will be improved to prevent damage to the inner crossovers (innermost turns) and enhance the reliability of outer crossovers and terminals. These issues will be addressed and further validated in the next Large Scale Coil LSC2.

#### c. 40T magnet design

We continued refining the design of the 40T HTS magnet to ensure it meets all the design criteria and incorporates the lesson learned in the test coils. The preliminary design has been completed and it includes the following key features: Three HTS coils contributing a total of 28T, use of  $I_c$ -graded conductors, maximum operating current ratio ( $I_{op}/I_c$ ) limited to  $\leq 0.6$ , the copper current density is  $< 770A/mm^2$ , the maximum hoop strain  $\leq 0.45\%$ , the voltage to the ground  $\leq 1kV$  during quench, and a peak quench



**Figure 4.1.22** Module voltage signals triggered a quench at 445 A (left), Counters of the voltage over the quench detection threshold (Right). When the counter was over 30, the quench project was triggered as intended.

temperature not exceeding 250K. Two major design modifications were implemented based on the lessons learned in the test coils: (1) increasing the thickness of the co-wound reinforcement to address the low winding compressibility in the modules, and (2) increasing the heat flux from quench heaters to improve the quench protection at low operating currents.

The full 40T magnet includes a 12T LTS outsert, combined with the HTS coils to reach a total field of 40T. The initial specification for the LTS magnet was released to the vendors as a Request for Information (RFI) for the 40T construction proposal. Two vendors responded with conceptual LTS designs and estimated budget and schedule. The specification requires a fringe field of 10 Gauss at a radius of less than 2 m, achieved through superconducting shield coils. Based on the vendor's conceptual design, construction of an LTS magnet with shield coils meeting the specification appears feasible and the technical risk associated with the shield coils is lower than originally anticipated. The cryostat dimensions are compatible with installation in the PIT for the 40T magnet in the Millikelvin lab. We will continue working with the vendors, who will provide revised timeline and budget estimates once the submission deadline for the 40T construction proposal is confirmed by the NSF.

## ii. REBCO conductor test

We continued testing the REBCO conductors received from SuperPower to track the performance of their production tape.

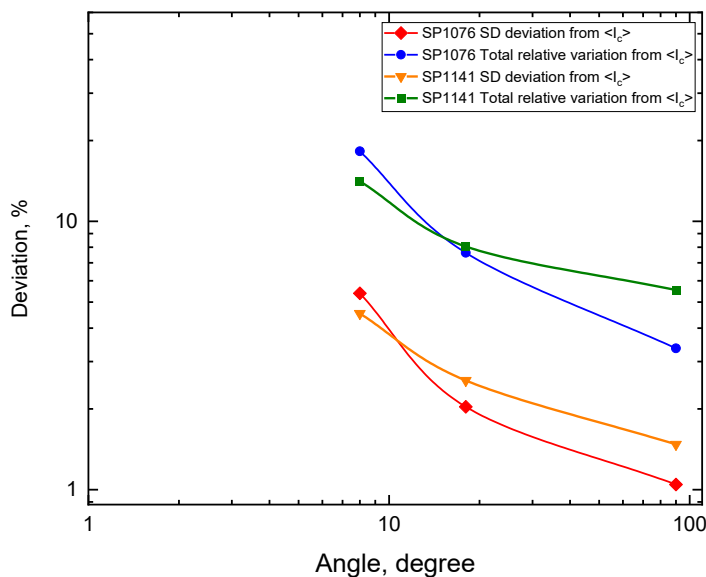
We investigated the performance uniformity of long length REBCO tapes along their entire length. For this study, an edge-slit tape of 120m long (SP1141) and a mid-slit tape of 81m long (SP1076) were selected. REBCO tape is typically manufactured as a 12mm wide strip, which is subsequently slit into three 4-mm-wide tapes. The two tapes taken from the edges of the original strip are referred to as edge-slit tapes. The tape taken from the center is referred to as mid-slit tape.

The results show that the transport  $I_c$  (4.2K, 14T, 18 °) through the length of both tapes SP1141 and SP1076 exhibits acceptable variation of 10%. Analysis of the REBCO layer thickness based on SEM images indicates that thickness fluctuations do not contribute significantly to the observed  $I_c$  variations. Additionally, sample-to-sample differences do not appear to arise from variations in pinning properties.

A comparison between edge slit and mid-slit tapes shows that overall transport current deviations at various angles are roughly similar. At smaller field angles, the  $I_c$  values exhibit relatively larger variation, which may be attribute to the higher sensitivity of angular dependence at small angle, shown in **Figure 4.1.23**.

We also tested four samples of the REBCO tapes manufactured using the newly installed M6 and M7 production lines at SuperPower. The two new machines are intended to significantly increase the vendor's production capacity. The samples consisted of two AP (Advanced Pinning) tapes and two HM tapes (recently developed for use in high magnetic fields). Based on the test results, we observed no major differences between tapes produced on M6/M7 and those manufactured on the older machines M3 and M4. Overall, the tape produced on the new equipment is acceptable for use in the 40T project.

During 2025, we ordered a total of 5,000 meters of REBCO conductor, including both standard and graded critical current ( $I_c$ ) types. Approximately half of the purchased conductor has been delivered. Upon receipt, we performed a series of Quality Control (QC) tests including transport-based  $I_c$  measurements at various angles,  $I_c$  vs. angle characterization using magnetometry, Residual Resistivity Ratio (RRR) of copper, ab-tilt angle, joint resistance testing, peel strength, and cross-sectional analysis. These conductors are intended for use in the LSC2 (Large-Scale Coil 2).



**Figure 4.1.23** Comparison of  $I_c$  variation along the length between edge slit tape (SP1141) and mid-slit tape (SP1076).



We also completed the draft specification of REBCO conductor for use in the 40T magnet and discussed it with the vendor. Because the 40T HTS coil design is still evolving, the specification will be finalized after the final design of the magnet is complete.

#### 40T construction proposal

In anticipation of submitting the 40T construction proposal under the mid-scale RI-2 program in 2025, we started planning for the construction in Q4 2024 and completed the draft plan early 2025. However, due to delays in the release of the next round RI-2 program solicitation, the proposal has not yet been submitted. In the meantime, we are continuing work on the final design of the magnet and developing the project execution plan for the construction phase, while awaiting the official solicitation. The delay of construction proposal will cause a funding gap for the 40T project between the completion of 40T design project and the start of the construction project. This funding gap issue has been actively communicated with the NSF program officers and the MagLab leadership.

#### Numerical Models—Radial Compliance

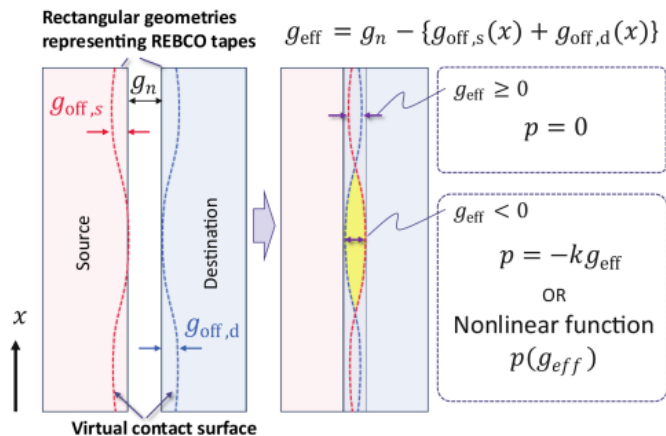
A notable accomplishment was the development of a numerical model to simulate radial compliance in REBCO wound coils. The magnet community recently observed that tape-wound coils exhibit high compressibility in wound coils. This greatly impacts the computed strain if not accounted for in modeling. A finite element model utilizing contact elements was developed here that includes the actual REBCO tape profile which are quite nonuniform. **Figure 4.1.24** is a schematic of a REBCO tape showing how a nonlinear penalty function in the contact elements is applied to approximate a nonuniform surface geometry.

#### Numerical Models – Structural

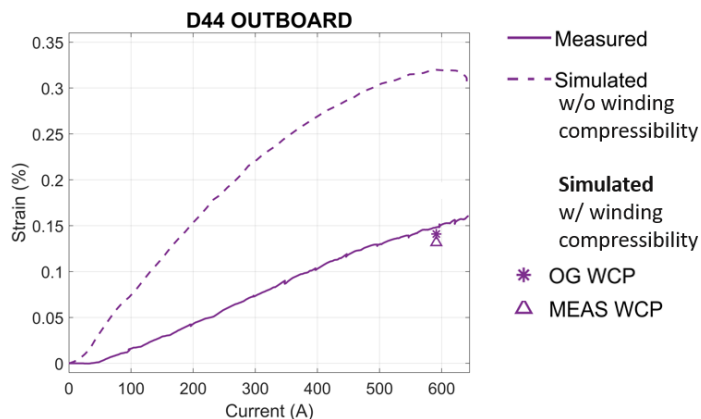
The structural models are verified by benchmarking with testing. The LSC round 1 and round 2 tests provided ample data from the strain gauge instrumentation that were attached to the coils. The comparisons will help determine the most appropriate model moving forward, see **Figure 4.1.25**.

#### Numerical Models – Quench

To protect superconducting magnets from thermal and electrical damage caused by the sudden loss of superconductivity (quench), coils are actively protected utilizing embedded heaters that are powered to normalize as much as the coil mass as possible to safely distribute the energy. The heater design has been improved from a radial pattern to an orthogonal pattern that increases the number of peak hot zones. A sample of a heater temperature profile is shown in **Figure 4.1.26**. Three-dimensional modelling of the heaters is done to estimate the thermal heat flux applied to a coil and the resulting temperature increase. These results are used in conjunction with quench modeling.



**Figure 4.1.24** Modeling nonuniform REBCO tape surface utilizing a penalty function.



**Figure 4.1.25** Comparison of measured and computed strain using various methods showing that compressibility (symbols) agrees best.

The modeling of quench is highly complex, and the results often have a high degree of uncertainty, primarily due to the variability in the mechanical properties of the superconductor. The confidence level of the results has been greatly improved now by applying the Monte Carlo method that provides a statistical representation of the outcome from quench. Thousands of computations are performed to give a range of likely voltages and temperatures from a quench event, as shown in **Figure 4.1.27** for the Large Scale Coil (LSC).

Development of high voltage during quench is a fundamental issue with large solenoids. This has been shown to be apparent in the redesign of the 32T all-superconducting magnet. The quench protection circuit used in the original 32T design cannot keep the voltages to an acceptable level with the new magnet design. Analysis shows, however, that the inclusion of a diode placed across the coils allows currents to redistribute away from the high resistive zones, reducing the voltages.

#### Numerical Models – Coupling Currents

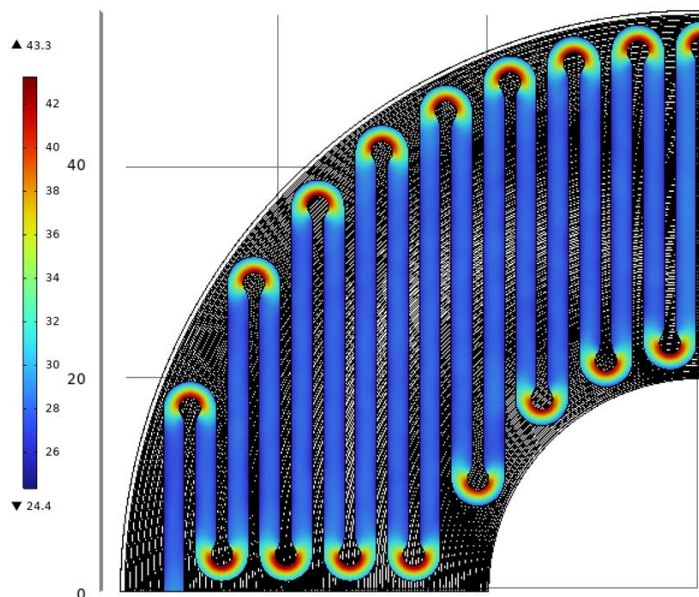
Another potential issue is coupling currents that exist between stacked superconductors. The 40 T design includes a two-in-hand winding of REBCO tapes. The distribution of currents between these two tapes as the coil current ramps, has

been unknown. Through the use of H-phi formulation, a picture of the current distribution is appearing. It does show that from normal ramping up and down, the current distribution has little effect on the overall performance of the magnet. A quench event however creates rapid current changes and very dynamic current flow between tapes. Simple modeling shows that current will flow in opposite directions which is an interesting phenomenon. The study will continue by coupling the simulation into a quench model.

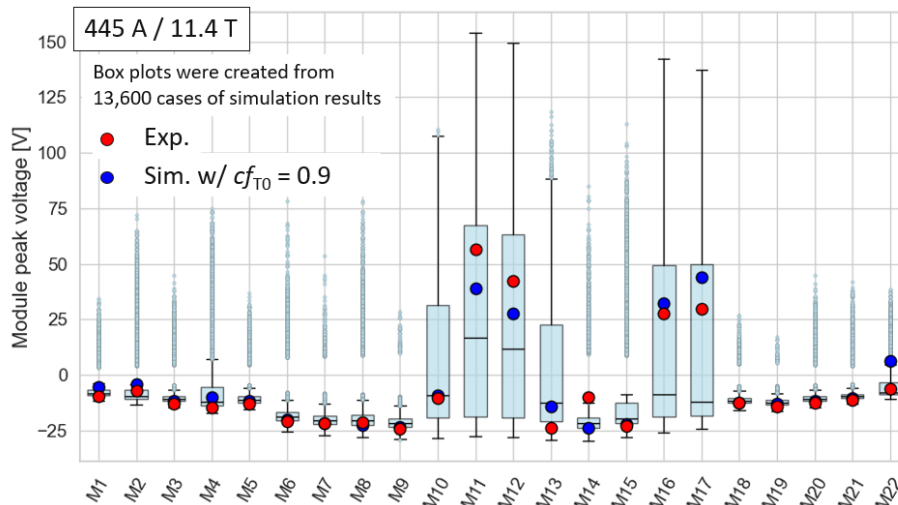
#### iii. 36 T Series-connected hybrid 20 kA lead repair

In March 2025, the MagLab initiated a project to replace the 20kA binary current leads on the Series-Connected Hybrid magnet after the leads were damaged as shown in **Figure 4.1.28** during a test run on January 15, 2025.

At the project start, a work plan and cost estimate was generated using worst case assumptions, including the need to remove the vacuum vessel from the SCH magnet and to replace the HTS section with REBCO tape. The initial project duration was estimated to be 2.5 years.



**Figure 4.1.26** Simulation of temperature across an orthogonal geometry quench heater.



**Figure 4.1.27** Measured peak voltage in each module of the LSC with Monte Carlo simulation results overlaid.

An access panel on the vacuum vessel near the leads was provided in the original design. There was a risk that the leads could not be disconnected through the panel opening and that a more complete disassembly of the magnet would be required. Once the panel was removed, we learned that we could access the leads through the panel, and that risk was retired. The leads were removed in June without disturbing the helium circuit. The nitrogen circuit was capped off and a temporary hatch was installed.

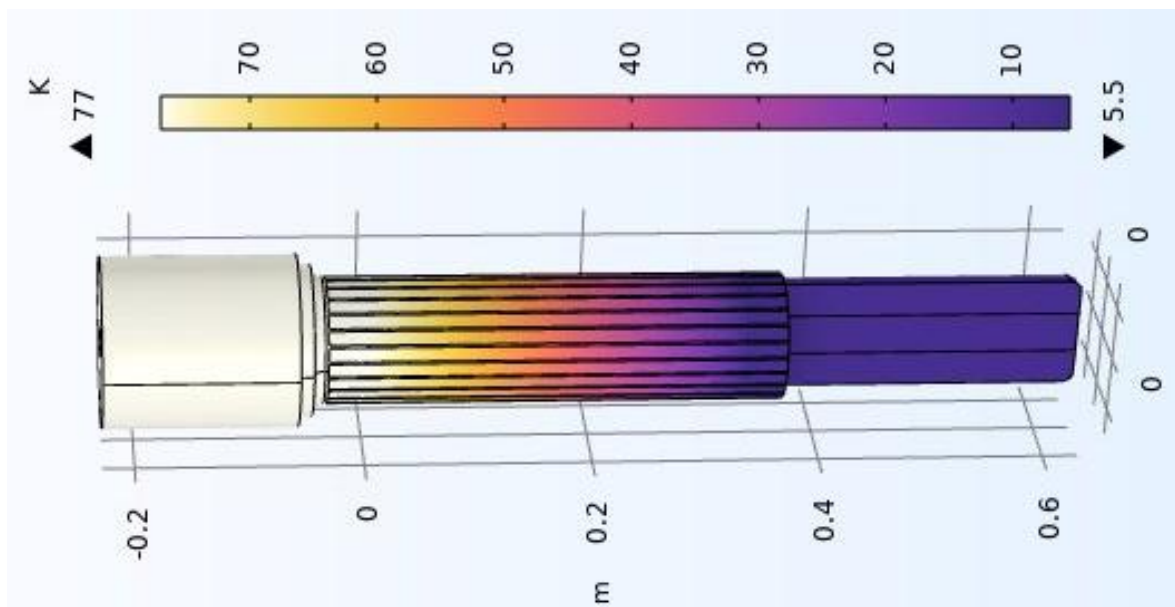
A Root Cause Analysis was performed by a team of investigators from Fermilab. The team visited the MagLab in July to conduct interviews and collect data. A report was drafted shortly after the visit. After reviews with MagLab personnel, a final report was released in November.

The report identified four causes including insufficient cooling, improper protection and failed sensors. The report made eight recommendations, to improve temperature, voltage, liquid nitrogen level and nitrogen gas flow sensors, to improve procedures for startup and operation of the magnet, and for corrective improvements to the protection system. The report recommended replacing the damaged HTS section with the same Bi2223 conductor that was originally used.

Concurrently with the Root Cause Analysis, a conceptual design for a replacement current lead using REBCO conductors was conducted. The original material used for the HTS section was Sumitomo Type G, a 4 mm width tape made of a silver/gold alloy matrix with Bi2223 filaments. This material is no longer manufactured and our initial queries indicated that none was available.



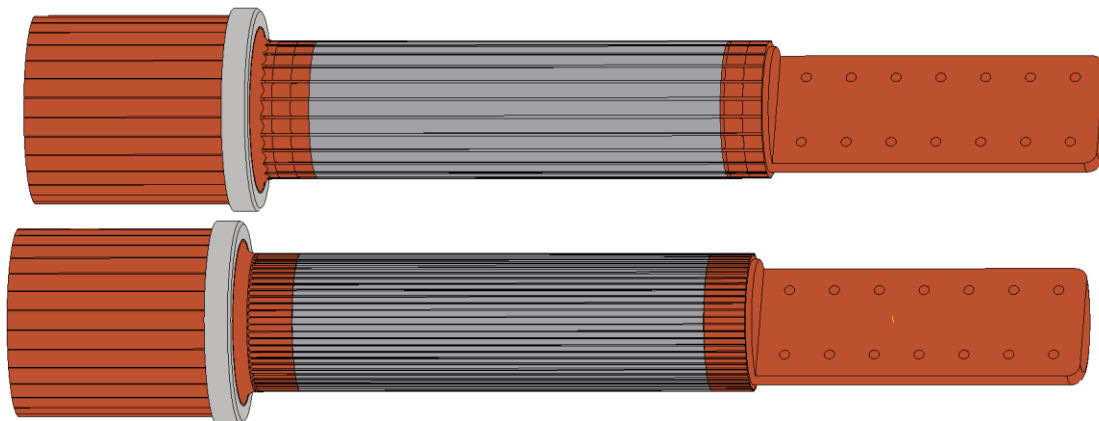
**Figure 4.1.28** View of the blue SCH current leads after access panel was removed. The damaged section can be seen by the discolored section on the right 20 kA lead.



**Figure 4.1.29** SCH lead temperature profile used to compute the heat load on the REBCO lead design.

The only option at the time was to reconfigure the HTS section of the SCH leads to use REBCO tape. A feasible REBCO design was found after analysis, design and prototyping was done to define a suitable configuration. The proposed lead specified 12mm width REBCO tape from Faraday Factory, stacked and soldered to a brazed assembly configured to be a drop-in replacement for the HTS section in the original lead.

The critical current temperature dependance of REBCO limits its capability and thus detailed knowledge of the temperature distribution during operation is vital. Three-dimensional modeling has been done to enable designers to better determine the number of required REBCO tapes and their distribution around the lead. **Figure 4.1.29** shows the temperature distribution between the nitrogen reservoir and 4.2K end of the SCH lead.



**Figure 4.1.30** HTS sections compared. Original Bi2223 design at bottom, REBCO design option at top. The REBCO design uses 24 stacks of 12mm width tape. The original design uses 60 stacks of Bi2223 tape.

In November, we learned that CERN has a reserve supply of Sumitomo Type G conductor. They agreed to provide the MagLab with enough tape to repair the damaged lead. The project plan was revised to inactivate the tasks of disassembling and reassembling the magnet, and to develop a new HTS section design using REBCO tape. New tasks were added to replace the damaged Bi2223 tape with new and identical tape provided by CERN. **Figure 4.1.30** shows the initial drop-in replacement of the REBCO conductor, now abandoned due to the location of Bi2223 inventory, in comparison to the original lead design.

#### iv. 32 T rebuild

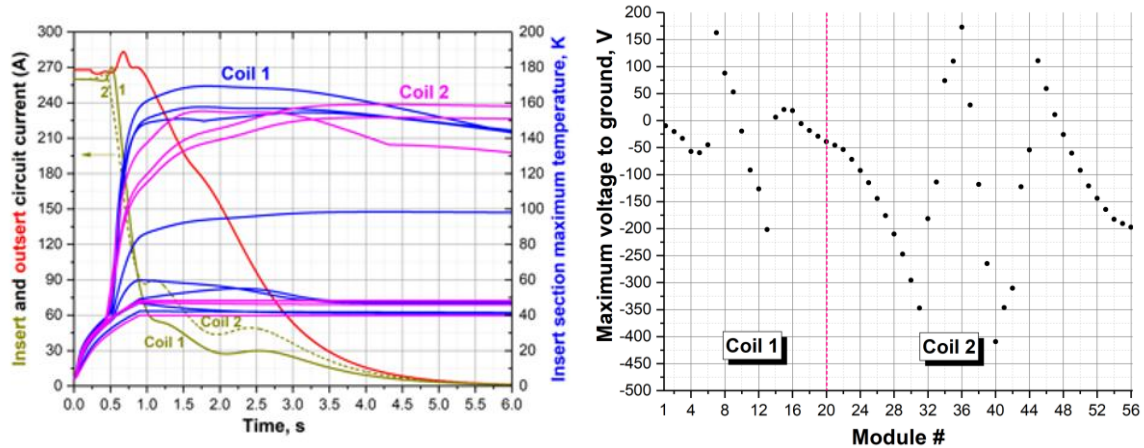
The rebuild of the 32 T HTS Insert has begun. Approximately 20 design iterations have been performed taking into account design decisions such as single vs. two-in-hand REBCO turns, grading of REBCO for different fractions of critical current, specifying center vs. edge-cut REBCO, different copper current densities using integral vs co-wound copper, thickness of co-wound stainless steel, different reinforcing concepts, grading of quench heaters, specifying diodes in the quench protection circuit and whether to use other HTS materials besides REBCO. These strategic design decisions affect stress and quench risk versus field and cost tradeoffs. Design developments and test coil performance made on the 40 T all-superconducting magnet design phase were leveraged in these decisions, and vice versa, the developments made in the design iterations and analyses made on the 32 T rebuild will be leveraged on the 40 T all-superconducting magnet project. As shown in **Figure 4.1.31** the final conceptual design meets the quench requirements of maintaining insert coil temperatures to less than 220 K and voltages to ground to less than 750 V.

#### 4. Collaborations

Commercial collaborations were active this year with Cryomagnetics, Mevion, Type One Energy, Brookhaven National Laboratory, Commonwealth Fusion Systems, Rolls-Royce, General Electric and Lawrence Berkeley Laboratory. HTS insert modules using epoxy impregnated REBCO modules were designed, fabricated and tested for Cryomagnetics as the HTS insert for their commercial development of a 25T all-superconducting magnet. Cable testing was performed in the 12T split superconducting magnet



for Mevion's Proton Therapy machines. HTS cables are being developed at Type One Energy for the Fusion Energy device which will also be tested in the 12T split magnet. Mechanical testing was performed at 4.2K for Commonwealth Fusion Systems. Physical properties at low temperatures were performed on materials for Rolls Royce. Thermal expansion of materials at low temperatures were performed for General Electric. And finally, an  $I_c$  test probe design was advanced for Lawrence Berkeley Laboratory.



**Figure 4.1.31** The rebuild of the 32T HTS Insert has begun starting with updating the HTS Insert design incorporating the technology development on the 40T all-superconducting magnet design project. The quench analysis shows that the design meets the requirements of maintaining temperatures less the 220K (left graph) and voltages to ground less than 750V (right graph).



## 4.2 CENTER FOR FAIR AND OPEN SCIENCE

### INTRODUCTION

The MagLab's Center for FAIR and Open Science (CFOS) long term goal is to ensure that all products of research generated at the MagLab are shared according to the principles of FAIR data<sup>1</sup> and open science (FAIROS). The FAIR principles provide guidance for ensuring that research data are findable, accessible, interoperable, and reusable by both humans and machines while also emphasizing qualities that enable its reproducibility, integrity, and transparency. The FAIR principles also facilitate readiness for artificial intelligence (AI) applications. These goals closely align with the NSF's Strategic Plan<sup>2</sup> which emphasizes Gold Standard Science and the importance of advancing innovation through the development and implementation of AI.

Making data FAIR and open is recognized by both the United States federal government and a broad array of intergovernmental organizations as being essential to accelerating the pace of innovation and making the social and economic benefits of science available to all. To do this CFOS develops regulations, policies, and recommendations on FAIR and open science for all users, including both instrument users who directly utilize magnet systems and data users who access MagLab datasets through public access repositories such as NSF-PAR. The National Science Foundation's (NSF) Public Access Plan 2.0<sup>3</sup> and related provisions in the current Proposal & Award Policies & Procedures Guide<sup>4</sup> are the primary guiding documents used in this process, but documentation and best practices from across the fields of science and engineering are also considered. CFOS also works to address challenges associated with the intersection of information assurance with data management practices. The implementation of measures to make data FAIR such as persistent identifiers (PIDs) for researchers and data indexing systems that allow the tracking of research data provenance also have important implications for research transparency, integrity, and resilience.

CFOS recognizes technical and cultural challenges within the disciplines of research practiced at the MagLab that complicate the adoption of FAIR and open data sharing practices. CFOS addresses these challenges by providing knowledge and tools to users that simplify the process of implementing FAIROS, working towards making it an integral and seamless part of the research experience. CFOS staff also participate in research community organizations to help drive the development of solutions to the implementation challenges that MagLab users face.

### USER SUPPORT

MagLab users face a growing complexity in applying FAIROS to their work. Recently, data sharing policies from funders, publishers, and institutions began to recommend that products of research, including the raw data underlying the research findings, be made immediately and publicly available upon publication (or other dissemination). With recent supplements to the NSF's PAPPG, this has become obligatory for MagLab users. CFOS aims to ensure that users have access to tools and knowledge that minimize the time investment required to meet these requirements and maximize the value derived from applying FAIROS principles.

In 2025, CFOS provided support to MagLab users in a variety of ways. Data management and sharing plans (DMSPs), primarily based on guidance from the NSF Division of Materials Research, are available in a centralized location on the MagLab website to ensure their accessibility for users. DMSPs are available for the MagLab as a whole and for each user facility, providing users with details specific to their discipline of research. CFOS personnel also assisted MagLab personnel by writing/reviewing DMSPs for grant proposals submitted to NSF.

MagLab users also received direct support from CFOS and affiliated MagLab staff in meeting sharing requirements for data, publications, software, and other products derived from their use of MagLab resources. The MagLab maintains its membership to Open Science Framework (OSF), a generalist open access repository that allows users to upload and share their work. Research products can be associated with metadata and assigned PIDs to enable their findability and meet sharing requirements for their work. In the MagLab's Pulsed Field Facility (PFF), CFOS-affiliated staff Lyudmila Balakireva and Fedor Balakirev provided specialized tools that allow PFF users to automatically upload data and metadata collected at the facility to OSF, providing a convenient means of access to user-acquired data and simplifying the process of data sharing.<sup>5</sup>

In the future, CFOS will continue to provide up-to-date guidance and on-demand support for MagLab users. Recently-released supplements to the PAPPG that mandate public data sharing and public availability of journal articles and other materials through NSF-PAR will require the MagLab to modify its long-standing user program policies and users will need to adopt new practices to ensure compliance. CFOS is ready to provide guidance to users in implementing new data and publication sharing practices and ensuring that appropriate persistent identifiers are associated with all products of research.

### FSU COMPUTER SCIENCE COLLABORATION

In 2025, the collaboration between the MagLab's Ion Cyclotron Resonance facility and Florida State University's Computer Science (CS) department continued and reached significant milestones. MagLab and CS faculty submitted grants to the NSF's Information Integration and Informatics (III) and Programmable Cloud Laboratories (PCL) solicitations, both focusing on the use of AI to enable advanced data acquisition and analysis capabilities for MagLab users. Additional grant submissions will be pursued in 2026.

The MagLab also provided funds for a CS student mentored by David Butcher and Zhenhai Duan from FSU CS to collaborate with the Cornell High Energy Synchrotron Source to incorporate their CI solutions – details are provided below. These faculty also mentor an additional graduate student working on the implementation of AI-based de novo sequencing algorithms for proteomics data acquired using ICR facility instrumentation.

### CHESS COLLABORATION

The MagLab has long sought collaborations with other FAIROS efforts, particularly those related to the development of critical CI to enable FAIR and AI-ready data. During a workshop held by CI Compass in early 2025, a connection was established between CFOS and staff at the Cornell High Energy Synchrotron Source (CHESS) working on a suite of services for data and metadata management called FOXDEN. CFOS formed a collaboration with CHESS staff to implement these same services at the MagLab, providing the necessary CI to implement FAIROS.

CHESS and CFOS staff, including a CS graduate student hired to work on the project, have worked on integration of FOXDEN at the MagLab and development of an application to facilitate generation and management of metadata for datasets collected at MagLab user facilities. In 2026, the application will be tested in the Ion Cyclotron Resonance facility. Lessons learned from this initial implementation will be used to guide further development, with the goal of enabling advanced metadata management across all user facilities.

### COMMUNITY OUTREACH AND EDUCATION

A key barrier to implementing FAIROS is the lack of solutions — especially adequate cyberinfrastructure (CI) and widely accepted data and metadata standards. Advancing FAIROS across science and engineering requires broad, coordinated community participation. Numerous recent initiatives foster coordination within and across disciplines. CFOS engages in these efforts to keep the MagLab aligned with best practices and to advocate for its users.

#### Association of Biomolecular Resource Facilities Annual Meeting

In March of 2025, CFOS staff participated in the annual conference of the Association of Biomolecular Resource Facilities (ABRF), giving a presentation and participating in a panel on the challenges faced by regional and national core facilities. The contributions of CFOS staff focused on data management challenges, specifically related to data management, cyberinfrastructure, and meeting public access requirements. The members of the panel, led by Thayumanasamy “Soma” Somasundaram, an FSU faculty member in the Institute of Molecular Biophysics and Director of FSU's X-ray Crystallography Facility, later collaborated on a publication in the ABRF's Journal of Biomolecular Techniques entitled “Regional and National Shared Research Resources: Challenges and Opportunities.”

#### CI Compass Collaborations

In 2025, CFOS continued its collaborative efforts with CI Compass, the NSF Cyberinfrastructure Center of Excellence, to develop strategies for implementation of new CI at the MagLab. The mission of CI Compass is to “provide expertise and active support to CI practitioners at NSF Major Facilities in order to accelerate the data lifecycle and ensure the integrity and effectiveness of the CI upon which research and discovery depend.” This support has been critical to helping the MagLab advance its plans for implementing FAIROS practices, particularly by forming new connections with other NSF-funded facilities and initiatives to develop and implement critical cyberinfrastructure components such as persistent identifiers (PIDs).

#### CI Compass FAIR Workinggroup

In addition to supporting major facilities, CI Compass maintains a FAIR Working Group that brings together CI professionals and major facility staff to discuss FAIR data implementation at major facilities. Throughout 2025, the Working Group met regularly to discuss the latest innovations in CI and data management to facilitate FAIROS, including new standards for the representation of data and metadata and the facilitation

of knowledge network construction and generating data ready for exploitation AI. These discussions helped to facilitate new connections with groups working on solutions for FAIROS. In 2026, CFOS will continue to meet and discuss concrete implementation of CI concepts developed in collaboration with the Working Group and as part of the continued collaboration with FSU's CS department.

### **CI Compass Fellowship**

In 2024, the MagLab hosted a student through the CI Compass Summer Fellowship program. The student was hosted in on-campus housing at FSU and worked with MagLab faculty member Julia Smith on a project that used machine learning to analyze audio recordings of instruments to predict magnetic coil failures and prevent costly and disruptive damage to magnet systems. The success of this fellowship has encouraged the MagLab to continue its participation. In 2025, the MagLab agreed to support up to two fellowship students placed by CI Compass for the summer of 2026. Students will be directly involved in the development of critical CI for the generation and cataloguing of metadata for MagLab experiments, helping the lab to meet its goals for FAIR and AI-ready data.

### **FAIROS RCN: Fair Facilities and Instruments**

The NSF's Findable Accessible Interoperable Reusable Open Science Research Coordination Networks (RCN) program was granted in 2022 with the goal of fostering catalytic improvements in scientific communities focusing on the FAIR principles. In 2025, the third annual meeting of the FAIROS RCN for FAIR Facilities and Instruments was held at the National Center for Atmospheric Research in Boulder, Colorado. Data management and cyberinfrastructure professionals from universities, major facilities, and non-profit organizations across the country convened in Boulder to discuss a variety of subjects, including the implementation of PIDs for facilities and instruments. This year's meeting included extensive discussion of the progress made over the last few years of the RCN. The co-PIs of the RCN published a workshop report<sup>6</sup> and an additional set of recommendations<sup>7</sup> as a capstone on the three-year RCN project, which incorporates hundreds of hours of discussion among dozens of experts and will serve as a valuable resource for future implementations. Implementation of Persistent Identifiers for Researchers

### **IMPLEMENTATION OF PERSISTENT IDENTIFIERS FOR RESEARCHERS**

The implementation of PIDs for researchers will be critical to the implementation of research security requirements, providing authenticated access for users of MagLab systems, and tracking the products of MagLab research. In 2025, CFOS continued the process of obtaining an ORCID membership for the MagLab. The process has been delayed by contract negotiations between FSU and ORCID, as FSU must ensure compliance with certain Florida statutes. The process is expected to be complete in 2026, after which the MagLab will begin integration of ORCIDs into its systems.

### **USER SURVEY**

The annual MagLab user survey now includes questions related to users' knowledge and implementation of FAIROS practices. By tracking answers to these questions, CFOS will be able to monitor progress on user adoption and implementation of FAIROS practices over time, providing valuable metrics. We intend to modify or add questions over time as appropriate. A more comprehensive user survey was planned for 2025 but was delayed due to the late implementation of expected changes to the NSF PAPPG related to public accessibility of datasets and published articles. In late 2025/early 2026, NSF released PAPPG supplements that finally implemented these long-expected changes. Survey questions for 2026 will specifically ask users about their familiarity with these new requirements, allowing the MagLab to tailor its efforts accordingly.



## Bibliography

- (1) Wilkinson, M. D.; Dumontier, M.; Aalbersberg, Ij. J.; Appleton, G.; Axton, M.; Baak, A.; Blomberg, N.; Boiten, J.-W.; da Silva Santos, L. B.; Bourne, P. E.; Bouwman, J.; Brookes, A. J.; Clark, T.; Crosas, M.; Dillo, I.; Dumon, O.; Edmunds, S.; Evelo, C. T.; Finkers, R.; Gonzalez-Beltran, A.; Gray, A. J. G.; Groth, P.; Goble, C.; Grethe, J. S.; Heringa, J.; 't Hoen, P. A. C.; Hooft, R.; Kuhn, T.; Kok, R.; Kok, J.; Lusher, S. J.; Martone, M. E.; Mons, A.; Packer, A. L.; Persson, B.; Rocca-Serra, P.; Roos, M.; van Schaik, R.; Sansone, S.-A.; Schultes, E.; Sengstag, T.; Slater, T.; Strawn, G.; Swertz, M. A.; Thompson, M.; van der Lei, J.; van Mulligen, E.; Velterop, J.; Waagmeester, A.; Wittenburg, P.; Wolstencroft, K.; Zhao, J.; Mons, B. The FAIR Guiding Principles for Scientific Data Management and Stewardship. *Sci. Data* **2016**, 3 (1), 160018. <https://doi.org/10.1038/sdata.2016.18>.
- (2) *NSF FY 2026-2030 Strategic Plan - About NSF | NSF - U.S. National Science Foundation*. <https://www.nsf.gov/about/performance/strategic-plan/nsf-fy-2026-2030> (accessed 2026-02-04).
- (3) *NSF Public Access Plan 2.0*. <https://www.nsf.gov/pubs/2023/nsf23104/nsf23104.pdf>.
- (4) Proposal & Award Policies & Procedures Guide (PAPPG) (NSF 23-1) | NSF - National Science Foundation. <https://new.nsf.gov/policies/pappg/23-1> (accessed 2024-03-05).
- (5) Balakireva, L.; Balakirev, F. Making FAIR Practices Accessible and Attractive. In *Linking Theory and Practice of Digital Libraries*; Silvello, G., Corcho, O., Manghi, P., Di Nunzio, G. M., Golub, K., Ferro, N., Poggi, A., Eds.; Lecture Notes in Computer Science; Springer International Publishing: Cham, 2022; pp 417–424. [https://doi.org/10.1007/978-3-031-16802-4\\_41](https://doi.org/10.1007/978-3-031-16802-4_41).
- (6) Mayernik, M. J. FAIR Facilities and Instruments Workshop #3 Report: Synthesizing Community Input Toward Recommendations.
- (7) Mayernik, M.; Johnson, A.; Julian, R.; Mundoma, C.; Murray, M.; Ranganath, A. Recommendations Toward a Framework for Adoption and Use of Persistent Identifiers for Research Facilities, Platforms, and Instruments; Zenodo, 2026. <https://doi.org/10.5281/zenodo.18436644>.

## 5 PUBLICATIONS

### 5.1 PEER-REVIEWED PUBLICATIONS

The Laboratory continued its strong record of publishing, with **412** articles appearing in peer-reviewed scientific and engineering journals in 2025. Among these, **356** acknowledge NSF support for the operation of the NHMFL, and **181** (44 percent) appeared in significant journals. **Table 5.1.1** provides an overview of NSF-acknowledged peer-reviewed and significant peer-reviewed publications by division then non-NSF-funded units.

**Table 5.1.1.** Submitted peer-reviewed publications from the OPMS live database. The point-in-time snapshot was on March 18, 2026. A total number of publications per year should NOT be drawn from this report because a submitter may, as appropriate, link a publication to two or more facilities. We note that the State of Florida contributes significantly to NHMFL and hired faculty at UF and FSU to enhance NHMFL programs. Publications from these professors are included as they significantly enhance the NHMFL research effort and are listed here in the UF physics and CMT/E categories.

| Facility                      | Peer Reviewed | Significant Peer Reviewed | Acknowledges Core Grant |
|-------------------------------|---------------|---------------------------|-------------------------|
| AMRIS Facility at UF          | 31            | 6                         | 19                      |
| DC Field Facility at FSU      | 96            | 50                        | 96                      |
| EMR Facility at FSU           | 28            | 10                        | 28                      |
| High B/T Facility at UF       | 4             | 2                         | 4                       |
| ICR Facility at FSU           | 29            | 8                         | 27                      |
| NMR Facility at FSU           | 71            | 28                        | 69                      |
| Pulsed Field Facility at LANL | 35            | 24                        | 35                      |
| ASC                           | 16            | 14                        | 16                      |
| MS & T                        | 19            | 14                        | 19                      |
| CMT/E                         | 82            | 51                        | NA <sup>1</sup>         |
| Geochemistry Facility         | 13            | 2                         | NA <sup>1</sup>         |
| Gypstacks / Rare Earth        | 5             | 1                         | NA <sup>1</sup>         |
| MBI at UF                     | 43            | 4                         | NA <sup>1</sup>         |
| UF Physics                    | 5             | 1                         | NA <sup>1</sup>         |

<sup>1</sup>Research not funded by NSF.

**Table 5.1.2** summarizes the publications generated by external users and in-house research activities. A detailed list of these publications can be found in **Table 5.1.2**.

**Table 5.1.2.** Overview of publications generated by external users and in-house research activities. A total number of publications per year should NOT be drawn from this report because a submitter may, as appropriate, link a publication to two or more facilities.

| Facility                           | All Internal Authors |                          | Internal Corresponding Author(s) with External Co-Authors |                          | External Corresponding Author(s) with Internal Co-Authors |                          | All External Authors |                          | Totals               |                          |               |
|------------------------------------|----------------------|--------------------------|-----------------------------------------------------------|--------------------------|-----------------------------------------------------------|--------------------------|----------------------|--------------------------|----------------------|--------------------------|---------------|
|                                    | NSF Core Grant Cited | NSF Core Grant Not Cited | NSF Core Grant Cited                                      | NSF Core Grant Not Cited | NSF Core Grant Cited                                      | NSF Core Grant Not Cited | NSF Core Grant Cited | NSF Core Grant Not Cited | NSF Core Grant Cited | NSF Core Grant Not Cited | Pubs for 2025 |
| AMRIS Facility at UF               | -                    | -                        | 8                                                         | 4                        | 3                                                         | 5                        | 6                    | 5                        | 17                   | 14                       | 31            |
| DC Field Facility at FSU           | 3                    | -                        | 15                                                        | -                        | 76                                                        | -                        | 2                    | -                        | 96                   | -                        | 96            |
| EMR Facility at FSU                | 1                    | -                        | 5                                                         | -                        | 21                                                        | -                        | 1                    | -                        | 28                   | -                        | 28            |
| High B/T Facility at UF            | -                    | -                        | 4                                                         | -                        | 1                                                         | -                        | -                    | -                        | 5                    | -                        | 5             |
| ICR Facility at FSU                | 2                    | -                        | 5                                                         | -                        | 19                                                        | 2                        | 1                    | -                        | 27                   | 2                        | 29            |
| NMR Facility at FSU                | 7                    | 1                        | 21                                                        | 1                        | 41                                                        | -                        | -                    | -                        | 69                   | 2                        | 71            |
| Pulsed Field Facility at LANL      | -                    | -                        | 16                                                        | -                        | 19                                                        | -                        | -                    | -                        | 35                   | -                        | 35            |
| ASC                                | 8                    | -                        | 4                                                         | 1                        | 2                                                         | 1                        | -                    | -                        | 14                   | 2                        | 16            |
| MS & T                             | 11                   | -                        | 3                                                         | -                        | 3                                                         | -                        | 2                    | -                        | 19                   | -                        | 19            |
| CMT/E <sup>1</sup>                 | 12                   | -                        | 26                                                        | 2                        | 39                                                        | 2                        | -                    | -                        | 77                   | 4                        | 81            |
| Geochemistry Facility <sup>1</sup> | 2                    | -                        | 6                                                         | -                        | 5                                                         | -                        | -                    | -                        | 13                   | -                        | 13            |
| Gypstacks /Rare Earth              | 4                    | -                        | -                                                         | 1                        | -                                                         | -                        | -                    | -                        | 4                    | 1                        | 5             |
| MBI at UF <sup>1</sup>             | -                    | -                        | -                                                         | 3                        | 6                                                         | 8                        | 4                    | 22                       | 10                   | 33                       | 43            |
| UF Physics <sup>1</sup>            | -                    | -                        | 3                                                         | -                        | 2                                                         | -                        | -                    | -                        | 5                    | -                        | 5             |

<sup>1</sup>Research not funded by NSF.

Besides **412** peer-reviewed publications, the following other products have also been published at the MagLab in 2025:

- Disseminations: **8**
- Patents: **5**
- M.S. Theses: **8** (7 local; 1 external)
- Ph.D. Theses: **27** (19 local; 8 external)

## PUBLICATIONS GENERATED BY AMRIS AT UF (31)

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                | Title                                                                                                                                         | Journal Name      | Vol | Issue | Pages       | DOI                           | Cites<br>NSF<br>Core<br>Grant |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----|-------|-------------|-------------------------------|-------------------------------|
| Afoullouss, S.; Olsen, S.H.; Morrow, S.; Rosa, E.C.; Geu, K.; Wilson, N.G.; Baker, B.J.                                                                                                                                                                                                                                                                                                                                | <i>Novel Discorhabdin Derivatives from Antarctic Sponges of the Genus : Expanding the Chemical Diversity of Polar Marine Natural Products</i> | Mar. Drugs        | 23  | 10    |             | 10.3390/md23100401            | No                            |
| Alsup, T.A.; Lomowska-Keehner, D.P.; Opoku, M.; Li, Z.; McCadden, C.A.; Qu, T.; Gillia, G.; Nafie, J.; Rudolf, J.D.                                                                                                                                                                                                                                                                                                    | <i>Discovery of UbiA-Type Cyathane Synthases in Bacteria</i>                                                                                  | ACS Catalysis     | 15  | 19    | 16873-16881 | 10.1021/acscatal.5c04650      | Yes                           |
| Bird, M.; Wang, X.D.; Wang, J.N.; Xu, J.; Sun, W.K.; Adediwura, V.A.; Miao, Y.L.; Cheng, Y.F.; Ye, L.B.                                                                                                                                                                                                                                                                                                                | <i>Structure and function of a near fully-activated intermediate GPCR-Ga<math>\gamma</math> complex</i>                                       | Nat. Commun.      | 16  | 1     |             | 10.1038/s41467-025-56434-4    | No                            |
| Cantrell, A.R.; Hawkinson, T.R.; Juras, J.A.; Webb, M.B.; Medina, T.; Ribas, R.A.; Collins, J.H.; Bunnell, A.A.; Young, L.E.; Markussen, K.H.; Andres, D.A.; Long, J.R.; Vander Kooi, C.W.; Smith, B.N.; Sun, R.C.; Gentry, M.S.                                                                                                                                                                                       | <i>Protocol for high-power, brain-focused microwave fixation to define rodent metabolism</i>                                                  | STAR Protocols    | 6   | 2     | 103794      | 10.1016/j.xpro.2025.103794    | Yes                           |
| Chang, M.C.; Malut, V.R.; Mahar, R.; Rushin, A.C.; McLeod, M.A.; Pierre, G.L.; Malut, I.R.; Staklinski, S.J.; Glanz, M.E.; Ragavan, M.; Sharma, G.; Madheswaran, M.; Badar, A.; Rao, A.D.; Law, B.K.; Kilberg, M.S.; Collins, J.H.P.; Kodibagkar, V.D.; Bankson, J.A.; DeBerardinis, R.J.; Merritt, M.E.                                                                                                               | <i>Assessing cancer therapeutic efficacy in vivo using [<math>^2\text{H}_7</math>]glucose deuterium metabolic imaging</i>                     | Sci. Adv.         | 11  | 13    | eadr0568    | 10.1126/sciadv.adr0568        | Yes                           |
| Chappel, A.R.; Kenney, W.F.; Waters, M.N.; Buchanan Fisher, C.; Amaral, J.H.F.; Philips, E.J.; Morrison, E.S.                                                                                                                                                                                                                                                                                                          | <i>Coastal sediments record decades of cultural eutrophication in Tampa Bay, Florida, USA</i>                                                 | Ecol Indic        | 172 |       | 113329      | 10.1016/j.ecolind.2025.113329 | No                            |
| Clarke, H.A.; Hawkinson, T.R.; Shedlock, C.J.; Medina, T.; Ribas, R.A.; Wu, L.; Liu, Z.Z.; Mallory, X.; Xia, Y.; Huang, Y.; He, X.; Chang, J.E.; Young, L.A.; Juras, J.A.; Buoncristiani, M.D.; James, A.N.; Rushin, A.C.; Merritt, M.E.; Mestas, A.; Lamb, J.F.; Manauis, E.C.; Austin, G.L.; Chen, L.; Singh, P.K.; Bian, J.; Vander Kooi, C.W.; Evers, B.M.; Brainson, C.F.; Allison, D.B.; Gentry, M.S.; Sun, R.C. | <i>Glycogen drives tumour initiation and progression in lung adenocarcinoma</i>                                                               | Nature Metabolism | 7   |       | 952-965     | 10.1038/s42255-025-01243-8    | No                            |



| Authors                                                                                                                                                                                                                                       | Title                                                                                                                                                                                                                                      | Journal Name                        | Vol | Issue | Pages       | DOI                          | Cites NSF Core Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----|-------|-------------|------------------------------|----------------------|
| Coleman, J.S.; De Almeida, L.C.; Hanold, L.E.; Ferracane, M.J.; Luesch, H.; Aldrich, J.V.                                                                                                                                                     | <i>Synthesis of simplified didehydro-cortistatin A derivatives as anti-proliferative agents</i>                                                                                                                                            | Medicinal Chemistry Research        | 34  | 11    | 2292-2298   | 10.1007/s00044-025-03486-2   | No                   |
| Elbanna, A.H.; Kou, X.H.; Prajapati, D.V.; Rakshit, S.; Butcher, R.A.                                                                                                                                                                         | <i>Discovery of a parallel family of euglenatide analogs in Euglena gracilis</i>                                                                                                                                                           | Natural Products and Bioprospecting | 15  | 1     |             | 10.1007/s13659-024-00490-8   | Yes                  |
| Ellis, E.K.; Ioca, L.P.; Liu, J.; Chen, M.; Bruner, S.D.; Ding, Y.; Paul, V.J.; Donia, M.S.; Luesch, H.                                                                                                                                       | <i>Structure Determination and Biosynthesis of Dapalides A-C, Glycosylated Kahalalide F Analogues from the Marine Cyanobacterium Dapis sp</i>                                                                                              | J. Natural Products                 | 88  | 9     | 2138-2150   | 10.1021/acs.jnatprod.5c00757 | Yes                  |
| Ferreira, M.V.; Ricci, P.; Sobreira, H.A.; Faria, A.M.; Panatieri, R.B.; Sumerlin, B.S.; Assuncao, R.M.                                                                                                                                       | <i>Optimization of the Heterogeneous Synthesis Conditions for Cellulose Tosylation and Synthesis of a Propargylamine Cellulosic Derivative</i>                                                                                             | Polymers                            | 17  | 1     |             | 10.3390/polym17010058        | No                   |
| Fisher, C.; Vardanyan, L.; Judy, J.D.                                                                                                                                                                                                         | <i>Spectroscopic investigation of the speciation of phosphorus forms entering and leaving Everglades Stormwater Treatment Areas</i>                                                                                                        | J. Envi. Quality                    |     |       | 1-14        | 10.1002/jeq2.70037           | Yes                  |
| Jain, G.; Eddy, M.T.                                                                                                                                                                                                                          | <i>The influence of lipids and biological membranes on the conformational equilibria of GPCRs: Insights from NMR spectroscopy</i>                                                                                                          | Current Opinion in Structural Biol. | 94  |       | 103103      | 10.1016/j.sbi.2025.103103    | No                   |
| Kislik, G.; Fox, R.; Korotcov, A.; Zhou, J.Y.; Febo, M.; Moghadas, B.; Bibic, A.; Zou, Y.F.; Wan, J.R.; Koehler, R.C.; Adebayo, T.; Burns, M.P.; McCabe, J.T.; Wang, K.W.; Huie, J.R.; Ferguson, A.R.; Paydar, A.; Wanner, I.B.; Harris, N.G. | <i>Multi-site, in vivo MRI dataset of brain diffusivity measures before and after harmonization, and atrophy measures following controlled cortical impact in male and female adult rats</i>                                               | Front Neurol                        | 16  |       |             | 10.3389/fneur.2025.1719618   | No                   |
| Kommireddy, R.S.; Mehra, S.; Pompilus, M.; Arja, R.; Zhu, T.; Yang, Z.; Fu, Y.; Zhu, J.; Kobeissy, F.; Wang, K.W.; Febo, M.                                                                                                                   | <i>Functional Connectivity, Tissue Microstructure, and T2 at 11.1 Tesla Distinguishes Neuroadaptive Differences in Two Traumatic Brain Injury Models in Rats: A Translational Outcomes Project in NeuroTrauma (TOP-NT) UG3 Phase Study</i> | Neurotrauma Reports                 | 6   | 1     | 885-902     | 10.1177/2689288X251380144    | No                   |
| Koottanil Haridasan, R.; Hernandez, S.; Kuenzeng, S.; Tejeda, G.; Collins, J.H.; Bukhryakov, K.V.; Searles, K.                                                                                                                                | <i>Silica-Supported Vanadium-oxo-alkylidene for Self-Metathesis of Propene</i>                                                                                                                                                             | J. Am. Chem. Soc. (JACS)            | 147 | 40    | 36039-36043 | 10.1021/jacs.5c07854         | Yes                  |

| Authors                                                                                                                                                                                                                                                                                                                                                               | Title                                                                                                                                                                 | Journal Name                                   | Vol  | Issue | Pages       | DOI                          | Cites<br>NSF<br>Core<br>Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------|-------|-------------|------------------------------|-------------------------------|
| McCadden, C.; Alsup, T.; Ghiviriga, I.; Rudolf, J.                                                                                                                                                                                                                                                                                                                    | <i>Biocatalytic diversification of abietic acid in Streptomyces</i>                                                                                                   | J Ind Microb Biotechnol                        | 52   |       | kuaf003     | 10.1093/jimb/kuaf003         | Yes                           |
| Peng, E.Q.; Nogueira, L.C.; Norton, C.; Brady, L.J.; Long, J.R.                                                                                                                                                                                                                                                                                                       | <i>Backbone NMR resonance assignments for the C2 domain of the Streptococcus mutans adhesin P1</i>                                                                    | Biomol. NMR Assignments                        | 20   | 1     |             | 10.1007/s12104-025-10251-4   | Yes                           |
| Petracco, E.; Ferré, G.; Kabelka, I.; Ballante, F.; Carlsson, J.; Mulry, E.; Ray, A.P.; Collins, J.H.; Allais, F.; Eddy, M.T.                                                                                                                                                                                                                                         | <i>Development of an In Situ G Protein-Coupled Receptor Fragment Molecule Screening Approach with High-Resolution Magic Angle Spinning Nuclear Magnetic Resonance</i> | ACS Chem. Biol.                                | 20   | 2     | 401-411     | 10.1021/acschembio.4c00686   | Yes                           |
| Pham, T.H.; Chen, M.; Liu, J.; Chen, Q.; Seabra, G.; Paul, V.J.; Donia, M.S.; Bruner, S.D.; Ding, Y.; Luesch, H.                                                                                                                                                                                                                                                      | <i>Biosynthesis, Chemical Synthesis, and Pharmacological Evaluation of Lyngbyapeptin A as a GPCR Antagonist of Motilin, Cannabinoid, and Amylin Receptors</i>         | J. Natural Products                            | 88   | 11    | 2610-2624   | 10.1021/acs.jnatprod.5c00963 | No                            |
| Radabaugh, H.L.; Harris, N.G.; Wanner, I.B.; Burns, M.P.; McCabe, J.T.; Korotcov, A.V.; Dardzinski, B.J.; Zhou, J.; Koehler, R.C.; Wan, J.; Allende Labastida, J.; Moghadas, B.; Bibic, A.; Febo, M.; Kobeissy, F.H.; Zhu, J.; Rubenstein, R.; Hou, J.; Bose, P.K.; Apiliogullari, S.; Beattie, M.S.; Bresnahan, J.C.; Rosi, S.; Huie, R.; Ferguson, A.R.; Wang, K.K. | <i>Translational Outcomes Project in Neurotrauma (TOP-NT) Pre-Clinical Consortium Study: A Synopsis</i>                                                               | J. Neurotrauma                                 | 42   | 9-10  | 898-912     | 10.1089/neu.2023.0654        | No                            |
| Ray, A.; Jin, B.; Eddy, M.T.                                                                                                                                                                                                                                                                                                                                          | <i>The Conformational Equilibria of a Human GPCR Compared between Lipid Vesicles and Aqueous Solutions by Integrative 19F-NMR</i>                                     | J. Am. Chem. Soc. (JACS)                       | 147  | 21    | 17612-17625 | 10.1021/jacs.4c15106         | No                            |
| Rushin, A.C.; Chang, M.C.; Giacalone, A.; Ragavan, M.; Merritt, M.E.                                                                                                                                                                                                                                                                                                  | <i>Magnetic Resonance Applications to Metabolism</i>                                                                                                                  | Metabolomics, 2 Edition: Methods and Protocols | 2925 |       | 31--67      | 10.1007/978-1-0716-4534-5_3  | Yes                           |
| Rushin, A.C.; Shaikh, A.; Hardin, C.; Deleyrolle, L.P.; Merritt, M.E.                                                                                                                                                                                                                                                                                                 | <i>Metabolic flux analysis of glioblastoma neural stem cells reveals distinctive metabolic phenotypes in ketogenic conditions</i>                                     | Sci. Rep.                                      | 15   | 1     |             | 10.1038/s41598-025-02124-6   | Yes                           |
| Simon, Z.D.; McFarland, K.N.; Golde, T.E.; Chakrabarty, P.; Febo, M.                                                                                                                                                                                                                                                                                                  | <i>Sex-dependent effect of amyloidosis on functional network 'hub' topology is associated with downregulated neuronal gene</i>                                        | J Alzheimers Dis                               | 108  | 2     |             | 10.1177/13872877251378778    | Yes                           |

| Authors                                                                                                                                                                                | Title                                                                                                                                                 | Journal Name             | Vol | Issue | Pages       | DOI                              | Cites NSF Core Grant |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|-------|-------------|----------------------------------|----------------------|
|                                                                                                                                                                                        | <i>signatures in the APP<sup>swe</sup>/PSEN1<sup>dE9</sup> double transgenic mouse</i>                                                                |                          |     |       |             |                                  |                      |
| Smith, B.; Afoullouss, S.; Netjes, J.; Allcock, A.L.; Johnson, M.P.; Baker, B.J.                                                                                                       | <i>Maigheotides AC, Peptides from the Deep-Sea Black Coral Phanopathes sp.</i>                                                                        | J. Natural Products      | 88  | 10    | 2520-2525   | 10.1021/acs.jnatprod.5c01028     | Yes                  |
| Vo, Q.; Simon, Z.D.; Park, G.; C Nacionales, D.; Gorski, C.; L Barrios, E.; Casadesus, G.; A Efron, P.; L Moldawer, L.; Nagpal, R.; Chakrabarty, P.; Febo, M.                          | <i>Functional connectivity within sensorimotor cortical and striatal regions is regulated by sepsis in a sex-dependent manner</i>                     | NeuroImage               | 305 |       | 120995      | 10.1016/j.neuroimage.2024.120995 | Yes                  |
| Wei, X.; DeSnoo, W.; Li, Z.; Ning, W.; Kong, W.; Nafie, J.; Tantillo, D.J.; Rudolf, J.D.                                                                                               | <i>Avoidance of Secondary Carbocations, Unusual Deprotonation, and Nonstatistical Dynamic Effects in the Cyclization Mechanism of Tetraisoquinane</i> | J. Am. Chem. Soc. (JACS) | 147 | 19    | 16293-16300 | 10.1021/jacs.5c01828             | Yes                  |
| Wu, W.; Boloki, O.; Vasenkov, S.; Smith, Z.P.                                                                                                                                          | <i>Macroscopic and microscopic gas diffusivity measurements for PIM-COOH/UiO-66-NH<sub>2</sub> composite membranes</i>                                | J. Membrane Sci.         | 732 |       | 124246      | 10.1016/j.memsci.2025.124246     | Yes                  |
| Yang, Y.; Jn-Simon, N.; He, Y.H.; Sun, C.B.; Zhang, P.Y.; Hu, W.Y.; Tian, T.; Zeng, H.D.; Basha, S.; Huerta, A.S.; Sun, L.Z.; Yin, X.M.; Hromas, R.; Zheng, G.R.; Pi, L.Y.; Zhou, D.H. | <i>A BCL-xL/BCL-2 PROTAC effectively clears senescent cells in the liver and reduces MASH-driven hepatocellular carcinoma in mice</i>                 | Nature Aging             | 5   |       | 386-400     | 10.1038/s43587-025-00811-7       | No                   |

### PUBLICATIONS GENERATED BY DC FIELD AT FSU (96)

| Authors                                                                                                                                                                                                                                                             | Title                                                                                                                                                           | Journal Name                      | Vol | Issue | Pages | DOI                           | Cites NSF Core Grant |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----|-------|-------|-------------------------------|----------------------|
| Abraimov, D.V.; Gillman, J.; Zha, M.; Oz, Y.; Matos Pimentel, H.; Mao, K.; Kvitkovic, J.; Bradford, G.; Lee, J.; Jaroszynski, J.J.; Bishop, N.S.; Zhang, Y.                                                                                                         | <i>Optimization of Transport Critical Currents at 4.2K - 20K at Magnetic Fields Up to 31T for MOCVD REBCO Conductors With Variable Zr and Growth Conditions</i> | IEEE Trans. Appl. Supercond.      | 35  | 5     | 1-7   | 10.1109/TASC.2025.3549409     | Yes                  |
| Alexandradinata, A.; Armitage, N.P.; Baydin, A.; Bi, W.; Cao, Y.; Changlani, H.J.; Chertkov, E.; da Silva Neto, E.H.; Delacretaz, L.; El Baggari, I.; Ferguson, G.M.; Gannon, W.J.; Ali Akbar Ghorashi, S.; Goodge, B.H.; Goulko, O.; Grissonnanche, G.; Hallas, A. | <i>The future of the correlated electron problem</i>                                                                                                            | SciPost Physics Community Reports | 8   |       | 8     | 10.21468/SciPostPhysCommRep.8 | Yes                  |

| Authors                                                                                                                                                                                                                                                                                                                                                                          | Title                                                                                                                                                                           | Journal Name     | Vol  | Issue | Pages        | DOI                            | Cites<br>NSF<br>Core<br>Grant |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------|-------|--------------|--------------------------------|-------------------------------|
| Hayes, I.M.; He, Y.U.; Huang, E.W.; Kogar, A.; Kumah, D.; Yeon Lee, J.; Legros, A.; Mahmood, F.; Maximenko, Y.; Pellatz, N.; Polshyn, H.; Sarkar, T.; Scheie, A.; Seyler, K.L.; Shi, Z.; Skinner, B.; Steinke, L.; Thirunavukkuarasu, K.; Vicia Trevisan, T.; Vogl, M.; Volkov, P.A.; Wang, Y.; Wang, Y.; Wei, D.I.; Wei, K.; Yang, S.; Zhang, X.; Zhang, Y.; Zhao, L.; Zong, A. |                                                                                                                                                                                 |                  |      |       |              |                                |                               |
| Amanazova, B.; Yergeshbayeva, S.; Choi, E.; Erkasov, R.; Shatruk, M.                                                                                                                                                                                                                                                                                                             | <i>Spin-crossover semiconductors based on homoleptic tris-diimine Fe(II) complexes with fractionally charged TCNQ<sup>•-</sup> anions</i>                                       | Dalton Trans.    | 54   | 48    | 17825--17833 | 10.1039/d5dt02365c             | Yes                           |
| Anderson, M.G.; Montero, A.D.; Tateyama, H.; Jemison, H.M.; Schundelmier, B.C.; Wei, K.; Altman, A.B.; La Pierre, H.S.; McCandless, G.T.; Chan, J.                                                                                                                                                                                                                               | <i>Is a Homologous Series Member Equal to or Greater than the Sum of Its Subunits? A Focus on Fe-Based BaNiSn<sub>3</sub> Subunits: LnFeGe<sub>3</sub> (Ln = La, Pr)</i>        | Crys Growth Des  | 25   |       | 1090         | 10.1021/acs.cgd.4c01435        | Yes                           |
| Bac, S.; Mardele, F.; Wang, J.; Ozerov, M.; Yoshimura, K.; Mohelsky, I.; Sun, X.; Piot, B.; Wimmer, S.; Ney, A.; Orlova, T.; Zhukovski, M.; Bauer, G.; Springholz, G.; Liu, X.; Orlita, M.; Park, K.; Hsu, Y.; Assaf, B.                                                                                                                                                         | <i>Probing Berry Curvature in Magnetic Topological Insulators through Resonant Infrared Magnetic Circular Dichroism</i>                                                         | Phys. Rev. Lett. | 134  |       | 16601        | 10.1103/PhysRevLett.134.016601 | Yes                           |
| Balguri, S.; Mahendru, M.B.; Delgado, E.; Fruhling, K.; Yao, X.; Graf, D.E.; Rodriguez-Rivera, J.A.; Aczel, A.A.; Hicken, T.J.; Luetkens, H.; Graf, M.J.; Rydh, A.; Gaudet, J.; Tafti, F.                                                                                                                                                                                        | <i>Two types of colossal magnetoresistance with distinct mechanisms in Eu<sub>5</sub>Ir<sub>2</sub>As<sub>6</sub></i>                                                           | Phys. Rev. B     | 111  |       | 115114       | 10.1103/PhysRevB.111.115114    | Yes                           |
| Blockmon, A.; Johnson, J.; Parker, K.; Kirkman-Davis, E.; Turnbull, M.; Lee, M.; Singleton, J.; McGill, S.A.; Kim, H.; Lee, J.; Musfeldt, J.                                                                                                                                                                                                                                     | <i>Magnetically Driven Quantum Phase Transition in a Low-Dimensional Pyrazine-Bridged Cu<sup>2+</sup> Chain Magnet</i>                                                          | Inorg. Chem.     | 64   | 25    | 12518--12526 | 10.1021/acs.inorgchem.5c00458  | Yes                           |
| Brown, I.; Bodin, R.; Huynh, U.; Sercel, P.C.; McGill, S.A.; Semenov, D.; Vardeny, Z.                                                                                                                                                                                                                                                                                            | <i>Nonlinear Magnetic Field Dependence of Quantum Beats in FAPbI<sub>3</sub></i>                                                                                                | J. Phys. Chem. C | 129  | 12    | 5973-5979    | 10.1021/acs.jpcc.4c08269       | Yes                           |
| Brown, W. K.; Oyekunle, I.; Truong, E.; Chen, Y.; Ogbolu, B.; Schundelmier, B.C.; O'Donnell, S.; Smaha, R. W.; Hu, Y.Y.; Wei, K.; McCandless, G. T.; Chan, J. Y.                                                                                                                                                                                                                 | <i>Co<sub>3</sub>Ga<sub>2</sub>Ge<sub>5</sub>: Probing site mixing of the Ru<sub>3</sub>Sn<sub>7</sub> structure type with elements difficult to distinguish by diffraction</i> | J. Alloy Compd.  | 1010 |       | 177828       | 10.1016/j.jallcom.2024.177828  | Yes                           |



| Authors                                                                                                                                                                       | Title                                                                                                                                        | Journal Name                                       | Vol | Issue | Pages      | DOI                                                   | Cites<br>NSF<br>Core<br>Grant |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----|-------|------------|-------------------------------------------------------|-------------------------------|
| Brown, W.K.; Schundelmier, B.C.; Tan, H.; Melnick, C.; Kotliar, G.; Yan, B.; Wei, K.; McCandless, G.T.; Chan, J.                                                              | <i>Sm<sub>2</sub>Ru<sub>3</sub>Sn<sub>5</sub>: A Non-centrosymmetric Cubic Member of the Ln<sub>2</sub>M<sub>3</sub>X<sub>5</sub> Family</i> | Zeitschrift für anorganische und allgemeine Chemie | 651 |       | e202500021 | 10.1002/zaac.202500021                                | Yes                           |
| Campbell, D.; Lin, W.; Collini, J.; Eo, Y.; Anand, Y.; Saha, S.; Graf, D.E.; Zavalij, P.; Paglione, J.                                                                        | <i>Enhancement of Superconductivity in WP via Oxide-Assisted Chemical Vapor Transport</i>                                                    | Mater.                                             | 18  | 19    |            | 10.3390/ma18194529                                    | Yes                           |
| Campi, G.; Alimenti, A.; Smith, G.; Balakirev, F.; Lee, S.; Balicas, L.; Silva, E.; Ummarino, G.A.; Midei, G.; Perali, A.; Valletta, A.; Bianconi, A.                         | <i>Upper critical magnetic field and multiband superconductivity in artificial high-T<sub>c</sub> superlattices of nano quantum wells</i>    | Phys. Rev. Mater.                                  | 9   |       | 74204      | 10.1103/k2yd-vpbn                                     | Yes                           |
| Chen, K.; Zhu, Y.; Ratkovski, D.R.; Zheng, G.; Zhang, D.; Chan, A.; Jenkins, K.; Blawat, J.; Asaba, T.; Iga, F.; Varma, C.M.; Matsuda, Y.; Singleton, J.; Bangura, A.; Li, L. | <i>Quantum Oscillations in the Heat Capacity of Kondo Insulator YbB<sub>12</sub></i>                                                         | Phys. Rev. Lett.                                   | 135 |       | 156501     | 10.1103/ms3x-pjsk                                     | Yes                           |
| Cheng, J.; Francis, A.; Shepard, M.; Chen, Y.; Gonzalez, J.; Plant, C.; Judd, C.; Russo, M.; Jaroszynski, J.J.; Logan, J.; Labombard, B.; Sorbom, B.                          | <i>Statistics on Ab-Plane Offsets in REBCO Coated Conductors and Implications for Non-Twisted Magnets</i>                                    | IEEE Trans. Appl. Supercond.                       | 35  |       | 1-6        | 10.1109/TASC.2025.3545023                             | Yes                           |
| Ding, X.; Wang, J.; Ozerov, M.; Bey, S.; Karim, M.; Bac, S.; Assaf, B.; Hsu, Y.                                                                                               | <i>Spectral analysis of the magneto-optical response in valley-polarized Pb<sub>1-x</sub>Sn<sub>x</sub>Se</i>                                | Phys. Rev. B                                       | 111 |       | 205302     | 10.1103/PhysRevB.111.205302                           | Yes                           |
| Dubroca, T.; Ozarowski, A.; Sunatsuki, Y.; Telser, J.; Hill, S.; Krzystek, J.                                                                                                 | <i>Benefitting from Magnetic Field-Induced Torquing in Terahertz EPR of a MnIII Coordination Complex</i>                                     | Appl. Magn. Reson.                                 | 56  |       | 137-149    | 10.1007/s00723-024-01706-3                            | Yes                           |
| Eckberg, C.; Qiu, G.; Qu, T.; Kwon, S.; Liu, Y.; Tai, L.; Graf, D.E.; Chong, S.; Zhang, P.; Wong, K.L.; Lake, R.K.; Neupane, M.R.; Wang, K.L.                                 | <i>Structural Tuning Magnetism and Topology in a Magnetic Topological Insulator</i>                                                          | Adv. Mater.                                        | 37  | 39    | 2506792    | 10.1002/adma.202506792Digital Object Identifier (DOI) | Yes                           |
| Garg, T.; Jaroszynski, J.J.; Choi, E.S.; Sumption, M.D.; Majoros, M.; Collings, E.W.                                                                                          | <i>Magnetization in ReBCO-based CORC Cables in Magnetic Fields up to 30 T for Accelerator Applications</i>                                   | IEEE Trans. Appl. Supercond.                       | 35  | 5     | 1-5        | 10.1109/TASC.2025.3540991                             | Yes                           |
| Garg, T.; Sumption, M.D.; Majoros, M.; Collings, E.; Jaroszynski, J.J.; Choi, E.S.                                                                                            | <i>High-field flux jump instabilities in cables for accelerator or compact fusion magnets and their effective suppression</i>                | Sci. Rep.                                          | 15  | 1     |            | 10.1038/s41598-025-24605-4                            | Yes                           |

| Authors                                                                                                                                                                                                                                                                                                                                                        | Title                                                                                                                                      | Journal Name                      | Vol | Issue | Pages       | DOI                        | Cites NSF Core Grant |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----|-------|-------------|----------------------------|----------------------|
| Gui, H.; Yang, L.; Wang, X.; Chen, D.; Shi, Z.; Zhang, J.; Weiss, J.D.; Zhou, K.; Schnelle, W.; Zhang, Y.; Liu, Y.; Bangura, A.; Wang, Z.; Felser, C.; Yuan, H.; Jiao, L.                                                                                                                                                                                      | <i>Probing orbital magnetism of a kagome metal CsV<sub>3</sub>Sb<sub>5</sub> by a tuning fork resonator</i>                                | Nat. Commun.                      | 16  | 1     |             | 10.1038/s41467-025-59534-3 | Yes                  |
| Halat, D.M.; Liu, H.; Kim, K.; Alexander, G.C.; Wang, X.; Venkatesh, A.; Altenhof, A.R.; Mason, H.E.; Lapidus, S.H.; Yoon, J.; Hung, I.; Gan, Z.; Cabana, J.; Siegel, D.J.; Reimer, J.A.; Key, B.                                                                                                                                                              | <i>Mg-Ion Conduction in Antiperovskite Solid Electrolytes Revealed by 25Mg Ultrahigh Field NMR and First-Principles Calculations</i>       | J. Am. Chem. Soc. (JACS)          | 147 | 31    | 27949-27961 | 10.1021/jacs.5c07442       | Yes                  |
| Hand, A.T.; Fakolujo, A.A.; Krzystek, J.; Ozerov, M.; Daemen, L.L.; Xing, J.; Gai, Z.; Jin, R.; Telser, J.; Podlesnyak, A.A.; Xue, Z.L.                                                                                                                                                                                                                        | <i>Advanced spectroscopic studies of (PPh<sub>4</sub>)<sub>2</sub>[Co(N<sub>3</sub>)<sub>4</sub>], a field-induced single-ion magnet</i>   | New J. Chem.                      |     |       |             | 10.1039/D5NJ01857A         | Yes                  |
| Henderson, A.M.; Razpopov, A.; Biswas, S.; Valenti, R.; Cui, H.; Kato, R.; Wei, K.; van Tol, J.; Siegrist, T.M.; Schlueter, J.A.                                                                                                                                                                                                                               | <i>One-dimensional antiferromagnetic chain in the cation radical salt <math>\alpha</math>-(BEDT-TTF)<sub>2</sub>Hg(SeCN)<sub>2</sub>Cl</i> | Crystal Engineering Communication | 27  | 18    | 2805        | 10.1039/D5CE00007F         | Yes                  |
| Hossain, M.S.; Zhang, Q.; Graf, D.E.; Iraola, M.; Muller, T.; Mardanya, S.; Tu, Y.H.; Lai, Z.; Soldini, M.O.; Li, S.; Yao, Y.; Jiang, Y.X.; Cheng, Z.J.; Litskevich, M.; Casas, B.W.; Cochran, T.A.; Yang, X.P.; Kim, B.; Watanabe, K.; Taniguchi, T.; Chowdhury, S.; Bansil, A.; Zhang, H.; Chang, T.R.; Fischer, M.H.; Neupert, T.; Balicas, L.; Hasan, M.Z. | <i>Tunable superconductivity coexisting with the anomalous Hall effect in a transition metal dichalcogenide</i>                            | Nat. Commun.                      | 16  |       | 2399        | 10.1038/s41467-025-56919-2 | Yes                  |
| Hossain, M.S.; Zhang, Q.; Ingham, J.; Liu, J.; Shao, S.; Li, Y.; Wang, Y.; Pokharel, B.K.; Cheng, Z.J.; Jiang, Y.X.; Litskevich, M.; Kim, B.; Yang, X.; Li, Y.; Cochran, T.A.; Yao, Y.; Popovic, D.; Wang, Z.; Thomale, R.; Balicas, L.; Hasan, M.Z.                                                                                                           | <i>Field Induced Density Wave in a Kagome Superconductor</i>                                                                               | Phys. Rev. Lett.                  | 135 |       | 186503      | 10.1103/5f9f-bsqw          | Yes                  |
| Hossain, M.D.S.; Zhang, Q.; Choi, E.S.; Ratkovski, D.R.; Lüscher, B.; Li, Y.; Jiang, Y.X.; Litskevich, M.; Cheng, Z.J.; Yin, J.X.; Cochran, T.A.; Casas, B.W.; Kim, B.; Yang, X.; Liu, J.; Yao, Y.; Bangura, A.; Wang, Z.; Fischer, M.H.; Neupert, T.; Balicas, L.; Hasan, M.Z.                                                                                | <i>Unconventional gapping behaviour in a kagome superconductor</i>                                                                         | Nat. Phys.                        |     |       |             | 10.1038/s41567-024-02770-z | Yes                  |

| Authors                                                                                                                                                                                                   | Title                                                                                                                                                             | Journal Name          | Vol | Issue | Pages     | DOI                          | Cites NSF Core Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----|-------|-----------|------------------------------|----------------------|
| Hu, ZB.; Li, LH.; Xiao, TT.; Hand, A.; Tin, P.; Liu, L.; Ozerov, M.; Zhang, J.; Wu, XL.; Peng, Y.; Ouyang, Z.; Wang, Z.; Xue, ZL.; Song, Y.                                                               | <i>Coll Single-ion Magnet and Its Multi-dimensional Aggregations: Influence of the Structural Rigidity on Magnetic Relaxation Process</i>                         | China Foundry         | 36  | 2     | 109600    | 10.1016/j.cclet.2024.109600  | Yes                  |
| Jenkins, M.J.; Ozerov, M.; Krzystek, J.; Daemen, L.L.; Cheng, Y.; Xue, X.L.                                                                                                                               | <i>Probing magnetic and vibrational properties of trigonal-bipyramidal Co(II) and Ni(II) complexes using advanced spectroscopies</i>                              | New J. Chem.          | 49  |       | 5740-5756 | 10.1039/d5nj00184f           | Yes                  |
| Jeon, J.; Kim, T.; Jang, J.; Kim, H.; Ozerov, M.; Kim, J.; Min, H.; Choi, E.                                                                                                                              | <i>Unveiling Three Types of Fermions in a Nodal Ring Topological Semimetal through Magneto-Optical Transitions</i>                                                | Phys. Rev. B          | 135 |       | 86901     | 10.1103/wfzd-7r9n            | Yes                  |
| Jin, H.; Choi, E.; Wu, H.; Curro, N.J.; Nawa, K.; Sato, T.J.; Kiyanagi, R.; Ohhara, T.; Klavins, P.; Taufour, V.                                                                                          | <i>Multiple metamagnetic transitions in the helical antiferromagnet CeVGe<sub>3</sub></i>                                                                         | Phys. Rev. B          | 111 | 3     | 35103     | 10.1103/PhysRevB.111.035103  | Yes                  |
| Jois, S.; Lee, E.; Li, P.; Esatu, T.; Fleisher, J.; Quinn, E.; Gu, G.; Kulichenko, V.; Balicas, L.; Le, S.T.; LaGasse, S.W.; Hanbicki, A.T.; Friedman, A.L.                                               | <i>Direct-Write Printed Contacts to Layered and 2D Materials</i>                                                                                                  | Adv. Electron. Mater. |     |       | e00927    | 10.1002/aelm.202400927       | Yes                  |
| Kacmarcik, J.; Pribulová, Z.; Shiroka, T.; Kosuth, F.; Szabó, P.; Winiarski, M.J.; Królak, S.; Jaroszynski, J.J.; Shang, T.; Cava, R.J.; Marcenat, C.; Klein, T.; Klimczuk, T.; Samuely, P.               | <i>Single-gap two-band superconductivity well above the Pauli limit in non-centrosymmetric TaIr<sub>2</sub>B<sub>2</sub></i>                                      | Supercond             | 14  |       | 100167    | 10.1016/j.supcon.2025.100167 | Yes                  |
| Karki Chhetri, S.; Acharya, G.; Graf, D.E.; Basnet, R.; Rahman, S.; Sharma, M.M.; Upreti, D.; Nabi, M.; Kryvyi, S.; Sakon, J.; Mortazavi, M.; Da, B.; Churchill, H.; Hu, J.                               | <i>Large negative magnetoresistance in antiferromagnetic Gd<sub>2</sub>Se<sub>3</sub></i>                                                                         | Phys. Rev. B          | 111 |       | 14431     | 10.1103/PhysRevB.111.014431  | Yes                  |
| Khan, A.; Feeny, K.; Laramée, B.; Agosta, C.C.; Coniglio, W.A.                                                                                                                                            | <i>A miniature tunnel diode oscillator for condensed matter physics experiments</i>                                                                               | Rev. Sci. Instrum.    |     |       |           | 10.1063/5.0284981            | Yes                  |
| Kim, C.; Rathi, S.; Zhang, N.; Seth, A.; Simonov, N.V.; Rutherford, A.; Chen, L.; Zhou, H.; Peng, C.; Xu, M.; Xie, W.; Vira, A.D.; Tian, M.; Ozerov, M.; Kimchi, I.; Mourigal, M.; Smirnov, D.; Jiang, Z. | <i>Sharp spectroscopic fingerprints of disorder in an incompressible magnetic state</i>                                                                           | Nat. Commun.          | 17  | 1     | 661       | 10.1038/s41467-025-67394-0   | Yes                  |
| Kim, S.; Kim, K.; Choi, M.; Nam, H.; Lee, J.; Choi, J.; Sur, Y.; Nam, K.; Hwang, H.; Choi, J.; Choi, E.; Kang, W.; Jo, Y.; Kim, J.; Moon, S.; Kim, K.                                                     | <i>Evidence of massive Dirac fermions in the kagome nodal-line semimetal Ni<sub>3</sub>In<sub>2</sub>S<sub>2</sub> as revealed by high magnetic field studies</i> | Phys. Rev. B          | 112 | 4     | 45139     | 10.1103/6jzx-mdjv            | Yes                  |

| Authors                                                                                                                                                                                                                                                 | Title                                                                                                                                   | Journal Name              | Vol  | Issue | Pages      | DOI                           | Cites NSF Core Grant |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------|-------|------------|-------------------------------|----------------------|
| Kim, S.; Son, G.; Kong, M.; Cho, Y.; Kim, M.; Kim, H.; Choi, E.; Yoon, S.; Kim, J.; Ok, J.                                                                                                                                                              | <i>Spin-orbit coupling induced enhancement of upper critical field in superconducting A15 single crystals</i>                           | J. Alloy Compd.           | 1037 |       | 182350     | 10.1016/j.jallcom.2025.182350 | Yes                  |
| Knapp, S.; Barua, A.; Boegel, C.; Mozaffari, S.; Cothrine, M.; Mandrus, D.; Semenov, D.; McGill, S.A.; Romero, A.; Pradhan, N.R.; Karaickaj, D.                                                                                                         | <i>Quantum Coherence of Excitons Strongly Bound to the Magnetic Order</i>                                                               | ACS Photonics             | 12   | 11    | 5921--5928 | 10.1021/acsphtonic.5c01214    | Yes                  |
| Kurumaji, T.; Facio, J.I.; Mitsuishi, N.; Imajo, S.; Gen, M.; Kimata, M.; Ye, L.; Graf, D.E.; Sakano, M.; Kitamura, M.; Yamagami, K.; Ishizaka, K.; Kindo, K.; Arima, T.                                                                                | <i>Electronic Structure of Kramers Nodal-Line Semimetal YAuGe and Anomalous Hall Effect Induced by Magnetic Rare-Earth Substitution</i> | Adv. Sci.                 | 12   | 27    | 2501669    | 10.1002/advs.202501669        | Yes                  |
| Kurumaji, T.; Paul, N.; Fang, S.; Neves, P.; Kang, M.; White, J.M.; Nakajima, T.; Graf, D.E.; Ye, L.; Chan, M.; Suzuki, T.; Denlinger, J.; Jozwiak, C.; Bostwick, A.; Rotenberg, E.; Zhao, Y.; Lynn, J.; Kaxiras, E.; Comin, R.; Fu, L.; Checkelsky, J. | <i>Electronic commensuration of a spin moire superlattice in a layered magnetic semimetal</i>                                           | Sci. Adv.                 | 11   | 6     |            | 10.1126/sciadv.adu6686        | Yes                  |
| Lee, S.; Zhang, S.; Thomas, S.; Pressley, L.; Bridges, C.; Choi, E.; Zapf, V.; Winter, S.; Lee, M.                                                                                                                                                      | <i>Quantum order by disorder is a key to understanding the magnetic phases of BaCo<sub>2</sub>(AsO<sub>4</sub>)<sub>2</sub></i>         | npj Quantum Mater. (Nat.) | 10   |       | 11         | 10.1038/s41535-025-00728-9    | Yes                  |
| Li, N.; Rutherford, A.; Wang, Y.Y.; Liang, H.; Zhou, Y.; Sun, Y.; Wu, D.D.; Chen, P.F.; Li, Q.J.; Wang, H.; Xie, W.; Choi, E.; Zhang, S.; Lee, M.; Zhou, H.; Sun, X.F.                                                                                  | <i>Possible quantum spin liquid state of CeTa<sub>7</sub>O<sub>19</sub></i>                                                             | Phys. Rev. B              | 111  |       | 94414      | 10.1103/PhysRevB.111.094414   | Yes                  |
| Li, Y.; Parsons, C. A.; Ramakrishna, S.K.; Divendi, A.; Schofield, M.A.; Reyes, A.P.; Guptasarma, P.                                                                                                                                                    | <i>Anomalous 140 K electronic transition in Bi<sub>2</sub>Se<sub>3</sub>: Possible charge order in a defect-engineered system</i>       | Solid State Commun.       | 426  |       | 116176     | 10.1016/j.ssc.2025.116176     | Yes                  |
| Liu, J.; Subramanyan, V.; Welser, R.; McSorley, T.; Ho, T.; Graf, D.E.; Pettes, M.T.; Saxena, A.; Winter, L.; Lin, S.; Jauregui, L.A.                                                                                                                   | <i>Possible Spin-Triplet Excitonic Insulator in the Ultraquantum Limit of HfTe<sub>5</sub></i>                                          | Phys. Rev. Lett.          | 135  |       | 46601      | 10.1103/bj2n-4k2w             | Yes                  |
| Liu, Y.; Henry, D.; Terrones, T.; Demirjian, A.J.; Suslov, A.; Ortiz Jimenez, V.; Tran, N.T.M.; Richter, C.A.; Rigosi, A.F.; Liu, A.Y.; Kalugin, N.G.; Barbara, P.                                                                                      | <i>Gate-Assisted Programmable Molecular Doping of Epitaxial Graphene Devices</i>                                                        | Small Methods             |      |       | e01482     | 10.1002/smt.202501482         | Yes                  |



| Authors                                                                                                                                                                                                                                                 | Title                                                                                                                                                                         | Journal Name                 | Vol | Issue | Pages       | DOI                           | Cites NSF Core Grant |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|-------------|-------------------------------|----------------------|
| Lu, J.; Levitan, J.W.; Suetomi, Y.; Dixon, I.R.; Jaroszynski, J.J.                                                                                                                                                                                      | <i>REBCO Delamination by Electromagnetic Stress due to Screening Current in Magnetic Field</i>                                                                                | IEEE Trans. Appl. Supercond. | 36  | 3     | 8400104     | 10.1109/TASC.2025.3620785     | Yes                  |
| LV, C.; Zhao, J.; Xu, Y.; Song, Y.; Zhang, C.; Ozerov, M.; Dai, P.; Wang, N.; Chen, Z.                                                                                                                                                                  | <i>Linear scaling relation between two-dimensional massless Dirac fermion Fermi velocity and Fe-As bond length in iron arsenide superconductor systems</i>                    | Phys. Rev. B                 | 111 |       | L241110     | 10.1103/143s-hq6d             | Yes                  |
| Meduri, R.; Plata, M.A.; McCandless, G.T.; Schundelmier, B.C.; Ghafoor, M.; Wei, K.; Chan, J.Y.                                                                                                                                                         | <i>Evolution of Structural Order and Magnetic Anisotropy in Yb<sub>0.5</sub>(Co<sub>1-x</sub>Fe<sub>x</sub>)<sub>3</sub>Ge<sub>3</sub> through Doping of a Kagome Lattice</i> | Chem. Mater.                 | 37  | 6     | 2302        | 10.1021/acs.chemmater.5c00119 | Yes                  |
| Meier, W.R.; Graf, D.E.; Ortiz, B.; Mozaffari, S.; Mandrus, D.                                                                                                                                                                                          | <i>Pressure suppresses the density wave order in kagome metal LuNb<sub>6</sub>Sn<sub>6</sub></i>                                                                              | Phys. Rev. Mater.            | 9   | 8     |             | 10.1103/hsdc-9j7p             | Yes                  |
| Mengell, J.; Gao, S.; Mangione, C.; Yadav, M.; Kersi, D.; Yang, J.; McGill, S.A.; Shultz, D.A.; Kirk, M.L.                                                                                                                                              | <i>Excited triplet state zero-field splitting in a ligand-to-ligand charge transfer complex</i>                                                                               | J. Chem. Phys.               | 162 | 16    | 164312      | 10.1063/5.0270046             | Yes                  |
| Moon, S.; Jiang, Y.; Neu, J.N.; Siegrist, T.M.; Ozerov, M.; Jiang, Z.; Smirnov, D.                                                                                                                                                                      | <i>Magneto-optical Evidence of the Tilting Effect in Coupled Weyl Bands</i>                                                                                                   | Nano Lett                    | 25  | 7     | 2858-2863   | 10.1021/acs.nanolett.4c06072  | Yes                  |
| Mozaffari, S.; Do, S.H.; Madhogaria, R.P.; Flessa Savvidou, A.K.; Casas, B.W.; Meier, W.R.; Xue, R.; Choi, E.S.; Balicas, L.; Mandrus, D.G.                                                                                                             | <i>Diverse magnetic phase diagram and anomalous Hall effect in antiferromagnetic LuMn<sub>6</sub>Sn<sub>6</sub></i>                                                           | Phys. Rev. B                 | 112 |       | 115147      | 10.1103/hwz4-z9mm             | Yes                  |
| P N, R.S.; Orlandi, F.; Koo, H.; da Silva, I.; Choi, E.; Behera, S.; Reddy, V.R.; Manuel, P.; Whangbo, M.; Sundaresan, A.                                                                                                                               | <i>Ferroelectricity and a 1/3-Magnetization Plateau in the Polar Magnet LiFeV<sub>2</sub>O<sub>7</sub> with Fe<sup>3+</sup> Ions in a Twisted Diamond Chain</i>               | Chem. Mater.                 |     |       |             | 10.1021/acs.chemmater.4c02715 | Yes                  |
| Padhan, R.; Garcia, C.; Divan, R.; Sumant, A.V.; Rosenmann, D.; Kadam, S.A.; Wali, A.; Miller, S.; McGill, S.A.; Pradhan, N.R.                                                                                                                          | <i>Percolative phase transition in few-layered MoSe<sub>2</sub> field-effect transistors using Co and Cr contacts</i>                                                         | Nanoscale                    | 17  |       | 3160-3169   | 10.1039/D4NR03986F            | Yes                  |
| Pan, W.; Burckel, D.B.; Spataru, C.D.; Sapkota, K.R.; Muhowski, A.J.; Hawkins, S.D.; Klem, J.F.; Smith, L.S.; Temple, D.A.; Enderson, Z.A.; Jiang, Z.; Thirunavukkuarasu, K.; Xiang, L.; Ozerov, M.; Smirnov, D.; Niu, C.; Ye, P.D.; Pai, P.; Zhang, F. | <i>Lithography-Defined Semiconductor Moir'es with Anomalous In-Gap Quantum Hall States</i>                                                                                    | Nano Lett                    | 25  | 26    | 10536-10543 | 10.1021/acs.nanolett.5c02180  | Yes                  |

| Authors                                                                                                                                                                                                   | Title                                                                                                                                                        | Journal Name             | Vol | Issue | Pages       | DOI                               | Cites<br>NSF<br>Core<br>Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|-------|-------------|-----------------------------------|-------------------------------|
| Park, J.Y.; Shin, Y.J.; Shin, J.; Kim, J.; Jo, J.; Yoo, H.; Haei, D.; Hyun, C.; Yun, J.; Huber, R.M.; Gupta, A.; Watanabe, K.; Taniguchi, T.; Park, W.K.; Shin, H.S.; Kim, M.; Kim, D.; Yi, G.C.; Kim, P. | <i>Double-sided van der Waals epitaxy of topological insulators across an atomically thin membrane</i>                                                       | Nat. Mater.              | 24  |       | 399-405     | 10.1038/s41563-024-02079-5        | Yes                           |
| Petkov, V.; Zafar, A.; Ramakrishnan, S.; Galeano Cabral, J.R.; Wei, K.; Abeykoon, A.M.                                                                                                                    | <i>Close-up view of the interplay between lattice distortions and charge density waves: Case study on rare-earth nickel carbides</i>                         | Phys. Rev. B             | 112 |       | 184107      | 10.1103/j91b-md4g                 | Yes                           |
| Phillips, C.; Pokharel, G.; Shtefiienko, K.; Bhandari, S.; Graf, D.E.; Rainey, D.; Shrestha, K.                                                                                                           | <i>Electronic structure of the altermagnet candidate FeSb<sub>2</sub>: High-field torque magnetometry and density functional theory studies</i>              | Phys. Rev. B             | 111 | 7     | 75141       | 10.1103/PhysRevB.111.075141       | Yes                           |
| Phillips, C.; Shtefiienko, K.; Mozaffari, S.; Madhogaria, R.P.; Meier, W.R.; Flessa Savvidou, A.K.; Casas, B.W.; Balicas, L.; Mandrus, D.G.; Graf, D.E.; Shrestha, K.                                     | <i>Electrical transport and torque magnetometry studies of the kagome compound LuV<sub>6</sub>Sn<sub>6</sub> under high magnetic fields</i>                  | Phys. Rev. B             | 111 |       | 155136      | 10.1103/PhysRevB.111.155136       | Yes                           |
| Pocs, C.A.; Leahy, I.A.; Xing, J.; Choi, E.; Sefat, A.S.; Hermele, M.; Lee, M.                                                                                                                            | <i>Heat conduction in magnetic insulators via hybridization of acoustic phonons and spin-flip excitations</i>                                                | Phys. Rev. Res.          | 7   | 2     | L022007     | 10.1103/PhysRevResearch.7.L022007 | Yes                           |
| Raines, M.E.; McCandless, G.T.; Schundelmier, B.C.; Cetin, S.; Spencer, T.G.; Scott, M.C.; Wei, K.; Chan, J.                                                                                              | <i>Cooling-Rate-Driven Polymorphism and Vacancy Ordering in Ce<sub>2</sub>MnGe<sub>6</sub> Intergrowth Phases</i>                                            | Crys Growth Des          | 25  | 21    | 9405-9415   | 10.1021/acs.cgd.5c01182           | Yes                           |
| Riedel, Z.; Ozerov, M.; Calder, S.; Shoemaker, D.                                                                                                                                                         | <i>Applied-field magnetic structure and spectroscopy shifts of the effective spin-1/2 XY-like magnet Li<sub>2</sub>CoCl<sub>4</sub></i>                      | Phys. Rev. B             | 112 |       | 104407      | 10.1103/tqwb-v5r2                 | Yes                           |
| Roy-Chowdhury, M.; Sarkar, T.; Weise, B.; Choi, E.S.; Wen, Z.; Thota, S.                                                                                                                                  | <i>Non-equilibrium spin dynamics of the frustrated trication spinel ZnMnCoO<sub>4</sub> in the hierarchical free-energy framework</i>                        | J. Phys.-Condens. Matter | 37  | 13    | 135806      | 10.1088/1361-648X/adb194          | Yes                           |
| SantaLucia, D.J.; Devkota, L.; Lindeman, S.V.; Ozarowski, A.; Krzystek, J.; Ozerov, M.; Greer, S.M.; Cummins, D.C.; Theopold, K.H.; Atanasov, M.; Telser, J.; Fiedler, A.T.                               | <i>Magnetospectroscopic studies of a series of Fe(II) scorpionate complexes: assessing the relationship between halide identity and zero-field splitting</i> | Inorg. Chem.             | 64  | 31    | 16135-16151 | 10.1021/acs.inorgchem.5c02691     | Yes                           |

| Authors                                                                                                                                                                | Title                                                                                                                                                    | Journal Name    | Vol  | Issue | Pages     | DOI                           | Cites NSF Core Grant |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------|-------|-----------|-------------------------------|----------------------|
| Sarangi, B.; Sandra, J.; Aramadaka, C.; Majkic, C.; Jaroszynski, J.; Selvamanickam, V.                                                                                 | <i>High critical current double-sided, thick-film REBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-s</sub> tapes byAdvanced MOCVD</i>                               | Supercond       | 15   |       | 100184    | 10.1016/j.supcon.2025.100184  | Yes                  |
| Schundelmier, B.C.; Galeano Cabral, J.R.; Baumbach, R.; Wei, K.                                                                                                        | <i>Thermoelectric Properties of A<sub>1-x</sub>B<sub>x</sub>Ir<sub>2</sub>Zn<sub>20</sub> (A, B = Ce, Sm, Yb)</i>                                        | J. Alloy Compd. | 1036 |       | 181296    | 10.1016/j.jallcom.2025.181296 | Yes                  |
| Sharma, M.M.; Karki Chhetri, S.; Acharya, G.; Graf, D.E.; Upreti, D.; Dahal, S.; Rafique Un Nabi, M.D.; Rahman, S.; Sakon, J.; Churchill, H.O.H.; Hu, J.               | <i>Quantum oscillation studies of the nodal line semimetal Ni<sub>3</sub>In<sub>2</sub>S<sub>2-x</sub>Se<sub>x</sub></i>                                 | Acta Mater.     | 289  |       | 120884    | 10.1016/j.actamat.2025.120884 | Yes                  |
| Sharma, S.; Jain, P.; Schundelmier, B.C.; Wang, C.; Yadav, P.; Szucs, A.M.; Wei, K.; Lalla, N.P.; Siegrist, T.M.                                                       | <i>Structural Inhomogeneities and Suppressed Magnetostructural Coupling in Mn-Substituted GeCo<sub>2</sub>O<sub>4</sub></i>                              | Chem. Mater.    | 37   | 15    | 5995-6003 | 10.1021/acs.chemmater.5c01331 | Yes                  |
| Shih, E.; Shi, Q.; Rhodes, D.A.; Kim, B.; Watanabe, K.; Taniguchi, T.; Yang, K.; Hone, J.; Dean, C.R.                                                                  | <i>Spin-selective magnetoconductivity in WSe<sub>2</sub></i>                                                                                             | Nat. Phys.      | 21   | 8     | 1231-1236 | 10.1038/s41567-025-02918-5    | Yes                  |
| Shiravi, H.; Ni, G.                                                                                                                                                    | <i>Significantly enhanced near-field coupling via tip engineering</i>                                                                                    | Optics Lett.    | 50   |       | 590-593   | 10.1364/OL.543648             | Yes                  |
| Shtefiienko, K.; Phillips, C.; Mozaffari, S.; Madhogaria, R.P.; Meier, W.R.; Mandrus, D.G.; Graf, D.E.; Shrestha, K.                                                   | <i>Electronic structure of YV<sub>6</sub>Sn<sub>6</sub> probed by de Haas-van Alphen oscillations and density functional theory</i>                      | APL Quantum     | 2    | 1     | 16118     | 10.1063/5.0252563             | Yes                  |
| Shtefiienko, K.; Phillips, C.; Ortiz, B.; Graf, D.E.; Shrestha, K.                                                                                                     | <i>Electronic structure of the kagome metal YbTi<sub>3</sub>Bi<sub>4</sub> studied using torque magnetometry</i>                                         | Phys. Rev. B    | 111  | 3     | 35145     | 10.1103/PhysRevB.111.035145   | Yes                  |
| Shtefiienko, K.; Phillips, C.; Stitz, M.; Pokharel, G.; Wilson, S.; Graf, D.E.; Shrestha, K.                                                                           | <i>Pressure effects on the Fermi surface of Ti-doped CsV<sub>3</sub>Sb<sub>5</sub></i>                                                                   | Phys. Rev. B    | 111  | 23    | 235135    | 10.1103/5brw-yxvt             | Yes                  |
| Wang, X.; Reyes, A.P.; Banerjee, H.; Salinas, A.N.; Wilson, S.; Ortiz, B.R.                                                                                            | <i><sup>51</sup>V NMR evidence for interlayer-modulated charge order and a first-order low-temperature transition in CsV<sub>3</sub>Sb<sub>5</sub></i>   | Phys. Rev. B    | 112  |       | 235123    | 10.1103/91c9-z267             | Yes                  |
| Wang, Z.; Heltman, A.; Kumari, S.; Hu, L.; Lin, Z.; Taheri, R.; Miao, L.; Alem, N.; Jiao, L.; Chikara, S.; Suslov, A.; Singleton, J.; Balakirev, F.; Liu, C.; Liu, Q.  | <i>Shubnikov-de Haas oscillations reaching the quantum limit in two-dimensional electron systems at SrTiO<sub>3</sub>/O<sub>2</sub> (111) interfaces</i> | Phys. Rev. B    | 112  |       | 35153     | 10.1103/why6-1f18             | Yes                  |
| Wang, Z.; Wang, L.; Yip, K.; Tsui, Y.; Poon, T.; Wang, W.; Tsang, C.; Wang, S.; Graf, D.E.; Pourret, A.; Seyfarth, G.; Knebel, G.; Lai, K.; Yu, W.; Zhang, W.; Goh, S. | <i>Discovery of a New Phase in Thin Flakes of KV<sub>3</sub>Sb<sub>5</sub> under Pressure</i>                                                            | Adv. Sci.       | 12   | 16    |           | 10.1002/adv.202415012         | Yes                  |

| Authors                                                                                                                                                                                                                                                      | Title                                                                                                                                            | Journal Name          | Vol | Issue | Pages       | DOI                        | Cites NSF Core Grant |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----|-------|-------------|----------------------------|----------------------|
| Weinberger, T.; Wu, Z.; Hickey, A.; Graf, D.E.; Li, G.; Wang, P.; Zhou, R.; Cabala, A.; Pucci, J.A.; Sechovsky, V.; Valiska, M.; Lonzarich, G.G.; Grosche, F.M.; Eaton, A.G.                                                                                 | <i>Pressure-enhanced f-electron orbital weighting in UTe<sub>2</sub> mapped by quantum interferometry</i>                                        | Commun. Phys.         | 8   | 1     | 454         | 10.1038/s42005-025-02333-5 | Yes                  |
| Wilson, B.; Acharya, A.; Choi, E.; Rai, R.; Zhang, Q.; Calder, S.; Gonzalez-Hernandez, R.; Sanchez, J.; Dhital, C.                                                                                                                                           | <i>Magnetic structure and magnetodielectric behavior of the chiral magnet CoTeMoO<sub>6</sub></i>                                                | J. Magn. Magn. Mater. | 622 |       | 172963      | 10.1016/j.jmmm.2025.172963 | Yes                  |
| Womack, F.; Ortega, A.; Karna, S.; Graf, D.E.; Adams, P.                                                                                                                                                                                                     | <i>The proximity effect and critical field behavior of Re/Al bilayers</i>                                                                        | Mater. Res. Express   | 12  | 4     |             | 10.1088/2053-1591/adbab6   | Yes                  |
| Wu, T.; Chang, Y.; Wu, A.; Terilli, M.; Wen, F.; Kareev, M.; Choi, E.; Graf, D.E.; Zhang, Q.; Gu, L.; Wang, Z.; Pixley, J.H.; Chakhalian, J.                                                                                                                 | <i>Electronic anisotropy and rotational symmetry breaking at a Weyl semimetal/spin ice interface</i>                                             | Sci. Adv.             | 11  | 24    | eadr6202    | 10.1126/sciadv.adr6202     | Yes                  |
| Wu, Z.; Chen, H.; Weinberger, T.I.; Cabala, A.; Graf, D.E.; Skourski, Y.; Xie, W.; Ling, Y.; Zhu, Z.; Sechovsky, V.; Valiska, M.; Grosche, F.M.; Eaton, A.G.                                                                                                 | <i>Superconducting critical temperature elevated by intense magnetic fields</i>                                                                  | PNAS                  | 122 | 2     | e2422156122 | 10.1073/pnas.2422156122    | Yes                  |
| Wu, Z.; Long, M.; Chen, H.; Paul, S.; Matsuki, H.; Zheliuk, O.; Zeitler, U.; Li, G.; Zhou, R.; Zhu, Z.; Graf, D.E.; Weinberger, T.I.; Grosche, F.; Maeno, Y.; Eaton, A.G.                                                                                    | <i>Fermi Surface of RuO<sub>2</sub> Measured by Quantum Oscillations</i>                                                                         | Phys. Rev. X          | 15  |       | 31044       | 10.1103/5js8-2hj8          | Yes                  |
| Wu, Z.; Weinberger, T. I.; Hickey, A. J.; Chichinadze, D. V.; Shaffer, D.; Cabala, A.; Chen, H.; Long, M.; Brumm, T. J.; Xie, W.; Lin, Y.; Skourski, Y.; Zengwei, Z.; Graf, D.E.; Sechovsky, V.; Lonzarich, G. G.; Valiska, M.; Grosche, F. M.; Eaton, A. G. | <i>A Quantum Critical Line Bounds the High Field Metamagnetic Transition Surface in UTe<sub>2</sub></i>                                          | Phys. Rev. X          | 15  |       | 21019       | 10.1103/PhysRevX.15.021019 | Yes                  |
| Xia, L.; de la Barrera, S.C.; Uri, A.; Sharpe, A.; Kwan, Y.H.; Zhu, Z.; Watanabe, K.; Taniguchi, T.; Goldhaber-Gordon, D.; Fu, L.; Devakul, T.; Jarillo-Herrero, P.                                                                                          | <i>Topological bands and correlated states in helical trilayer graphene</i>                                                                      | Nat. Phys.            | 21  | 2     | 239-244     | 10.1038/s41567-024-02731-6 | Yes                  |
| Xing, C.; Zhang, H.; Noordhoek, K.; Zheng, G.; Chen, K.; Horak, L.; Xin, Y.; Choi, E.; Li, L.; Zhou, H.; Liu, J.                                                                                                                                             | <i>Probing Ice-Rule-Breaking Transition in Dy<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub> Thin Film by Proximitized Transport and Magnetic Torque</i> | Phys. Rev. Lett.      | 135 | 21    | 216702      | 10.1103/w6cq-2qwl          | Yes                  |



| Authors                                                                                                                                                                                                         | Title                                                                                                                                                         | Journal Name                 | Vol | Issue | Pages     | DOI                            | Cites<br>NSF<br>Core<br>Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|-----------|--------------------------------|-------------------------------|
| Xu, A.; Xin, Y.; Abraimov, D.V.; Park, J.; Jaroszynski, J.J.; Kametani, F.; Larbalestier, D.C.                                                                                                                  | <i>A Comprehensive Characterization of Commercial Pulsed Laser Deposited Coated Conductors</i>                                                                | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-6       | 10.1109/TASC.2025.3538638      | Yes                           |
| Yadav, L.; Rufino, A.; Bag, R.; Ennis, M.; Koziol, J.A.; Cruz, C.; Kolesnikov, A.I.; Garlea, V.O.; Taddei, K.M.; Graf, D.E.; Schmidt, K.P.; Mila, F.; Haravifard, S.                                            | <i>Observation of Unprecedented Fractional Magnetization Plateaus in a New Shastry-Sutherland Ising Compound</i>                                              | Phys. Rev. X                 | 15  |       | 41045     | 10.1103/9ynf-xx1t              | Yes                           |
| Yahav, D.; Maniv, A.; Potashnikov, D.; Pesach, A.; Caspi, E.N.; Reyes, A.P.; Tao, Q.; Rosen, J.; Maniv, E.                                                                                                      | <i>Hidden magnetic phases in i-MAX compounds</i>                                                                                                              | Phys. Rev. B                 | 111 |       | 94427     | 10.1103/PhysRevB.111.094427    | Yes                           |
| Yousuf, S.; Wang, Y.; Ramachandran, S.; Koptur-Palenchar, J.; Tarantini, C.; Xiang, L.; McGill, S.A.; Smirnov, D.; Santos, E.; Feng, P.; Zhang, X.                                                              | <i>Mechanical Resonant Sensing of Spin Texture Dynamics in a 2D Antiferromagnet</i>                                                                           | Adv. Mater.                  |     |       | 2420168   | 10.1002/adma.202420168         | Yes                           |
| Yu, O.; Boivin, F.; Silberstein, A.; Gervais, G.                                                                                                                                                                | <i>Observation of Temperature-Independent Anomalous Hall Effect in Thin Bismuth from Near Absolute Zero to 300 K Temperature</i>                              | Phys. Rev. Lett.             | 134 |       | 66603     | 10.1103/PhysRevLett.134.066603 | Yes                           |
| Zeping, S.; Wu, W.; Wang, G.; Ozerov, M.; Yuan, J.; Xia, W.; Du, Y.; Meng, X.; Jiang, X.; Zhou, M.; Chen, Y.; Shen, H.; Guo, Y.; Chu, J.; Yuan, X.                                                              | <i>Isotropic Dirac fermion and anomalous oscillator strength of the zeroth Landau level transition in LaAlSi</i>                                              | Commun. Phys.                | 8   |       | 376       | 10.1038/s42005-025-02288-7     | Yes                           |
| Zhang, J.; Hua, Z.; Wang, C.; Smidman, M.; Graf, D.E.; Thomas, S.; Rosa, P.; Wirth, S.; Dai, X.; Xiong, P.; Yuan, H.; Wang, X.; Jiao, L.                                                                        | <i>Realizing a topological diode effect on the surface of a topological Kondo insulator</i>                                                                   | PNAS                         | 122 | 12    |           | 10.1073/pnas.2417709122        | Yes                           |
| Zhang, L.; Guo, C.; Graf, D.E.; Putzke, C.; Bordelon, M.; Bauer, E.; Thomas, S.; Ronning, F.; Rosa, P.; Moll, P.                                                                                                | <i>Dimensionality of the reinforced superconductivity in UTe<sub>2</sub></i>                                                                                  | Nat. Commun.                 | 16  | 1     |           | 10.1038/s41467-025-66288-5     | Yes                           |
| Zhang, W.; Lucier, B.E.; Martins, V.; Azizivahed, T.; Hung, I.; Xu, Y.; Gan, Z.; Venkatesh, A.; Goh, T.; Huang, W.; Rossini, A.J.; Huang, Y.                                                                    | <i>Local order, disorder, and everything in between: using <sup>91</sup>Zr solid-state NMR spectroscopy to probe zirconium-based metal-organic frameworks</i> | Phys. Chem. Chem. Phys.      | 27  | 9     | 4704-4716 | 10.1039/d4cp03704a             | Yes                           |
| Zhang, Y.; Gao, Y.; Pulkkinen, A.; Guo, X.; Huang, J.; Guo, Y.; Yue, Z.; Oh, J.S.; Moon, A.; Oudah, M.; Gao, X.J.; Marmodoro, A.; Fedorov, A.; Mo, S.K.; Hashimoto, M.; Lu, D.; Rajapitamahuni, A.; Vescovo, E. | <i>Kramers nodal lines in intercalated TaS<sub>2</sub> superconductors</i>                                                                                    | Nat. Commun.                 | 16  |       | 4984      | 10.1038/s41467-025-60020-z     | Yes                           |

| Authors                                                                                                                                                                        | Title                                                                                                                | Journal Name | Vol | Issue | Pages | DOI                        | Cites<br>NSF<br>Core<br>Grant |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------|-----|-------|-------|----------------------------|-------------------------------|
| Kono, J.; Hallas, A.M.; Birgeneau, R.J.; Balicas, L.; Minar, J.; Hosur, P.; Law, K.T.; Morosan, E.; Yi, M.                                                                     |                                                                                                                      |              |     |       |       |                            |                               |
| Zheng, G.; Zhang, D.; Zhu, Y.; Chen, K.; Chan, A.; Jenkins, K.; Kang, B.; Zeng, Z.; Xu, A.; Ratkovski, D.R.; Blawat, J.; Bangura, A.; Singleton, J.; Lee, P.A.; Li, S.; Li, L. | <i>Thermodynamic Evidence of Fermionic Behavior in the Vicinity of One-Ninth Plateau in a Kagome Antiferromagnet</i> | Phys. Rev. X | 15  |       | 21076 | 10.1103/PhysRevX.15.021076 | Yes                           |

### PUBLICATIONS GENERATED BY EMR AT FSU (28)

| Authors                                                                                                                                | Title                                                                                                                                         | Journal Name             | Vol  | Issue      | Pages       | DOI                        | Cites<br>NSF<br>Core<br>Grant |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|------|------------|-------------|----------------------------|-------------------------------|
| Abusa, Y.; Greenfield, J.; Viswanathan, G.; Goswami, S.; Ross, E.; Yox, P.; Oppong, R.; Ojo, I.; Liu, J. F.; Ozarowski, A.; Kovnir, K. | <i>A competition between 2D and 3D magnetic orderings in novel mixed valent copper frameworks</i>                                             | Chem. Sci.               | 2025 | d5sc00548e | 1-12        | 10.1039/d5sc00548e         | Yes                           |
| Benner, F.; Saroshan, D.; Hrubý, J.; Hill, S.; Demir, S.                                                                               | <i>Magnetic Blocking in Fluorinated Radical-Bridged Dimeric Complexes</i>                                                                     | J. Am. Chem. Soc. (JACS) | 147  | 51         | 47159-47178 | 10.1021/jacs.5c14158       | Yes                           |
| Bisht, S.; Liu, S.; Thangavel, K.; Mondal, D.J.; Lin, X.; Yergeshbayeva, S.; Hill, S.; Cheng, H.P.; Shatruk, M.                        | <i>Structural and Magnetic Studies of a Discrete Tetranuclear Complex Featuring an Oxalato-Bridged Ni<sub>3</sub>Cr<sup>III</sup> Cluster</i> | Crys Growth Des          | 25   | 15         | 5834 - 5844 | 10.1021/acs.cgd.5c00236    | Yes                           |
| Choroba, K.; Machura, B.; Bieńko, A.; Sawka, J.; Bieńko, D. C.; Rajnák, C.; Titiš, J.; Boča, R.; Ozerov, M.; Ozarowski, A.             | <i>Further insights into controlling anisotropy of pentacoordinate Co(II) field-supported single-molecule magnets.</i>                        | Dalton Trans.            | 54   |            | 1-15        | 10.1039/D5DT02098K         | Yes                           |
| Dubroca, T.; Ozarowski, A.; Sunatsuki, Y.; Telser, J.; Hill, S.; Krzystek, J.                                                          | <i>Benefitting from Magnetic Field-Induced Torquing in Terahertz EPR of a Mn(III) Coordination Complex</i>                                    | Appl. Magn. Reson.       | 56   |            | 137-149     | 10.1007/s00723-024-01706-3 | Yes                           |
| Ercay, E.; Ersoy, S.; Ozcan, M.; Misirlioglu, F. B.; Gungor, A.; Ozarowski, A.; Kaya, F.; Erdem, E.                                    | <i>Enhancing ZnO-based supercapacitors through carbon-induced defect centers</i>                                                              | MRS Bulletin             | 50   |            | 1-13        | 10.1557/s43577-024-00845-z | Yes                           |
| Gakiya-Teruya, M.R.; Stewart, R.; Peng, L.; Liu, S.; Li, C.; Cheng, H.P.; Chan, G.K.L.; Hill, S.; Shatruk, M.                          | <i>A 54.6 GHz Clock Transition in Ho<sup>3+</sup> Electron Spin Qubits Assembled into a Metal-Organic Framework</i>                           | J. Am. Chem. Soc. (JACS) | 147  |            | 1-2         | 10.1021/jacs.5c07796       | Yes                           |

| Authors                                                                                                                                                                                                                          | Title                                                                                                                                      | Journal Name                      | Vol | Issue | Pages        | DOI                           | Cites NSF Core Grant |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----|-------|--------------|-------------------------------|----------------------|
| Hand, A.T.; Fakolujo, A.A.; Krzystek, J.; Ozerov, M.; Daemen, L.L.; Xing, J.; Gai, Z.; Jin, R.; Telser, J.; Podlesnyak, A.A.; Xue, Z.L.                                                                                          | <i>Advanced spectroscopic studies of (PPh<sub>4</sub>)<sub>2</sub>[Co(N<sub>3</sub>)<sub>4</sub>], a field-induced single-ion magnet</i>   | New J. Chem.                      |     |       |              | 10.1039/D5NJ01857A            | Yes                  |
| Handzlik, G.; Ligielli, I.; Nain, S.; Khurana, R.; Ali, M.E.; Papangelis, E.; Papapanagis, C.; Bailly, C.; Tsoureas, N.; Danopoulou, M.; Bethanis, C.; Braunstein, P.; Pinkowicz, D.; Krzystek, J.; Kyritsis, P.; Danopoulos, A. | <i>Relaxing amid Three: Slow Magnetization Relaxation in Three-Coordinate Chromium(II) N-Heterocyclic Carbene Complexes</i>                | Chemistry: A European Journal     | 31  |       | e202500607   | 10.1002/chem.202500607        | Yes                  |
| Henderson, A.M.; Razpopov, A.; Biswas, S.; Valenti, R.; Cui, H.; Kato, R.; Wei, K.; van Tol, J.; Siegrist, T.M.; Schlueter, J.A.                                                                                                 | <i>One-dimensional antiferromagnetic chain in the cation radical salt <math>\alpha</math>-(BEDT-TTF)<sub>2</sub>Hg(SeCN)<sub>2</sub>Cl</i> | Crystal Engineering Communication | 27  | 18    | 2805         | 10.1039/D5CE00007F            | Yes                  |
| Hill, S.                                                                                                                                                                                                                         | <i>Making Qubits from Magnetic Molecules</i>                                                                                               | Phys. Today                       | 78  | 3     | 38-45        | 10.1063/pt.keiz.kcmn          | Yes                  |
| Jenkins, M.J.; Ozerov, M.; Krzystek, J.; Daemen, L.L.; Cheng, Y.; Xue, X.L.                                                                                                                                                      | <i>Probing magnetic and vibrational properties of trigonal-bipyramidal Co(II) and Ni(II) complexes using advanced spectroscopies</i>       | New J. Chem.                      | 49  |       | 5740-5756    | 10.1039/d5nj00184f            | Yes                  |
| Malik, M.; Bieńko, A.; Boča, R.; Titiš, J.; Rajnák, C.; Świtlicka, A.; Bieńko, D. C.; Ozerov, M.; Ozarowski, A.                                                                                                                  | <i>Effect of the counter anion to slow magnetic relaxation of hexacoordinate co(II) complexes.</i>                                         | Dalton Trans.                     | 54  |       | 1-11         | 10.1039/D5DT01360G            | Yes                  |
| Manvell, A.S.; Dunstan, M.A.; Gracia, D.; Hrubý, J.; Kubus, M.; McPherson, J.N.; Palacios, E.; Weihe, H.; Hill, S.; Schnack, J.; Evangelisti, M.; Pedersen, K.S.                                                                 | <i>A Triangular Frustrated Eu(II)-Organic Framework for Sub-Kelvin Magnetic Refrigeration</i>                                              | J. Am. Chem. Soc. (JACS)          | 147 | 9     | 7597-7603    | 10.1021/jacs.4c17003          | Yes                  |
| Martinez, R.; Uenguer, O.; Jackson, C.W.; Khan, F.; van Tol, J.; Zadrozny, J.                                                                                                                                                    | <i>Ligand-Nuclei Effects on Spin Relaxation in V(IV) Complexes</i>                                                                         | Inorg. Chem.                      | 64  | 30    | 15588--15599 | 10.1021/acs.inorgchem.5c01930 | Yes                  |
| Mascitti, B.; Zanon, G.; van der Ham, A.; Yang, L.; Franco, L.; Mancin, F.; Rastrelli, F.; Orlando, T.                                                                                                                           | <i>Nanoparticle-assisted dynamic nuclear polarization in liquids</i>                                                                       | Phys. Chem. Chem. Phys.           |     |       |              | 10.1039/D5CP02465J            | Yes                  |
| Mohar, J.S.; Bhunia, M.; Laughlin, A.L.; Ozarowski, A.; Krzystek, J.; Keller, T.M.; Gau, M.R.; Lancaster, K.L.; Telser, J.; Mindiola, D.M.                                                                                       | <i>Titanium Phosphinidene and Phosphide Moieties from Oxidative Phosphorylation and Desilylation</i>                                       | J. Am. Chem. Soc. (JACS)          | 147 |       | 11625-11631  | 10.1021/jacs.4c12242          | Yes                  |

| Authors                                                                                                                                                                                                                              | Title                                                                                                                                                          | Journal Name             | Vol | Issue | Pages       | DOI                           | Cites<br>NSF<br>Core<br>Grant |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|-------|-------------|-------------------------------|-------------------------------|
| Moore, S.M.; Sun, C.; Chen, Y.; Lee, S.C.; Oswald, V.; Turnbull, M.M.; McNeely, J.; Ozarowski, A.; Orlando, T.; Rheingold, A.L.; Doerrer, L.H.                                                                                       | <i>An All-O-Donor Family of Mn(II) and Mn(III) Complexes with Perfluorinated Alkoxide Ligands</i>                                                              | Inorg. Chem.             | 64  | 41    | 20688-20704 | 10.1021/acs.inorgchem.5c03052 | Yes                           |
| Ngo, D.X.; McClain, K.R.; Hrubý, J.; Franzke, Y.J.; Kundu, K.; Kwon, H.; Gould, C.A.; Harvey, B.G.; Hill, S.; Long, J.R.                                                                                                             | <i>Large Hyperfine Coupling Arising from Pseudo-<sup>2</sup>S Ground States in a Series of Lutetium(II) Metallocene Complexes</i>                              | J. Am. Chem. Soc. (JACS) | 147 | 16    | 13799-13807 | 10.1021/jacs.5c01947          | Yes                           |
| Orlando, T.; Bui, H.; Cabigting, J.; Ibbetson, N.; van Tol, J.; Dubroca, T.; Wang, X.; Mentink-Vigier, F.                                                                                                                            | <i>Impact of non-polar solvents in dynamic nuclear polarization at high magnetic fields</i>                                                                    | J. Magn. Reson.          | 375 |       | 107885      | 10.1016/j.jmr.2025.107885     | Yes                           |
| Parmara, V.S.; Gransbury, G.K.; Corner, S.C.; Chou, W.; Hill, S.; Winpenny, R.E.P.; Chilton, N.F.; Mills, D.P.                                                                                                                       | <i>Direct characterisation of <math>m_J = \pm 15/2</math> ground state in octahedral Dy(III) single-molecule magnets</i>                                       | Dalton Trans.            | 54  |       | 7616-7620   | 10.1039/d5dt00862j            | Yes                           |
| SantaLucia, D.J.; Devkota, L.; Lindeman, S.V.; Ozarowski, A.; Krzystek, J.; Ozerov, M.; Greer, S.M.; Cummins, D.C.; Theopold, K.H.; Atanasov, M.; Telser, J.; Fiedler, A.T.                                                          | <i>Magnetospectroscopic studies of a series of Fe(II) scorpionate complexes: assessing the relationship between halide identity and zero-field splitting</i>   | Inorg. Chem.             | 64  | 31    | 16135-16151 | 10.1021/acs.inorgchem.5c02691 | Yes                           |
| Sawka, J.; Bieńko, A.; Świtlicka, A.; Penkala, M.; Rajnák, C.; Titiš, J.; Boča, R.; Ozarowski, A.                                                                                                                                    | <i>Large magnetic anisotropy of Ni(II) polynuclear complexes confirmed by very unusual HFEPR spectra: relaxation behaviour of six-coordinate Ni(II) dimers</i> | Dalton Trans.            | 54  |       | 13421-13425 | 10.1039/D5DT01264C            | Yes                           |
| Shivanna, M.; Torquato, N.A.; Li, S.; Sugar, J.D.; Foster, M.E.; Berry, A.; Taylor, W.V.; Strange, N.; Wang, X.; El Gabaly, F.; Chang, T.; Chen, Y.S.; Sharma, P.; Lemmon, J.; Sadtler, B.; Wood, B.C.; Allendorf, M.D.; Stavila, V. | <i>Single-Electron Transfer Stabilizes Metastable Alane in a Bipyridine-Functionalized MOF Nanopore</i>                                                        | J. Am. Chem. Soc. (JACS) | 147 | 0     | 0           | 10.1021/jacs.5c15894          | Yes                           |
| Simran, S.; Tansky, M.; Trabulsi, S.; Deng, L.; Chu, C.W.; Ozarowski, A.; Comito, R.J.                                                                                                                                               | <i>Cooperative enhancement of redox catalysis in divanadium complexes binucleated by 1,8-naphthyridine-2,7-dicarboxylate</i>                                   | Dalton Trans.            | 54  |       | 15400-15405 | 10.1039/d5dt01296a            | Yes                           |
| Tacconi, L.; Bisht, S.; Cini, A.; Perfetti, M.; Orlando, T.; Fittipaldi, M.; Shatruk, M.; Sessoli, R.                                                                                                                                | <i>Sensitive Detection of Spin-Electric Coupling in a Cr<sub>3</sub> Antiferromagnetic Triangle</i>                                                            | Chem. Sci.               |     |       |             | 10.1039/D5SC08012F            | Yes                           |
| Wi, S.; Giannouli, A.; Butbul, K.; Lumata, J.L.; Dubroca, T.; Scott, F.; Dowdell, Z.; Schurko, R.W.; van Tol, J.; Frydman, L.                                                                                                        | <i>Toward Generalized Solution-State <sup>1</sup>H DNP NMR via Particle-Mediated Cross-Relaxation</i>                                                          | J. Phys. Chem. Lett.     | 16  | 25    | 6627--6636  | 10.1021/acs.jpcclett.5c01398  | Yes                           |



| Authors                            | Title                                                                                        | Journal Name         | Vol | Issue | Pages     | DOI                          | Cites<br>NSF<br>Core<br>Grant |
|------------------------------------|----------------------------------------------------------------------------------------------|----------------------|-----|-------|-----------|------------------------------|-------------------------------|
| Yang, L.; Orlando, T.; Bennati, M. | <i>Halogen-Bond-Mediated <sup>13</sup>C Overhauser Dynamic Nuclear Polarization at 9.4 T</i> | J. Phys. Chem. Lett. | 16  |       | 4505-4514 | 10.1021/acs.jpcclett.5c00798 | Yes                           |

#### PUBLICATIONS GENERATED BY HIGH B/T AT UF (4)

| Authors                                                                                                                                | Title                                                                                                      | Journal Name                                         | Vol | Issue | Pages  | DOI                        | Cites<br>NSF<br>Core<br>Grant |
|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-----|-------|--------|----------------------------|-------------------------------|
| Benyacko, C.L.; Hauser, G.T.; Rawson, R.J.; Sherman, A.J.; Wiebe, Q.L.; Pootafai, K.; Talham, D.R.; Meisel, M.W.                       | <i>Static Magnetic Properties of Cryogel® and Pyrogel® at Low Temperatures and in High Magnetic Fields</i> | J. Low Temp. Phys.                                   | 221 |       | 98-107 | 10.1007/s10909-025-03317-z | Yes                           |
| Flynn, S.; Benyacko, C.L.; Mihalik, M.; Lee, J.; Ma, F.; Bates, M.E.; Sinha, S.; Abboud, K.A.; Mihalik, M.; Meisel, M.W.; Hamlin, J.J. | <i>Synthesis of cobalt grown from Co-S eutectic in high magnetic fields</i>                                | Phys. Rev. Mater.                                    | 9   |       | 94401  | 10.1103/9bb3-4pby          | Yes                           |
| Tener, Z.P.; Flynn, S.; Donald, A.M.; Hamlin, J.J.; Meisel, M.W.; Manuel, M.V.; Kesler, M.S.                                           | <i>Thermocouples in Resistive and Induction Furnaces Operated in Strong Magnetic Fields (2025)</i>         | IEEE Transactions on Instrumentation and Measurement | 74  |       | 1-5    | 10.1109/TIM.2025.3602597   | Yes                           |
| Zheng, M.; Makaju, R.; Gazizulin, R.; Addamane, S.J.; Laroche, D.                                                                      | <i>Tunable reciprocal and nonreciprocal contributions to 1D Coulomb drag</i>                               | Nat. Commun.                                         | 16  |       | 6963   | 10.1038/s41467-025-62324-6 | Yes                           |

#### PUBLICATIONS GENERATED BY ICR AT FSU (29)

| Authors                                                                                                                             | Title                                                                                                                                               | Journal Name                                          | Vol | Issue | Pages     | DOI                             | Cites<br>NSF<br>Core<br>Grant |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----|-------|-----------|---------------------------------|-------------------------------|
| Babcock-Adams, L.C.; Li, J.; McKenna, A.M.; Hendrickson, C.L.; Repeta, D.J.                                                         | <i>Detection and Structural Elucidation of Copper Binding Tri- and Tetrapyrrole Ligands Produced by the Marine Diatom Phaeodactylum Tricornutum</i> | Journal of the American Society for Mass Spectrometry | 36  | 4     | 713-720   | 10.1021/jasms.4c00380           | Yes                           |
| Bhagu, J.; Anderson, L.C.; Grant, S.C.; Mohammadigoushi, H.                                                                         | <i>Nuclear magnetic resonance study of monoclonal antibodies near an oil-water interface</i>                                                        | Journal of Pharmaceutical Sciences                    | 114 | 4     | 103685    | 10.1016/j.xphs.2025.01.020      | Yes                           |
| Chacon Patino, M.L.; Frye-Jones, J.W.; Anderson, L.C.; Robbins, W.D.; Salvato Vallverdu, G.; Tello Rodriguez, A.; Ruiz, W.; Gascon, | <i>Detailed Molecular Composition of Wood Pyrolysis Bio-Oils Revealed by HPLC-FT-ICR MS</i>                                                         | Energy Fuels                                          | 39  | 7     | 3575-3588 | 10.1021/acs.energyfuels.4c05674 | Yes                           |

| Authors                                                                                                                                                                                                                                                                                                                                                   | Title                                                                                                                                                                          | Journal Name             | Vol | Issue | Pages         | DOI                             | Cites<br>NSF<br>Core<br>Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|-------|---------------|---------------------------------|-------------------------------|
| G.; Ruger, C.P.; Dayton, D.C.; Giusti, P.; Mase, C.; Barrère-Mangote, C.; Afonso, C.; Bouyssiere, B.; Rodgers, R.P.                                                                                                                                                                                                                                       |                                                                                                                                                                                |                          |     |       |               |                                 |                               |
| Coffey, N.R.; Agblemany, F.E.; McKenna, A.M.; Wozniak, A.S.                                                                                                                                                                                                                                                                                               | <i>Unsaturated Aliphatic and Sulfur-containing Organic Matter as Surfactants in the Surface Microlayer</i>                                                                     | Mar. Chem.               | 272 |       | 104547        | 10.1016/j.marchem.2025.104547   | Yes                           |
| Díaz-Sánchez, L.M.; Chacon Patino, M.L.; Blanco-Tirado, C.; Combariza, M.Y.; Montoya, G.                                                                                                                                                                                                                                                                  | <i>Comparative Metabolic Profiling of Wild and In Vitro Cultivated Cecropia angustifolia Roots Fraction Reveals Conservation of Pentacyclic Triterpene Acid Biosynthesis</i>   | Phytochemical Analysis   | 36  | 6     | 1829-1839     | 10.1002/pca.70001               | Yes                           |
| Dossche, G.; Ureel, Y.; Aguilera, M.; Kusenberger, M.; Rodgers, R.P.; Sabbe, M.K.; Van Geem, K.M.                                                                                                                                                                                                                                                         | <i>Characterization and Source Tracing of Nitrogenates and Halogens in Polyolefin Waste Pyrolysis Oils by Ultrahigh-Resolution FT-ICR MS</i>                                   | Energy Fuels             | 39  | 48    | 22780-22796   | 10.1021/acs.energyfuels.5c04213 | Yes                           |
| Doting, E.L.; Stevens, I.T.; Kellerman, A.M.; Rossel, P.E.; Antony, R.; McKenna, A.M.; Tranter, M.; Benning, L.G.; Spencer, R.G.M.; Hawkings, J.R.; Anesio, A.M.                                                                                                                                                                                          | <i>Molecular-level Characterization of Supraglacial Dissolved and Water-extractable Organic Matter Along a Hydrological Flow Path in a Greenland Ice Sheet Micro-catchment</i> | Biogeosci.               | 22  | 1     | 41-53         | 10.5194/bg-22-41-2025           | Yes                           |
| Durham, B.P.; Johnson, W.M.; Bannon, C.C.; Bertrand, E.M.; Ingalls, A.E.; Edwards, B.R.; Apprill, A.; Boysen, A.K.; Bundy, R.M.; Chen, H.; Ferrer-Gonzalez, F.X.; Fiore, C.; Heal, K.R.; Kuhlisch, C.; Liu, S.; Lu, K.; Meke, L.E.; Pontrelli, S.; Ramalingam, P.V.; Reigel, A.M.; Sacks, J.S.; Schreier, J.E.; Sekar, J.; Uchimiya, M.; Kujawinski, E.B. | <i>An Ecological Framework for Microbial Metabolites in the Ocean Ecosystem</i>                                                                                                | Limnol. Oceanogr. Lett.  | 10  | 5     | 636-659       | 10.1002/lol2.70046              | No                            |
| Forrer, H.J.; Stukel, M.R.; McKenna, A.M.; Chen, H.; Holt, A.; Kranz, S.A.; Spencer, R.G.M.                                                                                                                                                                                                                                                               | <i>The Molecular-level Diagenetic Clock of Sinking Marine Organic Matter</i>                                                                                                   | PNAS                     | 122 | 48    | e2504769122   | 10.1073/pnas.2504769122         | Yes                           |
| Frye-Jones, J.; Chacon Patino, M.L.; Marshall, A.G.; Rodgers, R.P.                                                                                                                                                                                                                                                                                        | <i>Photoinduced Oxidation and Polymerization in Oil-Soluble Products and Interfacial Material from Petroleum Weathering</i>                                                    | Energy Fuels             | 39  | 2     | 1031-1041     | 10.1021/acs.energyfuels.4c03107 | Yes                           |
| Holt, A.; Barton, R.; Wagner, S.; McKenna, A.M.; Fellman, J.; Hood, E.; Battin, T.; Peter, H.; Vanishing Glaciers Field Team, X.; Spencer, R.G.M.                                                                                                                                                                                                         | <i>Widespread Black Carbon Deposition of Varied Origin Exported From Glaciers</i>                                                                                              | Global Biogeochem Cycles | 39  | 4     | e2024GB008359 | 10.1029/2024GB008359            | Yes                           |

| Authors                                                                                                                                                                                          | Title                                                                                                                                           | Journal Name                             | Vol | Issue | Pages         | DOI                          | Cites<br>NSF<br>Core<br>Grant |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----|-------|---------------|------------------------------|-------------------------------|
| Holt, A.; Fellman, J.B.; Kellerman, A.M.; Hood, E.; Bosman, S.H.; McKenna, A.M.; Chanton, J.; Spencer, R.G.M.                                                                                    | <i>Brief Communication: Stream Microbes Preferentially Respire Young Carbon Within the Ancient Glacier Dissolved Organic Carbon Pool</i>        | The Cryosphere                           | 19  | 8     | 2769-2777     | 10.5194/tc-19-2769-2025      | Yes                           |
| Kellerman, A.M.; Lin, Y.; McKenna, A.M.; Osborne, T.Z.; Canion, A.; Lee, Y.; Freitas, A.M.; Chanton, J.P.; Spencer, R.G.M.                                                                       | <i>Identifying the Molecular Signatures of Organic Matter Leached from Land-Applied Biosolids via 21 T FT-ICR Mass Spectrometry</i>             | Envi. Sci. Technol.                      | 59  | 5     | 2665-2674     | 10.1021/acs.est.3c06678      | Yes                           |
| Kurek, M.R.; Muniz, R.; Moura, J.M.S.; Peucker-Ehrenbrink, B.; Holmes, R.M.; McKenna, A.M.; Spencer, R.G.M.                                                                                      | <i>Long-Term and Seasonal Drivers of Organic Matter in the Clearwater Tapajós River and Implications for the Amazon River Basin</i>             | Global Biogeochem Cycles                 | 39  | 6     | e2025GB008545 | 10.1029/2025GB008545         | Yes                           |
| Li, S.; Huang, T.; Huang, C.; Liu, J.; Liu, Q.; Gu, X.; Spencer, R.G.M.; Kellerman, A.M.; McKenna, A.M.; Ma, X.; Jiang, Q.; Yang, H.                                                             | <i>Sources and Mineralization Determine the Generation and Transformation Pathway of Sedimentary Organic Matter Over the Past Century</i>       | Envi. Res.                               | 287 |       | 123052        | 10.1016/j.envres.2025.123052 | Yes                           |
| Li, S.; Wnag, X.; Liu, J.; Zhang, Y.; Spencer, R.G.M.; Kellerman, A.M.; McKenna, A.M.; Ma, X.; Jiang, Q.; Huang, T.; Yang, H.; Huang, C.                                                         | <i>Historical Inputs and Biogeochemical Transformations of Dissolved Organic Matter Since 1850 CE in a Small Plateau-lake, Southwest China</i>  | Palaeogeogr. Palaeoclimatol. Palaeoecol. | 663 |       | 112798        | 10.1016/j.palaeo.2025.112798 | Yes                           |
| Logan, M.N.; Patzner, M.S.; VanderRoest, J.P.; McGivern, B.B.; Srikanthan, N.; Simpson, M.J.; McKenna, A.M.; Wrighton, K.C.; Bryce, C.; Kappler, A.; Borch, T.                                   | <i>Role of Permafrost Thaw Transitions in Biogeochemical Nitrogen Cycling</i>                                                                   | Soil Environ Health                      | 3   | 2     | 100148        | 10.1016/j.seh.2025.100148    | Yes                           |
| Mao, H.R.; Hart, S.C.; Peak, D.; McKenna, A.M.; Zhu, M.                                                                                                                                          | <i>Microbial Transformation and Mineral Adsorption Control Chemical Evolution of Soil Organic Matter During Semi-arid Ecosystem Development</i> | Geochim. Cosmochim. Acta                 | 408 | 1     | 283-295       | 10.1016/j.gca.2025.08.041    | Yes                           |
| McDonough, L.K.; Holt, A.; Hamilton, E.; Randall, K.; Saunders, K.M.; Robinson, S.A.; Spencer, R.G.M.; McKenna, A.M.; Linnenlucke, L.; Meredith, K.T.                                            | <i>Shaping DOM Signatures in East Antarctic Lakes: Penguins, Mosses, Meltwater, and Processing Mechanisms</i>                                   | J Geophys. Res. Biogeosci.               | 130 | 9     | e2025JG008931 | 10.1029/2025JG008931         | Yes                           |
| Monreal, P.J.; Savoca, M.S.; Babcock-Adams, L.C.; Moore, L.E.; Ruacho, A.; Hull, D.; Pallin, L.J.; Nichols, R.C.; Calambokidis, J.; Resing, J.A.; Friedlaender, A.S.; Goldbogen, J.; Bundy, R.M. | <i>Organic Ligands in Whale Excrement Support Iron Availability and Reduce Copper Toxicity to the Surface Ocean</i>                             | Commun Earth Environ                     | 6   |       | 20            | 10.1038/s43247-024-01965-9   | Yes                           |

| Authors                                                                                                                                                                                   | Title                                                                                                                                                                                                    | Journal Name                                        | Vol | Issue | Pages               | DOI                               | Cites<br>NSF<br>Core<br>Grant |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-----|-------|---------------------|-----------------------------------|-------------------------------|
| Rodgers, R.P.; Hendrickson, C.L.; Holder Montenegro, C.; Tello Rodriguez, A.; Potu, T.; Shung, B.; Hagan, M.; Weisbrod, C.; Giusti, P.; Ruger, C.P.; Chacon Patino, M.L.; Vallverdu, G.S. | <i>Internal Calibration without Internal Calibrants by Mass Difference Analysis in FT-ICR Mass Spectrometry</i>                                                                                          | Anal. Chem.                                         |     |       |                     | 10.1021/acs.analchem.5c02420      | Yes                           |
| Roth, H.K.; McKenna, A.M.; Aguilera, M.; VanderRoest, J.P.; Chen, H.; Borch, T.                                                                                                           | <i>Characterization of Burned Soil Organic Matter via Sequential Solvent Extractions and 21 T FT-ICR Mass Spectrometry with Electrospray and Atmospheric Pressure Photoionization</i>                    | Anal. Chem.                                         | 97  | 43    | 24040-24049         | 10.1021/acs.analchem.5c04154      | Yes                           |
| Slentz, A.E.; McKenna, A.M.; Kellerman, A.M.; Holt, A.; Burns, A.J.; Miller, M.G.; Wagner, S.; Tzortziou, M.; Smith, H.; Mannino, A.; Chanton, J.; Spencer, R.G.M.                        | <i>Signatures of Arctic Change: Molecular-Level Composition and Bioavailability of Shifting Dissolved Organic Matter Sources</i>                                                                         | J Geophys. Res. Biogeosci.                          | 130 | 7     | e2025JG008899       | 10.1029/2025JG008899              | Yes                           |
| Starr, S.F.; Wickland, K.P.; Kellerman, A.M.; McKenna, A.M.; Kurek, M.; Miller, A.; Katsaras, A.; Douglas, T.A.; Mackelprang, R.; Shade, A.L.; Spencer, R.G.M.                            | <i>Organic Matter Composition Versus Microbial Source: Controls on Carbon Loss From Fen Wetland and Permafrost Soils</i>                                                                                 | J Geophys. Res. Biogeosci.                          | 130 | 5     | e2024JG008445       | 10.1029/2024JG008445              | Yes                           |
| Tiemann, O.; Schwalb, L.; Hansen, H.J.; Aguilera, M.; Groger, T.; Huy, P.; Michalik, D.; Gayko, G.; Ruger, C.; Zimmermann, R.                                                             | <i>Regulatory Challenges for Look-Alike and Sound-Alike Non-Biological Complex Drugs: Molecular Fingerprint Discrimination of Ichthammol Formulations</i>                                                | Mol Pharm                                           |     |       |                     | 10.1021/acs.molpharmaceut.5c00679 | Yes                           |
| Zandonadi, D.B.; Monda, H.; Gralian, J.; James, A.; Lamar, R.T.; Santos, M.P.                                                                                                             | <i>Humic Acids as Drivers of Plant Growth: Regulating Root Development and Photobiology Through Redox Modulation</i>                                                                                     | Chemical and Biological Technologies in Agriculture | 12  | 1     | 71                  | 10.1186/s40538-025-00789-9        | Yes                           |
| Zapata, K.; Viveros, F.; Carrasco-Marin, F.; Ocampo-Perez, R.; Aguilera, M.; Lerner, B.; Perez, M.; Riaz, M.; Lucas, E.F.; Taborda, E.; Franco, C.A.; Cortes, F.B.                        | <i>Enzyme-based Bionanofluids for Chemical Enhanced Oil Recovery Processes</i>                                                                                                                           | Phys. Fluids                                        | 37  | 9     | 091924-11-091924-17 | 10.1063/5.0287657                 | Yes                           |
| Zhang, C.; Li, Y.; Zhu, J.; Zhang, Z.; Xie, Y.; Fu, S.; Zheng, W.; Shen, Z.; Ren, B.; Chen, Z.; He, H.; Ying, G.G.; Horn, H.; McKenna, A.M.; Huang, M.                                    | <i>Salinity Stress Modulates the Dynamic Co-occurrence Interactions between DOM and Microbial Community Profiles in a Typical River Estuary Ocean Continuum: From the Pearl River to South China Sea</i> | ACS ES&T Water                                      | 5   | 5     | 2096-2109           | 10.1021/acsestwater.4c00832       | No                            |



| Authors                                                            | Title                                                                                                                                                 | Journal Name        | Vol | Issue | Pages         | DOI                     | Cites NSF Core Grant |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|-------|---------------|-------------------------|----------------------|
| Zito, P.; Ghannam, R.; Harsha, M.L.; Bekins, B.A.; Podgorski, D.C. | <i>Examining the Compositional Selectivity of Hydrocarbon Oxidation Products Using Liquid-Liquid Extraction and Solid-Phase Extraction Techniques</i> | Envi. Sci. Technol. | 59  | 39    | 21324.0-21331 | 10.1021/acs.est.5c07016 | Yes                  |

### PUBLICATIONS GENERATED BY NMR AT FSU (71)

| Authors                                                                                                                                                          | Title                                                                                                                                                                                                     | Journal Name                           | Vol  | Issue | Pages       | DOI                           | Cites NSF Core Grant |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------|-------|-------------|-------------------------------|----------------------|
| Agarwal, S.; Li, Z.; Kitchen, J.A.; Wi, S.; Miller, J.                                                                                                           | <i>Probing the <sup>11</sup>B Quadrupolar and Chemical Shielding Tensors in a Pair of Organoboron Enantiomers</i>                                                                                         | J. Phys. Chem. A                       | 129  | 46    | 10601-10615 | 10.1021/acs.jpca.5c03645      | Yes                  |
| Agarwal, S.; Wi, S.; Kitchen, J.A.; Li, Z.; Taylor, C. J.; Famiano, M.; Miller, J. B.                                                                            | <i>Single-Crystal NMR for <sup>17</sup>O in Alanine Enantiomers</i>                                                                                                                                       | ACS Phys. Chem. AU                     |      |       |             | 10.1021/acspchemau.5c00061    | Yes                  |
| Ankur, A.; Yarava, J.; Gautam, I.; Scott, F.; Mentink-Vigier, F.; Chrissian, C.; Xie, L.; Roy, D.; Stark, R.E.; Doering, T.L.; Wang, P.; Wang, T.                | <i>Polymorphic <math>\alpha</math>-Glucans as Structural Scaffolds in <i>Cryptococcus</i> Cell Walls for Chitin, Capsule, and Melanin: Insights From <sup>13</sup>C and <sup>1</sup>H Solid-State NMR</i> | Angew. Chem. Intern. Edition           |      |       | e202510409  | 10.1002/anie.202510409        | Yes                  |
| Badge, A.; Mosley-Kellum, K.; Wi, S.; Modi, N.; Dev, S.; Singh, M.                                                                                               | <i>Development and adhesion evaluation of transdermal rotigotine patches utilizing 3D-printed skin-mimicking substrate, solid-state NMR, and ATR-FTIR techniques</i>                                      | International Journal of Pharmaceutics | 675  |       | 125522      | 10.1016/j.ijpharm.2025.125522 | Yes                  |
| Belmonte-Vázquez, J.L.; Karothu, D.; Fleischer III, C.; Galicia-Badillo, D.; Maldonado-Domínguez, M.; Schurko, R.W.; Li, L.; Naumov, P.; Rodríguez-Molina, B.    | <i>Low-Temperature Dynamics at Nano- and Macroscales: Organic Crystal That Exhibits Low-Temperature Molecular Motion and the Thermosensitive Effect</i>                                                   | Chem. Mater.                           | 37   | 9     | 3373-3383   | 10.1021/acs.chemmater.5c00171 | Yes                  |
| Benhal, P.G.; Garba, M.J.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.                                                                          | <i>Dynamics of Transition Metal Ion Transport in High-Gradient Magnetic Fields</i>                                                                                                                        | J. Phys. Chem. A                       | 129  | 15    | 3401-3410   | 10.1021/acs.jpca.4c08312      | Yes                  |
| Bhagu, J.; Anderson, L.C.; Grant, S.C.; Mohammadigoushki, H.                                                                                                     | <i>Nuclear magnetic resonance study of monoclonal antibodies near an oil-water interface</i>                                                                                                              | Journal of Pharmaceutical Sciences     | 114  | 4     | 103685      | 10.1016/j.xphs.2025.01.020    | Yes                  |
| Brown, W. K.; Oyekunle, I.; Truong, E.; Chen, Y.; Ogbolu, B.; Schundelmier, B.C.; O'Donnell, S.; Smaha, R. W.; Hu, Y.Y.; Wei, K.; McCandless, G. T.; Chan, J. Y. | <i>Co<sub>3</sub>Ga<sub>2</sub>Ge<sub>5</sub>: Probing site mixing of the Ru<sub>3</sub>Sn<sub>7</sub> structure type with elements difficult to distinguish by diffraction</i>                           | J. Alloy Compd.                        | 1010 |       | 177828      | 10.1016/j.jallcom.2024.177828 | Yes                  |

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Title                                                                                                                                              | Journal Name                  | Vol | Issue | Pages     | DOI                          | Cites<br>NSF<br>Core<br>Grant |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----|-------|-----------|------------------------------|-------------------------------|
| Byeon, C.; Kinney, T.; Saricayir, H.; Hansen, K.; Scott, F.; Srinivasa, S.; Welss, M.K.; Mentink-Vigier, F.; Kim, W.; Akbey, U.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <i>Ultrasensitive Characterization of Native Bacterial Biofilms via Dynamic Nuclear Polarization-Enhanced Solid-State NMR</i>                      | Angew. Chem. Intern. Edition  |     |       |           | 10.1002/anie.202418146       | Yes                           |
| Chatterjee, S.; Scott, F.; Sigurdsson, S.; Venkatesh, A.; Mentink-Vigier, F.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <i>Indirect Detection of the Protons in and around Biradicals and their Mechanistic Role in MAS-DNP</i>                                            | J. Phys. Chem. Lett.          |     |       | 635--641  | 10.1021/acs.jpcclett.4c03254 | Yes                           |
| Chen, J.; Liu, X.; Shen, L.; Chen, K.; Wen, Y.; Wang, Y.; Xia, X.; Wang, F.; Gomez, J.S.; Hung, I.; Tang, W.; Gan, Z.; Du, J.; Chen, R.; Peng, L.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <i>Atomic Layer Deposition-Assisted Surface-Selective Isotopic Labeling for the <sup>17</sup>O Solid-State NMR Studies of Metal Oxide Surfaces</i> | J. Phys. Chem. Lett.          | 16  | 27    | 6907-6913 | 10.1021/acs.jpcclett.5c01138 | Yes                           |
| Coulon, R.; Gajan, D.; Papawassiliou, W.; Pell, A.J.; Schlagnitweit, J.; Fayon, F.; Florian, P.; Massiot, D.; Afrough, A.; Juhl, D.W.; Vosegaard, T.; Cerofolini, L.; Lelli, M.; Lucci, M.; Luchinat, C.; Aspers, R.E.; Gómez, J.S.; Kentgens, A.P.; Lambregts, S.F.; Angel Wong, .Y.; Mafra, L.; Marin-Montesinos, I.; Rocha, J.; Sardo, M.; Brath, U.; Karlsson, G.; Pinon, A.C.; Schantz, S.; Soltesova, M.; Bachmann, S.; Brown, S.P.; Iuga, D.; Trent Franks, .W.; Menakath, A.; Frydman, L.; Mentink-Vigier, F.; Schurko, R.W.; Grohe, K.; Engelke, F.; Kempf, J.; Porea, A.; Reiter, C.; Wegner, S.; Castro, V.; Cobas, C.; Jeannerat, D.; Seoane, F.; Vaz, E.; Jardon Alvarez, D.; Leskes, M.; De Biasi, F.; Pintacuda, G.; Lesage, A. | <i>Transforming solid-state nuclear magnetic resonance towards a chemistry-ready technique</i>                                                     | Solid State Nucl. Mag. Reson. | 140 |       | 102048    | 10.1016/j.ssnmr.2025.102048  | Yes                           |
| Dai, Y.; Hung, I.; Gan, Z.; Wu, G.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Extending <sup>17</sup>O transverse relaxation measurement to satellite transitions as a direct probe of molecular dynamics in solids</i>       | Solid State Nucl. Mag. Reson. | 137 |       | 102004    | 10.1016/j.ssnmr.2025.102004  | Yes                           |
| Dhakal, A.; Jung, S.; Bae, B.; Arjun, A.; Robinson, S.; Baek, Y.; Riffe, W.T.; Tiernan, E.M.; Gunaga, S.; Verma, P.; Phister, M.R.; Stone, M.; Stone, K.H.; Morris, A.; Swami, N.S.; Hopkins, P.E.; Venkatesh, A.; Lee, K.; Giri, G.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <i>Fabrication of Piezoelectric Polymer and Metal-Organic Framework Composite Thin Films Using Solution Shearing</i>                               | ACS Appl. Mater. Interfaces   |     |       |           | 10.1021/acsami.5c07907       | Yes                           |

| Authors                                                                                                                                                                                           | Title                                                                                                                                                   | Journal Name                      | Vol | Issue | Pages       | DOI                           | Cites<br>NSF<br>Core<br>Grant |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----|-------|-------------|-------------------------------|-------------------------------|
| Dickwella Widanage, M.C.; Singh, K.; Li, J.; Yarava, J.; Scott, F.; Xu, Y.; Gow, N.; Mentink-Vigier, F.; Wang, P.; Lamoth, F.; Wang, T.                                                           | <i>Distinct echinocandin responses of Candida albicans and Candida auris cell walls revealed by solid-state NMR</i>                                     | Nat. Commun.                      | 16  | 1     | 6295        | 10.1038/s41467-025-61678-1    | Yes                           |
| Donmez, S.; Wang, S.; Vorajee, U.; Strouse, G.; Mattoussi, H.                                                                                                                                     | <i>Investigating Energy-Transfer Interactions in Perovskite Quantum Dot-Dye Assemblies</i>                                                              | J. Phys. Chem. C                  | 129 | 8     | 4134--4145  | 10.1021/acs.jpcc.5c00337      | Yes                           |
| Dowdell, Z.; Peach, A.; Purdie, J.P.; Holmes, S.; Watanabe, L.K.; Rawson, J.M.; Schurko, R.W.                                                                                                     | <i>Mechanochemical synthesis and <sup>35</sup>Cl NMR crystallography of ionic cocrystals of phenothiazine drugs</i>                                     | Crystal Engineering Communication | 27  | 22    | 3752-3768   | 10.1039/D5CE00426H            | Yes                           |
| Fleischer III, C.; Holmes, S.; Lin, X.; Schurko, R.W.                                                                                                                                             | <i>De novo crystal structure determination of L-alaninamide HCl by quadrupolar NMR crystallography guided crystal structure prediction (QNMRX-CSP)</i>  | Solid State Nucl. Mag. Reson.     | 140 |       | 102034      | 10.1016/j.ssnmr.2025.102034   | Yes                           |
| Fleischer III, C.H.; Holmes, S.; Schurko, R.W.                                                                                                                                                    | <i>Quadrupolar NMR Crystallography Guided Crystal Structure Prediction (QNMRX-CSP) of Zwitterionic Organic HCl Salts</i>                                | Crystal Engineering Communication | 27  |       | 7379-7389   | 10.1039/D5CE00899A            | Yes                           |
| Gautam, I.; Yarava, J.; Xu, Y.; Li, R.; Scott, F.; Mentink-Vigier, F.; Momany, M.; Latgé, J.; Wang, T.                                                                                            | <i>Comparative analysis of polysaccharide and cell wall structure in Aspergillus nidulans and Aspergillus fumigatus by solid-state NMR</i>              | Carbohydrate Polym.               | 348 |       | 122907      | 10.1016/j.carbpol.2024.122907 | Yes                           |
| Halat, D.M.; Liu, H.; Kim, K.; Alexander, G.C.; Wang, X.; Venkatesh, A.; Altenhof, A.R.; Mason, H.E.; Lapidus, S.H.; Yoon, J.; Hung, I.; Gan, Z.; Cabana, J.; Siegel, D.J.; Reimer, J.A.; Key, B. | <i>Mg-Ion Conduction in Antiperovskite Solid Electrolytes Revealed by 25Mg Ultrahigh Field NMR and First-Principles Calculations</i>                    | J. Am. Chem. Soc. (JACS)          | 147 | 31    | 27949-27961 | 10.1021/jacs.5c07442          | Yes                           |
| Helsper, S.; Sun, L.; Jeske, R.J.; Liu, C.; Athey, J.D.; Yuan, X.; Grant, S.C.; Li, Y.                                                                                                            | <i>Cargo Analysis and MRI-Based Therapeutic Assessment of Iron Oxide Labelled Extracellular Vesicles of Hypoxia Human Stem Cells in Ischemic Stroke</i> | J Extracell Biol                  | 4   | 7     | e70063      | 10.1002/jex2.70063            | Yes                           |
| Holmes, S.; Wiscons, R.A.; Parks, K.; Nickel, S.; Ankeny, H.S.; Viggiano, A.M.; Bedillion, D.; Shoup, D.; Iulucci, R.J.; Wang, Q.; Schurko, R.W.; Quiñones, R.                                    | <i>A Novel Solid Form of Erlotinib: Synthesis by Heterogeneous Complexation and Characterization by NMR Crystallography</i>                             | Crys Growth Des                   | 25  | 9     | 3219-3228   | 10.1021/acs.cgd.5c00268       | Yes                           |
| Holmes, S.; Xu, Y.; Philips, A.B.; Termos, S.; Kimball, J.; Autschbach, J.; Schurko, R.W.                                                                                                         | <i><sup>99</sup>Ru Solid-State Nuclear Magnetic Resonance Spectroscopy of Organometallic Compounds: Linking Nuclear Magnetic</i>                        | J. Am. Chem. Soc. (JACS)          |     |       | press       | 10.1021/jacs.5c04759          | Yes                           |

| Authors                                                                                                                                                                                  | Title                                                                                                                                                                                    | Journal Name         | Vol | Issue | Pages        | DOI                              | Cites<br>NSF<br>Core<br>Grant |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----|-------|--------------|----------------------------------|-------------------------------|
|                                                                                                                                                                                          | <i>Resonance Parameters with Metal-Ligand Bonding</i>                                                                                                                                    |                      |     |       |              |                                  |                               |
| Hung, I.; Gan, Z.                                                                                                                                                                        | <i>High-Resolution <math>^1\text{H}/^{17}\text{O}</math> NMR Correlation under Fast Magic-Angle Spinning: Revisiting Cross-Polarization for Quadrupolar Nuclei</i>                       | J. Phys. Chem. Lett. | 16  | 27    | 7036-7041    | 10.1021/acs.jpcclett.5c01621     | Yes                           |
| Kengwerere, M.K.; Kenyaga, J.M.; Xiao, P.; Gunaga, S.; Scott, F.; Wutoh-Hughes, X.; Wang, J.; Lum, B.; Sun, Y.; Mentink-Vigier, F.; Wang, T.; Qiang, W.                                  | <i>Structural convergence and membrane interactions of <math>\text{A}\beta_{1-42}</math> along the primary nucleation process studied by solid state NMR</i>                             | Commun Chem          | 8   | 1     | 1-10         | 10.1038/s42004-025-01537-8       | Yes                           |
| Khan, M.; Rassolov, P.V.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.                                                                                                   | <i>Magnetophoresis of weakly magnetic nanoparticle suspension around a wire</i>                                                                                                          | J. Chem. Phys.       | 163 | 2     | 24903        | 10.1063/5.0269000                | No                            |
| Kimball, J.; Schurko, R.W.                                                                                                                                                               | <i>Acquisition of <math>^1\text{H}</math>-Detected <math>^{103}\text{Rh}</math> and <math>^{99}\text{Ru}</math> Solid-State Nuclear Magnetic Resonance Spectra in Stationary Samples</i> | J. Phys. Chem. Lett. | 16  | 19    | 4596-4601    | 10.1021/acs.jpcclett.5c00378     | Yes                           |
| Lake, B.; Siegrist, T.M.; Albrecht-Schmitt, T.E.; Mohammadigoushki, H.; Humayun, M.; Ali, J.N.                                                                                           | <i>Recent Advances in Rare Earth Element Recovery: Liquid Liquid Extraction and Magnetophoretic Separation</i>                                                                           | Ind. Eng. Chem. Res. | 64  | 41    | 19781-19796  | 10.1021/acs.iecr.5c02137         | Yes                           |
| Liu, H.; Chen, Y.; Chien, P.; Amouzandeh, G.; Houck, D.C.; Truong, E.; Oyekunle, I.; Bhagu, J.; Holder, S.W.; Xiong, H.; Gor'kov, P.L.; Rosenberg, J.T.; Grant, S.C.; Hu, Y.             | <i>Dendrite formation in solid-state batteries arising from lithium plating and electrolyte reduction</i>                                                                                | Nat. Mater.          | 24  |       | 581-588      | 10.1038/s41563-024-02094-6       | Yes                           |
| Livni, N.; Paul, S.; Moroz, I.B.; Bogdanov, A.V.; Jardón-Álvarez, D.; Mentink-Vigier, F.; Leskes, M.                                                                                     | <i>Isotropic Hyperfine Interactions Drive Cross-Effect Dynamic Nuclear Polarization</i>                                                                                                  | J. Phys. Chem. Lett. | 16  | 46    | 11955--11963 | 10.1021/acs.jpcclett.5c02845     | Yes                           |
| Mohammadigoushki, H.; Humayun, M.; Siegrist, T.M.; Ali, J.N.; Rassolov, P.V.                                                                                                             | <i>Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients.</i>                                                                                      | Phys. Rev. Fluids    | 10  |       | 73701        | 10.48550/arXiv.2506.04273        | Yes                           |
| Nelson, A.; Papawassiliou, W.; Paul, S.; Hediger, S.; Hung, I.; Gan, Z.; Venkatesh, A.; Franks, W.T.T.; Smith, M.E.E.; Gajan, D.; De Paëpe, G.; Bonhomme, C.; Laurencin, D.; Gervais, C. | <i>Temperature-induced mobility in Octacalcium Phosphate impacts crystal symmetry: water dynamics studied by NMR crystallography</i>                                                     | Farad Discuss        | 255 |       | 451-482      | 10.1039/D4FD00108G               | Yes                           |
| Ogbolu, B.O.; Gamaralalage, T.N.D.D.; Islam, M.M.; Toheed, T.; Sariego, J.; Poudel, T.P.; Francisco, B.E.; Hu, Y.Y.                                                                      | <i><math>\text{Li}_2\text{TaS}_{1-x}\text{O}_x\text{Cl}_5</math>: Triple-Anion Glassy Superionic Conductors for High-Performance Solid-State Batteries</i>                               | ACS Mater. Lett.     | 7   | 12    | 4029-4036    | 10.1021/acsmaterialslett.5c01054 | Yes                           |



| Authors                                                                                                                                                                                     | Title                                                                                                                                                        | Journal Name                  | Vol | Issue | Pages       | DOI                          | Cites<br>NSF<br>Core<br>Grant |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----|-------|-------------|------------------------------|-------------------------------|
| Ojelade, I.A.; Truong, E.; Oyekunle, I.P.; Poudel, T.P.; Chen, Y.; Deck, M.J.; Jin, Y.; Ogbolu, B.; Ojha, P.K.; Islam, M.M.; Gamaralalage, T. N. D. D.; Vellore Winfred, J. S. R.; Hu, Y.Y. | <i>Break it down to speed it up: Na<sub>2</sub>ONaTaCl<sub>6</sub></i>                                                                                       | Chem. Sci.                    | 16  | 42    | 19857-19866 | 10.1039/D5SC05307B           | Yes                           |
| Orlando, T.; Bui, H.; Cabigting, J.; Ibbetson, N.; van Tol, J.; Dubroca, T.; Wang, X.; Mentink-Vigier, F.                                                                                   | <i>Impact of non-polar solvents in dynamic nuclear polarization at high magnetic fields</i>                                                                  | J. Magn. Reson.               | 375 |       | 107885      | 10.1016/j.jmr.2025.107885    | Yes                           |
| Osei, G.K.; Ngatia, L.W.; Abazinge, M.D.; Bolques, A.; Jagoe, C.; Owens, M.A.; Mwashote, B.; Fu, R.                                                                                         | <i>Influence of Biochar Organic Carbon Composition and Thermal Stability on Nitrate Retention and Tomato Yield on Soilless Biochar Amended Growth Media</i>  | Agriculture                   | 15  |       | 865         | 10.3390/agriculture15080865  | Yes                           |
| Oyekunle, I.; Truong, E.; Poudel, T.P.; Chen, Y.; Jin, Y.; Ojelade, I.; Deck, M.J.; Ogbolu, B.; Islam, M.M.; Ojha, P.; Winfred, R.; Hou, D.; Xiong, H.; Huang, C.; Hu, Y.Y.                 | <i>Li<sub>3.6</sub>In<sub>7</sub>S<sub>11.8</sub>Cl: an air- and moisture-stable superionic conductor</i>                                                    | Chem. Sci.                    | 16  |       | 10372-10385 | 10.1039/D5SC01907A           | Yes                           |
| Oyekunle, I.P.; Poudel, T.P.; Chen, Y.; Truong, E.; Ojelade, I.A.; Ojha, P.K.; Islam, M.M.; Jin, Y.; Hu, Y.Y.                                                                               | <i>Modulating Lithium-Ion Transport in LiAlBr<sub>4</sub> via S-Modified Anion Sublattice</i>                                                                | ChemSusChem                   | 18  | 19    | e202501192  | 10.1002/cssc.202501192       | Yes                           |
| Peach, A.; Fabregue, N.; Erre, C.; Métro, T.; Gajan, D.; Mentink-Vigier, F.; Scott, F.; Trébosc, J.; Voron, F.; Patris, N.; Gervais, C.; Laurencin, D.                                      | <i>Capturing and labeling CO<sub>2</sub> in a jar: mechanochemical <sup>17</sup>O-enrichment and ssNMR study of sodium and potassium (bi)carbonate salts</i> | Chem. Sci.                    | 16  | 24    | 10731-10741 | 10.1039/d4sc08491h           | Yes                           |
| Peach, A.; Fabregue, N.; Gajan, D.; Mentink-Vigier, F.; Scott, F.; Gervais, C.; Laurencin, D.                                                                                               | <i>Experimental and Computational <sup>17</sup>O Solid-State NMR Investigation of Na- and K-(Bi)carbonate Salts</i>                                          | Solid State Nucl. Mag. Reson. |     |       | 102020      | 10.1016/j.ssnmr.2025.102020  | Yes                           |
| Perras, F.A.; Mentink-Vigier, F.; Pylaeva, S.                                                                                                                                               | <i>Perspectives on the Dynamic Nuclear Polarization Mechanisms of Monoradicals: Overhauser Effect or Thermal Mixing?</i>                                     | J. Phys. Chem. Lett.          |     |       | 3420-3432   | 10.1021/acs.jpcclett.5c00225 | Yes                           |
| Poudel, T.P.; Oyekunle, I.; Deck, M.J.; Chen, Y.; Hou, D.; Ojha, P.; Ogbolu, B.; Huang, C.; Xiong, H.; Hu, Y.Y.                                                                             | <i>Li<sub>1.6</sub>AlCl<sub>3.4</sub>So<sub>0.6</sub>: a low-cost and high-performance solid electrolyte for solid-state batteries</i>                       | Chem. Sci.                    | 16  |       | 2391-2401   | 10.1039/D4SC07151D           | Yes                           |
| Ragsdale, S.M.; Radovich, J.L.; Coiduras, I.I.; McCall, W.V.; Grant, S.C.; Lee, C.; Wilber, A.                                                                                              | <i>Dual orexin receptor antagonists as promising therapeutics for Alzheimer's disease</i>                                                                    | npj Biol Timing Sleep         | 2   | 11    | 1-13        | 10.1038/s44323-025-00025-5   | Yes                           |
| Rice, A.; Zourou, A.C.; Goodell, E.P.; Fu, R.; Pastor, R.W.; Cotten, M.L.                                                                                                                   | <i>Investigating How Lysophosphatidylcholine and Lysophosphatidylethanolamine Enhance the Membrane</i>                                                       | J. Phys. Chem. B              | 129 |       | 210-227     | 10.1021/acs.jpccb.4c05845    | Yes                           |

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Title                                                                                                                                                                                                                                | Journal Name                  | Vol | Issue | Pages       | DOI                         | Cites<br>NSF<br>Core<br>Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----|-------|-------------|-----------------------------|-------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <i>Permeabilization Efficacy of Host Defense Peptide Piscidin 1</i>                                                                                                                                                                  |                               |     |       |             |                             |                               |
| Roy, A.; Driscoll, T.; Grant, S.C.; Li, Y.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <i>Human Stem Cell-Derived Extracellular Vesicles: A Pioneering Path from Biogenesis to Cerebral Ischemic Stroke Therapy</i>                                                                                                         | Int. J. Mol. Sci.             | 26  | 21    | 10550       | 10.3390/ijms262110550       | Yes                           |
| Saha, J.; Wolszczak, A.; kaur, N.; Dickwella Widanage, M.; McCalpin, S.; Fu, R.; Ali, J.N.; Ramamoorthy, A.                                                                                                                                                                                                                                                                                                                                                                                                           | <i>Anionic Lipid Catalyzes the Generation of Cytotoxic Insulin Oligomers</i>                                                                                                                                                         | Biomol.                       | 15  |       | 994         | 10.3390/biom15070994        | Yes                           |
| Schurko, R.W.; Rienstra, C.M.; Jaroniec, C.P.; Hansen, A.L.; Franks, W.T.; Bryce, D.L.; Brinkmann, A.; Terskikh, V.; Brown, S.P.; Iuga, D.; van Heijenoort, C.; Fayon, F.; Bertaina, S.U.; Alfonso, C.; Karlsson, G.; Grobner, G.; Potrzebowski, M.J.; Cerofolini, L.; Ravera, E.; Fragai, M.; Lelli, M.; Lesage, A.; Pintacuda, G.; Pons, M.; Mafra, L.; Schneider, J.F.; Monti, G.A.; Acosta, R.H.; Pastawski, H.M.; Thomas, B.; Kolyagin, Y.G.; Agarwal, V.; Hou, G.; Deng, F.; Xue, K.; Kigawa, T.; Reddy, G.N.M. | <i>Impact of Shared Facilities in Advancing Solid-State NMR Research: 2025 Edition</i>                                                                                                                                               | Solid State Nucl. Mag. Reson. |     |       | 102053      | 10.1016/j.ssnmr.2025.102053 | Yes                           |
| Scigliani, A.; Mohammadigoushki, H.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <i>Kinetics of shear banding flow formation: role of geometry curvature and surfactant chemistry.</i>                                                                                                                                | Journal of Rheology           | 69  | 5     | 759-774     | 10.48550/arXiv.2507.07218   | No                            |
| Sen, S.; Hung, I.; Lovi, J.M.; Gan, Z.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <i>Application of High-Resolution 95Mo Solid State NMR Spectroscopy in Structural Studies of Complex Alkali Molybdate Crystals and Glasses</i>                                                                                       | J. Phys. Chem. C              | 129 | 14    | 6869-6881   | 10.1021/acs.jpcc.5c00614    | Yes                           |
| Shin, Y.; Prasad, R.; Das, N.; Taylor, J.; Qin, H.; Hu, W.; Hu, Y.Y.; Fu, R.; Zhang, R.; Zhou, H.; Cross, T.A.                                                                                                                                                                                                                                                                                                                                                                                                        | <i>Mycobacterium tuberculosis CrgA Forms a Dimeric Structure with Its Transmembrane Domain Sandwiched between Cytoplasmic and Periplasmic <math>\beta</math>-Sheets, Enabling Multiple Interactions with Other Divisome Proteins</i> | J. Am. Chem. Soc. (JACS)      | 147 | 13    | 11117-11131 | 10.1021/jacs.4c17168        | Yes                           |
| Shin, Y.; Sanders, M.D.; Truong, E.; Majumder, S.; Cladek, B.; Walker, M.; Ogbolu, B.; Zhang, R.; Evmenenko, G.A.; Hu, Y.Y.; Bedzyk,                                                                                                                                                                                                                                                                                                                                                                                  | <i>Thermodynamics, local structure, and transport of protons in triple-conducting oxide,</i>                                                                                                                                         | Solid State Ionics            | 429 |       | 116962      | 10.1016/j.ssi.2025.116962   | Yes                           |

| Authors                                                                                                                                                                                                           | Title                                                                                                                                                             | Journal Name                  | Vol | Issue | Pages      | DOI                           | Cites<br>NSF<br>Core<br>Grant |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----|-------|------------|-------------------------------|-------------------------------|
| M.J.; Page, K.; Haile, S.M.; O'Hayre, R.                                                                                                                                                                          | <i>BaCo<sub>0.4</sub>Fe<sub>0.4</sub>Zr<sub>0.1</sub>Y<sub>0.1</sub>O<sub>3-δ</sub> (BCFZY4411)</i>                                                               |                               |     |       |            |                               |                               |
| Shipitsyn, V.; Wang, G.; Zuo, W.; Zhang, N.; Jin, Y.; Xia, K.; Li, C.; Jayakumar, R.; Chak, C.; Hu, Y.Y.; Fu, R.; Xu, G.; Xiao, X.; Mao, J.; Yin, W.; Hu, E.; McCalla, E.; Ma, L.                                 | <i>Advancing Sodium-Ion Battery Cathodes: A Low-Cost, Eco-Friendly Mechano-fusion Route from TiO<sub>2</sub> Coating to Ti<sup>4+</sup> Doping</i>                | Chem. Mater.                  | 37  | 15    | 6059-6068  | 10.1021/acs.chemmater.5c01485 | Yes                           |
| Smith, R.B.; Conti, C.; Bennett, S.D.; Altenhof, A.; Strouse, G.; Schurko, R.W.                                                                                                                                   | <i>Element-Selective Analysis of Carrier Behavior in Plasmonic Metal-Zinc Oxide (M = Al or Ga) Nanocrystals</i>                                                   | Chem. Mater.                  | 37  | 18    | 6962--6973 | 10.1021/acs.chemmater.5c00496 | Yes                           |
| Tian, Z.; Truong, E.; Hu, W.; Fan, J.; Fu, R.; Cross, T.A.; Lin, X.; Zhang, R.; Hu, Y.Y.                                                                                                                          | <i>Expanding the Toolset of Biomolecular NMR with Efficient and Cost-Effective <sup>17</sup>O-Labeling via Bacterial Expression</i>                               | Chemistry: A European Journal | 31  | 2     | e202403148 | 10.1002/chem.202403148        | Yes                           |
| Truong, E.; Patel, S.; Liu, H.; Chen, Y.; Lacivita, V.; Zhang, C.; Oyekunle, I.; Ojelade, I.; Jin, Y.; Jones, B.T.; Miara, L.; Dravid, V.; Gao, H.; Kim, R.; Wang, Y.; Hu, Y.Y.                                   | <i>Accelerating ion transport in polycrystalline conductors: On pores and grain boundaries</i>                                                                    | Sci. Adv.                     | 11  | 20    | eadt7795   | 10.1126/sciadv.adt7795        | Yes                           |
| Ungor, O.; Termos, S.; Schurko, R.W.; Zadrozny, J.M.                                                                                                                                                              | <i><sup>59</sup>Co Thermal Sensitivity in Co(III) Tris(dithiocarbamate) Complexes</i>                                                                             | Inorg. Chem.                  | 64  | 13    | 6531-6543  | 10.1021/acs.inorgchem.4c05385 | Yes                           |
| Vojvodin, C.; Holmes, S.; Kirschhock, C.E.; Hirsh, D.A.; Huskic, I.; Senanayake, S.; Betancourt, L.; Xu, W.; Breynaert, E.; Friscic, T.; Schurko, R.W.                                                            | <i>Rietveld refinement and NMR crystallographic investigations of multicomponent crystals containing alkali metal chlorides and urea</i>                          | J. Appl. Cryst                | 58  | 2     | 333-348    | 10.1107/S1600576725001360     | Yes                           |
| Vojvodin, C.S.; Sanchez, J.E.; Holmes, S.T.; Lin, X.; Schurko, R.W.                                                                                                                                               | <i>Mechanochemical Synthesis and NMR Crystallography of Multicomponent Crystals: New Perspectives from Chlorine and Alkali Metal Solid-State NMR Spectroscopy</i> | Crys Growth Des               |     |       | press      | 10.1021/acs.cgd.5c00540       | Yes                           |
| Vugmeyster, L.; Frazier, B.; Fu, R.; Ostrovsky, D.                                                                                                                                                                | <i>Multi-mode water dynamics in hydration shells of villin headpiece subdomain protein in the solid state using deuterium and oxygen-17 NMR spectroscopy</i>      | J. Chem. Phys.                | 163 |       | 25101      | 10.1063/5.0279081             | Yes                           |
| Wei, R.; Casano, G.; Zhang, Y.; Gierbolini-Colon, I.M.; Rao, Y.; Gunaga, S.S.; Scott, F.J.; Zhou, J.; Chatterjee, S.; Kumari, S.; Karoui, H.; Huang, M.; Sigurdsson, S.T.; De Paepe, G.; Liu, Y.; Mentink-Vigier, | <i>Systematic Evaluation of Polarizing Agents for Dynamic Nuclear Polarization Enhanced NMR</i>                                                                   | Angew. Chem. Intern. Edition  | 64  | 31    |            | 10.1002/anie.202505944        | Yes                           |

| Authors                                                                                                                                                   | Title                                                                                                                                                                                                                                                                          | Journal Name             | Vol | Issue  | Pages       | DOI                          | Cites<br>NSF<br>Core<br>Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|--------|-------------|------------------------------|-------------------------------|
| F.; Venkatesh, A.; Ouari, O.; Emsley, L.                                                                                                                  |                                                                                                                                                                                                                                                                                |                          |     |        |             |                              |                               |
| Wi, S.; Anvesh, D.; Lim, K.H.; Li, C.; Cross, T.A.                                                                                                        | <i>Efficient <math>^{13}\text{C}^{13}\text{C}</math> correlations obtained by AL FRESCO mixing schemes under any arbitrary MAS spinning rates</i>                                                                                                                              | J. Chem. Phys.           | 163 |        |             | 10.1063/5.0284008            | Yes                           |
| Wi, S.; Giannouli, A.; Butbul, K.; Lumata, J.L.; Dubroca, T.; Scott, F.; Dowdell, Z.; Schurko, R.W.; van Tol, J.; Frydman, L.                             | <i>Toward Generalized Solution-State <math>^1\text{H}</math> DNP NMR via Particle-Mediated Cross-Relaxation</i>                                                                                                                                                                | J. Phys. Chem. Lett.     | 16  | 25     | 6627--6636  | 10.1021/acs.jpcclett.5c01398 | Yes                           |
| Wu, G.; Dai, Y.; Hung, I.; Gan, Z.; Matlinska, M.A.; Wasylshen, R.E.                                                                                      | <i>Probing the Location of Hydrogen Atoms in Low-Barrier Hydrogen Bonds in 1, 3-Diketone Molecules by H/D Isotope Shifts in Solid-State <math>^{17}\text{O}</math> Nuclear Magnetic Resonance and <math>^1\text{H}</math>-<math>^{17}\text{O}</math> Distance Measurements</i> | J. Phys. Chem. A         | 129 | 27     | 5993-6003   | 10.1021/acs.jpca.5c02392     | Yes                           |
| Xu, J.; Feng, K.; Zhang, W.; Venkatesh, A.; Hung, I.; Liu, Y.; Liu, J.; Li, S.; Battiston, G.; Gan, Z.; Chen, S.; Yiu, Y.; Zhong, J.; Sham, T.; Huang, Y. | <i>A Local Structure Analysis of Defects in UiO-66: Insights from Solid-State Nuclear Magnetic Resonance and X-ray Absorption Fine Structure</i>                                                                                                                               | J. Am. Chem. Soc. (JACS) | 147 | 48     | 44200-44215 | 10.1021/jacs.5c13805         | Yes                           |
| Xu, J.; Wang, J.; Sheng, X.; Ding, H.; Xu, J.; Chen, S.; Hung, I.; Gan, Z.; Li, Y.; Zhong, J.; Sham, T.; Huang, Y.                                        | <i>Unlocking Water Adsorption Mechanisms in Y-BTC MOF: Insights from XAFS and SSNMR Spectroscopy</i>                                                                                                                                                                           | J. Phys. Chem. C         | 129 | 38     | 17341-17352 | 10.1021/acs.jpcc.5c05403     | Yes                           |
| Yarava, J.R.; Gautam, I.; Jacob, A.; Fu, R.; Wang, T.                                                                                                     | <i>Proton-Detected Solid-State NMR for Deciphering Structural Polymorphism and Dynamic Heterogeneity of Cellular Carbohydrates in Pathogenic Fungi</i>                                                                                                                         | J. Am. Chem. Soc. (JACS) | 147 |        | 17416-17432 | 10.1021/jacs.5c04054         | Yes                           |
| Zhang, S.; Saha, J.; Li, Y.; Peng, X.; McGlinchey, R.P.; Ramamoorthy, A.; Fu, R.                                                                          | <i>A simple algorithm to suppress diagonal peaks in high-resolution homonuclear chemical shift correlation NMR spectra</i>                                                                                                                                                     | J. Magn. Reson.          | 381 | 107967 | 6           | 10.1016/j.jmr.2025.107967    | Yes                           |
| Zhang, S.Y.; Li, Y.C.; Ye, Y.S.; Tian, F.; Peng, X.H.; Fu, R.                                                                                             | <i>Towards complete suppression of diagonal peaks in solid-state MAS NMR homonuclear chemical shift correlation spectra</i>                                                                                                                                                    | J. Magn. Reson.          | 378 |        | 107926      | 10.1016/j.jmr.2025.107926    | Yes                           |
| Zhang, W.; Lucier, B.E.; Martins, V.; Azizivahed, T.; Hung, I.; Xu, Y.; Gan, Z.; Venkatesh, A.; Goh, T.; Huang, W.; Rossini, A.J.; Huang, Y.              | <i>Local order, disorder, and everything in between: using <math>^{91}\text{Zr}</math> solid-state NMR spectroscopy to probe zirconium-based metal-organic frameworks</i>                                                                                                      | Phys. Chem. Chem. Phys.  | 27  | 9      | 4704-4716   | 10.1039/d4cp03704a           | Yes                           |

| Authors                                                                | Title                                                                                                                                                                                  | Journal Name             | Vol | Issue | Pages       | DOI                  | Cites NSF Core Grant |
|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----|-------|-------------|----------------------|----------------------|
| Zhang, W.; Xu, Y.; Venkatesh, A.; Hung, I.; Li, S.; Gan, Z.; Huang, Y. | <i>Pushing Limits of Ultra-wideline Solid-State NMR Spectroscopy: NMR Signatures of <sup>209</sup>Bi and <sup>127</sup>I in Metal-Organic Frameworks at Ultra-high Magnetic Fields</i> | J. Am. Chem. Soc. (JACS) | 147 | 13    | 10823-10828 | 10.1021/jacs.4c17499 | Yes                  |

### PUBLICATIONS GENERATED BY PULSED FIELD AT LANL (35)

| Authors                                                                                                                                                                       | Title                                                                                                                                             | Journal Name                 | Vol | Issue | Pages        | DOI                           | Cites NSF Core Grant |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|--------------|-------------------------------|----------------------|
| Bhardwaj, A.; Moon, J.; Nguyen, D.N.; Pamidi, S.V.                                                                                                                            | <i>A Novel Power Conversion System for SMES in Pulsed Power Applications</i>                                                                      | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-5          | 10.1109/TASC.2025.3561733     | Yes                  |
| Blawat, J.; Chajewski, G.; Gnida, D.; Singleton, J.; Ayala Valenzuela, O.E.; Kaczorowski, D.; McDonald, R.D.                                                                  | <i>Competing Electronic Ground States in the Heavy-Fermion Superconductor CeRh<sub>2</sub>As<sub>2</sub></i>                                      | Phys. Rev. X                 | 15  |       | 41057        | 10.1103/m44c-tzrj             | Yes                  |
| Blawat, J.; Swatek, P.W.; Gnida, D.; Krolak, S.; Xie, W.; Klimczuk, T.; Kaczorowski, D.                                                                                       | <i>Large magnetoresistance and quantum oscillations in the late transition-metal compounds T<sub>3</sub>Sn<sub>7</sub> (T=Ni, Pd, Pt)</i>         | Phys. Rev. B                 | 112 |       | 235137       | 10.1103/22cn-4d87             | Yes                  |
| Blockmon, A.; Johnson, J.; Parker, K.; Kirkman-Davis, E.; Turnbull, M.; Lee, M.; Singleton, J.; McGill, S.A.; Kim, H.; Lee, J.; Musfeldt, J.                                  | <i>Magnetically Driven Quantum Phase Transition in a Low-Dimensional Pyrazine-Bridged Cu<sup>2+</sup> Chain Magnet</i>                            | Inorg. Chem.                 | 64  | 25    | 12518--12526 | 10.1021/acs.inorgchem.5c00458 | Yes                  |
| Campi, G.; Alimenti, A.; Smith, G.; Balakirev, F.; Lee, S.; Balicas, L.; Silva, E.; Ummarino, G.A.; Midei, G.; Perali, A.; Valletta, A.; Bianconi, A.                         | <i>Upper critical magnetic field and multiband superconductivity in artificial high-T<sub>c</sub> superlattices of nano quantum wells</i>         | Phys. Rev. Mater.            | 9   |       | 74204        | 10.1103/k2yd-vpbn             | Yes                  |
| Chan, M.; Schreiber, K.A.; Ayala-Valenzuela, O.; Bauer, E.; Shekhter, A.; Harrison, N.                                                                                        | <i>Observation of the Yamaji effect in a cuprate superconductor</i>                                                                               | Nat. Phys.                   | 21  | 11    |              | 10.1038/s41567-025-03032-2    | Yes                  |
| Chen, K.; Zhu, Y.; Ratkovski, D.R.; Zheng, G.; Zhang, D.; Chan, A.; Jenkins, K.; Blawat, J.; Asaba, T.; Iga, F.; Varma, C.M.; Matsuda, Y.; Singleton, J.; Bangura, A.; Li, L. | <i>Quantum Oscillations in the Heat Capacity of Kondo Insulator YbB<sub>12</sub></i>                                                              | Phys. Rev. Lett.             | 135 |       | 156501       | 10.1103/ms3x-pjsk             | Yes                  |
| Day, R.; Yamakawa, K.; Cairns, L.; Singleton, J.; Cao, W.; Wu, C.; Allen, M.; Moore, J.D.; Analytis, J.                                                                       | <i>Colossal magnetoresistance and anisotropic spin dynamics in the antiferromagnetic semiconductor Eu<sub>5</sub>Sn<sub>2</sub>As<sub>6</sub></i> | Phys. Rev. B                 | 111 | 5     |              | 10.1103/PhysRevB.111.054406   | Yes                  |



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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----|-------|----------|-----------------------------|-------------------------------|
| Dery, H.; Robert, C.; Crooker, S.; Marie, X.; Van Tuan, D.                                                                                                                                                                                      | <i>Energy Shifts and Broadening of Excitonic Resonances in Electrostatically Doped Semiconductors</i>                                             | Phys. Rev. X              | 15  |       | 31049    | 10.1103/ddn8-d8bs           | Yes                           |
| Du, F.; Drozdov, A.; Minkov, V.; Balakirev, F.; Kong, P.; Smith, G.; Yan, J.; Shen, B.; Gegenwart, P.; Erements, M.                                                                                                                             | <i>Superconducting gap of H3S measured by tunnelling spectroscopy</i>                                                                             | Nat.                      | 641 | 8063  |          | 10.1038/s41586-025-08895-2  | Yes                           |
| Gao, Y.; Zhang, Y.; Lei, S.; Harrison, N.; Chan, M.; Denlinger, J.D.; Gorovikov, S.; Mishra, S.; Sun, Y.; Yi, M.; Morosan, E.                                                                                                                   | <i>Fermi surface and Berry phase analysis for Dirac nodal line semimetals: Cautionary tale from SrGa<sub>2</sub> and BaGa<sub>2</sub></i>         | Phys. Rev. Res.           | 7   |       | 43028    | 10.1103/6tq6-sr6w           | Yes                           |
| Guo, C.; Wang, K.; Zhang, L.; Putzke, C.; Chen, D.; Van Delft, M.; Wiedmann, S.; Balakirev, F.; McDonald, R.; Gutierrez-Amigo, M.; Alkorta, M.; Errea, I.; Vergniory, M.; Oka, T.; Moessner, R.; Fischer, M.; Neupert, T.; Felser, C.; Moll, P. | <i>Many-body interference in kagome crystals</i>                                                                                                  | Nat.                      | 647 | 8088  |          | 10.1038/s41586-025-09659-8  | Yes                           |
| Han, T.; McKenzie, R.D.; Blawat, J.; Slade, T.J.; Li, B.; Lee, Y.; Pajerowski, D.M.; Singleton, J.; Canfield, P.C.; Ke, L.; McDonald, R.; Flint, R.; McQueeney, R.J.                                                                            | <i>Nature of quantum criticality in the Ising ferromagnet TbV<sub>6</sub>Sn<sub>6</sub></i>                                                       | Phys. Rev. Res.           | 7   |       | L042045  | 10.1103/jlnl-y35t           | Yes                           |
| Kirstein, J.E.; Park, H.; Martin, I.; Mitchell, J.F.; Ghimire, N.J.; Crooker, S.                                                                                                                                                                | <i>Topological Magneto-optics in the Noncoplanar Antiferromagnet Co<sub>1/3</sub>NbS<sub>2</sub>: Imaging and Writing Chiral Magnetic Domains</i> | Phys. Rev. Lett.          | 135 |       | 196702   | 10.1103/wh5t-12fn           | Yes                           |
| Lee, S.; Zhang, S.; Thomas, S.; Pressley, L.; Bridges, C.; Choi, E.; Zapf, V.; Winter, S.; Lee, M.                                                                                                                                              | <i>Quantum order by disorder is a key to understanding the magnetic phases of BaCo<sub>2</sub>(AsO<sub>4</sub>)<sub>2</sub></i>                   | npj Quantum Mater. (Nat.) | 10  |       | 11       | 10.1038/s41535-025-00728-9  | Yes                           |
| Lewin, S.K.; Czajka, P.; Frank, C.E.; Saucedo Salas, G.; Timothy Noe II, G.; Yoon, H.; Suk Eo, Y.; Paglione, J.; Nevidomskyy, A.H.; Singleton, J.; Butch, N.P.                                                                                  | <i>High-field superconducting halo in UTe<sub>2</sub></i>                                                                                         | Sci.                      | 389 | 6759  | 512--515 | 10.1126/science.adn7673     | Yes                           |
| Li, N.; Rutherford, A.; Wang, Y.Y.; Liang, H.; Zhou, Y.; Sun, Y.; Wu, D.D.; Chen, P.F.; Li, Q.J.; Wang, H.; Xie, W.; Choi, E.; Zhang, S.; Lee, M.; Zhou, H.; Sun, X.F.                                                                          | <i>Possible quantum spin liquid state of CeTa<sub>7</sub>O<sub>19</sub></i>                                                                       | Phys. Rev. B              | 111 |       | 94414    | 10.1103/PhysRevB.111.094414 | Yes                           |
| Liu, J.; Subramanyan, V.; Welser, R.; McSorley, T.; Ho, T.; Graf, D.E.; Pettes, M.T.; Saxena, A.; Winter, L.; Lin, S.; Jauregui, L.A.                                                                                                           | <i>Possible Spin-Triplet Excitonic Insulator in the Ultraquantum Limit of HfTe<sub>5</sub></i>                                                    | Phys. Rev. Lett.          | 135 |       | 46601    | 10.1103/bj2n-4k2w           | Yes                           |

| Authors                                                                                                                                                                                                                                                                                                                    | Title                                                                                                                                 | Journal Name                                          | Vol | Issue | Pages       | DOI                        | Cites<br>NSF<br>Core<br>Grant |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|-----|-------|-------------|----------------------------|-------------------------------|
| Long, H.A.; Duong, D.; Blawat, J.; Morrison, G.; Wu, Y.; Cao, H.; Pokhrel, N.; Parker, D.S.; Singleton, J.; Jin, R.; Klepov, V.V.                                                                                                                                                                                          | <i>Magnetic Properties Tuning via Broad Range Site Deficiency in Square Net Material UCu<sub>x</sub>Bi<sub>2</sub></i>                | J. Am. Chem. Soc. (JACS)                              | 147 | 18    | 15157-15169 | 10.1021/jacs.4c18438       | Yes                           |
| Lyu, Y.; Cairns, L.; Rodriguez, J.; Liu, C.; Ng, K.H.; Singleton, J.; Analytis, J.                                                                                                                                                                                                                                         | <i>Entanglement Randomness and Gapped Itinerant Carriers in a Frustrated Quantum Magnet</i>                                           | Phys. Rev. X                                          | 15  | 4     |             | 10.1103/tx6t-gbxy          | Yes                           |
| Malick, S.; Winiarski, M.J.; Blawat, J.; Swiatek, H.; Singleton, J.; Klimczuk, T.                                                                                                                                                                                                                                          | <i>Quantum oscillations and transport properties of layered single-crystal SrCu<sub>4</sub>As<sub>2</sub></i>                         | Phys. Rev. B                                          | 112 | 15    | 155138      | 10.1103/tc3c-lzcr          | Yes                           |
| Miertschin, D.; Nguyen, T.; Zhang, S.; Lee, M.; Krishnamoorthi, S.; Kumar Ulaganathan, R.; Shankar, R.; Graf, D.E.; Shrestha, K.                                                                                                                                                                                           | <i>The dHvA effect in Sn-doped PbTe topological crystalline insulator</i>                                                             | J. Phys.-Condens. Matter                              | 37  | 15    | 155501      | 10.1088/1361-648X/adb5e5   | Yes                           |
| Moir, C.M.; Singleton, J.; Blawat, J.; Lee-Wong, E.; Deng, Y.; Feng, K.; Wannamaker, T.; Baumbach, R.E.; Brian Maple, M.                                                                                                                                                                                                   | <i>High-magnetic-field phases in U<sub>1-x</sub>Th<sub>x</sub>Te<sub>2</sub></i>                                                      | PNAS                                                  | 122 | 42    | e2521261122 | 10.1073/pnas.2521261122    | Yes                           |
| Nepal, N.K.; Slade, T.J.; Blawat, J.; Eaton, A.; Palmstrom, J.C.; Ueland, B.G.; Kaminski, A.; McQueeney, R.J.; McDonald, R.; Canfield, P.C.; Wang, L.                                                                                                                                                                      | <i>Design and predict tetragonal van der Waals layered quantum materials of MPd<sub>5</sub>12 (M=Ga, In and 3d transition metals)</i> | Nature Partner Journals 2D Materials and Applications | 9   | 1     | 15          | 10.1038/s41699-025-00536-6 | Yes                           |
| Nguyen, L.N.; Vo, D.; Weiss, J.D.; Dönges, S.; Grilli, F.; van der Laan, D.; Pamidi, S.; Nguyen, D.N.                                                                                                                                                                                                                      | <i>Simulations of the fault current limiting operation of a long-length REBCO CORC® superconducting cable cooled by helium gas</i>    | J Supercond Sci Technol                               | 38  | 6     | 65020       | 10.1088/1361-6668/addb88   | Yes                           |
| Peria, W.K.; Zhang, S.; Lee, S.; Silva Freitas, G.; Zapf, V.; Won, C.; Cheong, S.; Lee, M.                                                                                                                                                                                                                                 | <i>Development of a capacitance measurement for pulsed magnetic fields</i>                                                            | Rev. Sci. Instrum.                                    | 96  | 8     | 84707       | 10.1063/5.0272814          | Yes                           |
| Pettes, M.T.; Lin, S.; Peterson, E.A.; Zhu, J.; Winter, L.; Palmstrom, J.C.; Yoo, J.; Sirica, N.S.; Padmanabhan, P.; Rosa, P.F.S.; Thomas, S.M.; Saxena, A.                                                                                                                                                                | <i>Quantum Anomalies in Condensed Matter</i>                                                                                          | Advanced Physics Research                             | 4   | 7     | 2400189     | 10.1002/apxr.202400189     | Yes                           |
| Qiu, J.; Ghosh, B.; Schütte-Engel, J.; Qian, T.; Smith, M.D.; Yao, Y.; Ahn, J.; Liu, Y.; Gao, A.; Tzschaschel, C.; Li, H.; Petrides, I.; Bérubé, D.; Dinh, T.; Huang, T.; Liebman, O.; Been, E.M.; Blawat, J.; Watanabe, K.; Taniguchi, T.; Fong, K.; Lin, H.; Orth, P.P.; Narang, P.; Felser, C.; Chang, T.; McDonald, R. | <i>Observation of the axion quasiparticle in 2D MnBi<sub>2</sub>Te<sub>4</sub></i>                                                    | Nat.                                                  | 641 |       | 62-69       | 10.1038/s41586-025-08862-x | Yes                           |

| Authors                                                                                                                                                                                                      | Title                                                                                                                                       | Journal Name          | Vol | Issue | Pages       | DOI                         | Cites<br>NSF<br>Core<br>Grant |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----|-------|-------------|-----------------------------|-------------------------------|
| McQueeney, R.J.; Bansil, A.; Martin, I.; Nix, G.; Ma, Q.; Marsh, D.J.E.; Vishwanath, A.; Xu, S.                                                                                                              |                                                                                                                                             |                       |     |       |             |                             |                               |
| Rai, B.; Mizzi, C.A.; Bretana, A.; Breton, L.; Housley, C.; Ivy, D.; Abbott, J.; Maiorov, B.A.; Gautam, B.; Frontzek, M.; Rai, R.; Calder, S.                                                                | <i>Magnetic properties of (Mo<sub>2</sub>/3Dy<sub>1</sub>/3)2AlC arc melted polycrystalline samples</i>                                     | J. Magn. Magn. Mater. | 624 |       |             | 10.1016/j.jmmm.2025.172992  | Yes                           |
| Vaidya, S.; Curley, S.; Manuel, P.; Stewart, J.; Lee, M.; Balz, C.; Shiroka, T.; Blundell, S.; Wheeler, K.; Calderon-Lin, I.; Manson, Z.; Manson, J.; Singleton, J.; Lancaster, T.; Johnson, R.; Goddard, P. | <i>Magnetic properties of a staggered S=1 chain with an alternating single-ion anisotropy direction</i>                                     | Phys. Rev. B          | 111 | 1     |             | 10.1103/PhysRevB.111.014421 | Yes                           |
| Wang, J.; Rickel, D.G.; Chang, C.; Zhang, Z.; Peng, P.; Huang, Y.; Azad, A.K.; Jena, D.; Xing, H.G.; Crooker, S.                                                                                             | <i>THz cyclotron resonance of a 2D hole gas in a GaN/AlN heterostructure</i>                                                                | Appl. Phys. Lett.     | 126 | 21    | 213102      | 10.1063/5.0273413           | Yes                           |
| Wang, Z.; Heltman, A.; Kumari, S.; Hu, L.; Lin, Z.; Taheri, R.; Miao, L.; Alem, N.; Jiao, L.; Chikara, S.; Suslov, A.; Singleton, J.; Balakirev, F.; Liu, C.; Liu, Q.                                        | <i>Shubnikov--de Haas oscillations reaching the quantum limit in two-dimensional electron systems at SrTiO<sub>2</sub> (111) interfaces</i> | Phys. Rev. B          | 112 |       | 35153       | 10.1103/why6-1f18           | Yes                           |
| Wu, H.; Pratt, F.; Huddart, B.; Chatterjee, D.; Goddard, P.; Singleton, J.; Prabhakaran, D.; Blundell, S.                                                                                                    | <i>Spin Dynamics in the Dirac U(1) Spin Liquid YbZn<sub>2</sub>GaO<sub>5</sub></i>                                                          | Phys. Rev. Lett.      | 135 | 4     |             | 10.1103/l93v-f576           | Yes                           |
| Zheng, G.; Zhang, D.; Zhu, Y.; Chen, K.; Chan, A.; Jenkins, K.; Kang, B.; Zeng, Z.; Xu, A.; Ratkovski, D.R.; Blawat, J.; Bangura, A.; Singleton, J.; Lee, P.A.; Li, S.; Li, L.                               | <i>Thermodynamic Evidence of Fermionic Behavior in the Vicinity of One-Ninth Plateau in a Kagome Antiferromagnet</i>                        | Phys. Rev. X          | 15  |       | 21076       | 10.1103/PhysRevX.15.021076  | Yes                           |
| Zheng, G.; Zhu, Y.; Chen, K.; Kang, B.; Zhang, D.; Jenkins, K.; Chan, A.; Zeng, Z.; Xu, A.; Ayala Valenzuela, O.E.; Blawat, J.; Singleton, J.; Li, S.; Lee, P.A.; Li, L.                                     | <i>Unconventional magnetic oscillations in a kagome Mott insulator</i>                                                                      | PNAS                  | 122 | 5     | e2421390122 | 10.1073/pnas.2421390122     | Yes                           |

## PUBLICATIONS GENERATED BY ASC (16)

| Authors                                                                                                                                                                                                                                                                                                              | Title                                                                                                                                                                               | Journal Name                 | Vol | Issue | Pages   | DOI                       | Cites<br>NSF<br>Core<br>Grant |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|---------|---------------------------|-------------------------------|
| Abraimov, D.V.; Arbelaez, D.; Brouwer, L.; Feng, H.; Ferracin, P.; Ghiorso, W.B.; Higley, H.C.; Juchno, M.; Lin, A.; Lipton, T.; Luo, L.; Marchevsky, M.; Pong, I.; Prestemon, S.O.; Radcliff, K.; Fernández, J.; Saravanan, A.; Shen, T.; Teyber, R.; Turqueti, M.; van der Laan, D.; Wang, X.; Weiss, J.D.; Wu, Y. | <i>Fabrication and Test of C3a: A Six-Layer Subscale Canted cos 0 Dipole Magnet Using High-Temperature Superconducting corc Wires</i>                                               | IEEE Trans. Appl. Supercond. | 35  | 6     | 1-15    | 10.1109/TASC.2025.3565222 | Yes                           |
| Abraimov, D.V.; Gillman, J.; Zha, M.; Oz, Y.; Matos Pimentel, H.; Mao, K.; Kvitkovic, J.; Bradford, G.; Lee, J.; Jaroszynski, J.J.; Bishop, N.S.; Zhang, Y.                                                                                                                                                          | <i>Optimization of Transport Critical Currents at 4.2K - 20K at Magnetic Fields Up to 31T for MOCVD REBCO Conductors With Variable Zr and Growth Conditions</i>                     | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-7     | 10.1109/TASC.2025.3549409 | Yes                           |
| Bennett IV, T.J.; Taleff, E.M.; Dhakal, P.; Balachandran, S.; Lee, P.J.; Bieler, T.R.; Eisenlohr, P.                                                                                                                                                                                                                 | <i>Effects of Grain Size and Interstitial Content on Recrystallization in Nb After Cold Rolling</i>                                                                                 | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-5     | 10.1109/TASC.2025.3538673 | No                            |
| Cheggour, N.; Awaji, S.; Senatore, C.                                                                                                                                                                                                                                                                                | <i>Editorial: The 11th Workshop on Mechanical and Electromagnetic Properties of Composite Superconductors-MEM24</i>                                                                 | IEEE Trans. Appl. Supercond. | 35  | 6     | 100302  | 10.1109/TASC.2025.3599247 | Yes                           |
| Cheggour, N.; Marks, E.L.                                                                                                                                                                                                                                                                                            | <i>Protocols and methodologies for acquiring and analyzing critical-current versus longitudinal-strain data in Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+x</sub>wires</i> | J Supercond Sci Technol      | 38  | 1     | 15012   | 10.1088/1361-6668/ad9ad9  | Yes                           |
| Cheggour, N.; Marks, E.L.; Jiang, J.; Bosque, E.; Larbalestier, D.C.                                                                                                                                                                                                                                                 | <i>Densification Effects on Critical-Current Dependence on Longitudinal Strain in Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+x</sub> Wires</i>                             | IEEE Trans. Appl. Supercond. | 35  | 6     | 8400911 | 10.1109/TASC.2025.3559406 | Yes                           |
| Jiang, J.; Kvitkovic, J.; Linville, C.E.; Brown, J.; Jones, J.A.; Davis, D.S.; Kim, Y.; Kametani, F.; Trociewitz, U.P.; Hellstrom, E.; Larbalestier, D.C.; Croteau, J.; Escobar, C.; Shen, T.                                                                                                                        | <i>Effects of Rolling Reduction on Critical Current Density and Microstructure of Bi-2212 Wires</i>                                                                                 | IEEE Trans. Appl. Supercond. | 35  | 5     | 6400105 | 10.1109/TASC.2024.3519083 | Yes                           |
| Kametani, F.; Limon, S.A.; Mao, K.; Hellstrom, E.; Tarantini, C.                                                                                                                                                                                                                                                     | <i>Remnant Magnetization Behavior of a K-Doped Ba122 Polycrystalline Bulk</i>                                                                                                       | IEEE Trans. Appl. Supercond. | 35  | 5     | 7300205 | 10.1109/TASC.2024.3519074 | Yes                           |

| Authors                                                                                                                                                                                                   | Title                                                                                                                                                 | Journal Name                 | Vol | Issue | Pages   | DOI                        | Cites NSF Core Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|---------|----------------------------|----------------------|
| Kim, G.; Riva, N.; Cho, S.; Lee, D.; Jang, W.; Park, H.; Im, C.; Lee, J. T.; Yan, Y.; Kim, J.; Bang, J.; Guo, W.; Foppiani, N.; Hahn, S.; Lee, S.                                                         | <i>Numerical Study of Screening Current on HTS Stellarator Coil and Experimental Validation Through Screening Current Induced Voltage</i>             | IEEE Trans. Appl. Supercond. | 35  |       | 4605105 | 10.1109/TASC.2025.3535859  | No                   |
| Lee, J.; Bang, J.; Bradford, G.; Abraimov, D.V.; Bosque, E.; Larbalestier, D.C.                                                                                                                           | <i>Lengthwise Characterizations of Crystallographic Tilt in Contemporary REBCO Coated Conductors</i>                                                  | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-5     | 10.1109/TASC.2024.3505115  | Yes                  |
| Mandal, M.; Tarantini, C.; Starch, W.L.; Lee, P.J.; Larbalestier, D.C.                                                                                                                                    | <i>Exceptionally High HC<sub>2</sub> Values in Alloyed Bulk Samples of Nb<sub>3</sub>Sn</i>                                                           | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-6     | 10.1109/TASC.2024.3509388  | Yes                  |
| Park, J.Y.; Shin, Y.J.; Shin, J.; Kim, J.; Jo, J.; Yoo, H.; Haei, D.; Hyun, C.; Yun, J.; Huber, R.M.; Gupta, A.; Watanabe, K.; Taniguchi, T.; Park, W.K.; Shin, H.S.; Kim, M.; Kim, D.; Yi, G.C.; Kim, P. | <i>Double-sided van der Waals epitaxy of topological insulators across an atomically thin membrane</i>                                                | Nat. Mater.                  | 24  |       | 399-405 | 10.1038/s41563-024-02079-5 | Yes                  |
| Phifer, V.E.; Cooley, L.; van der Laan, D.C.; Weiss, J.D.                                                                                                                                                 | <i>Impact of contact resistance on current distribution and performance of model CORC cables with physical defects</i>                                | J Supercond Sci Technol      | 38  | 8     |         | 10.1088/1361-6668/adf3e9   | Yes                  |
| Tarantini, C.; Limon, S.A.; Mao, K.; Hellstrom, E.; Kametani, F.                                                                                                                                          | <i>Evidence of multiscale supercurrents in K-doped BaFe<sub>2</sub>As<sub>2</sub></i>                                                                 | J Supercond Sci Technol      | 38  |       | 45023   | 10.1088/1361-6668/adc633   | Yes                  |
| Weiss, J.; Phifer, V.E.; van der Laan, D.; Kim, C.; Teyber, R.; Radcliff, K.; Davis, D.; Zhang, Y.; Cooley, L.; Pamidi, S.                                                                                | <i>Demonstration of current sharing around tape defects in a low-inductance CORC® wire solenoid generating a peak magnetic field of 4.6 T at 25 K</i> | J Supercond Sci Technol      |     |       |         | 10.1088/1361-6668/adedbd   | Yes                  |
| Xu, A.; Xin, Y.; Abraimov, D.V.; Park, J.; Jaroszynski, J.J.; Kametani, F.; Larbalestier, D.C.                                                                                                            | <i>A Comprehensive Characterization of Commercial Pulsed Laser Deposited Coated Conductors</i>                                                        | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-6     | 10.1109/TASC.2025.3538638  | Yes                  |

### PUBLICATIONS GENERATED BY MS&T (19)

| Authors                                                                                                                                                     | Title                                                                                                                                                           | Journal Name                 | Vol | Issue | Pages | DOI                       | Cites NSF Core Grant |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|-------|---------------------------|----------------------|
| Abraimov, D.V.; Gillman, J.; Zha, M.; Oz, Y.; Matos Pimentel, H.; Mao, K.; Kvitkovic, J.; Bradford, G.; Lee, J.; Jaroszynski, J.J.; Bishop, N.S.; Zhang, Y. | <i>Optimization of Transport Critical Currents at 4.2K - 20K at Magnetic Fields Up to 31T for MOCVD REBCO Conductors With Variable Zr and Growth Conditions</i> | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-7   | 10.1109/TASC.2025.3549409 | Yes                  |



| Authors                                                                                                                                                                                                                     | Title                                                                                                                                                                               | Journal Name                     | Vol  | Issue | Pages    | DOI                             | Cites<br>NSF<br>Core<br>Grant |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|------|-------|----------|---------------------------------|-------------------------------|
| Cheggour, N.; Marks, E.L.                                                                                                                                                                                                   | <i>Protocols and methodologies for acquiring and analyzing critical-current versus longitudinal-strain data in Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+x</sub>wires</i> | J Supercond Sci Technol          | 38   | 1     | 15012    | 10.1088/1361-6668/ad9ad9        | Yes                           |
| Cheggour, N.; Marks, E.L.; Jiang, J.; Bosque, E.; Larbalestier, D.C.                                                                                                                                                        | <i>Densification Effects on Critical-Current Dependence on Longitudinal Strain in Bi<sub>2</sub>Sr<sub>2</sub>CaCu<sub>2</sub>O<sub>8+x</sub> Wires</i>                             | IEEE Trans. Appl. Supercond.     | 35   | 6     | 8400911  | 10.1109/TASC.2025.3559406       | Yes                           |
| Gibson, J.; Elliman, R.; Susi, T.; Mangler, C.                                                                                                                                                                              | <i>Self-ion implantation and structural relaxation in amorphous silicon</i>                                                                                                         | J. Appl. Phys.                   | 138  | 4     |          | 10.1063/5.0282943               | Yes                           |
| Gibson, J.; Treacy, M.                                                                                                                                                                                                      | <i>Quantitative corrections for fluctuation electron microscopy</i>                                                                                                                 | Journal of Microscopy            | 300  | 3     | 356--365 | 10.1111/jmi.70027               | Yes                           |
| han, K.; Toplosky, V.J.; Niu, R.; Xin, Y.                                                                                                                                                                                   | <i>Comparison of Cu Strengthened by Ionic Bonded Particles and Cu Strengthened by Metallic Bonded Particles</i>                                                                     | Mater.                           | 18   | 11    | 2648     | 10.3390/ma18112648              | Yes                           |
| Han, K.; Toplosky, V.J.; Xin, Y.; Niu, R.; Lu, J.                                                                                                                                                                           | <i>Mechanical Properties of a Ni-Co-Cr-Mo Alloy</i>                                                                                                                                 | IEEE Trans. Appl. Supercond.     | 35   |       | 1-5      | 10.1109/TASC.2025.3541999       | Yes                           |
| Jia, R.; Xin, Y.; Potter, M.; Wang, Z.; Ma, H.; Zhang, Z.H.; Liang, Z.Z.; Zhang, L.F.; Lu, Z.H.; Yang, R.; Pendse, S.; Hu, Y.; Peng, K.; Meng, Y.; Bao, W.; Liu, J.; Wang, G.H.; Lu, T. M.; Shi, Y. F.; Gao, H. W.; Shi, J. | <i>Long-distance remote epitaxy</i>                                                                                                                                                 | Nat.                             |      |       |          | 10.1038/s41586-025-09484-z      | Yes                           |
| Kim, K.; Arroyo, E.; Cantrell, K.R.; Rogers, J.                                                                                                                                                                             | <i>Design Construction and Operation of a Conduction Cooling-Type HTS Module Testing System</i>                                                                                     | IEEE Trans. Appl. Supercond.     | 36   | 3     | 9500104  | 10.1109/TASC.2025.3622553       | Yes                           |
| Kim, K.; Suetomi, Y.; Bosque, B.; Jarvis, B.; Marshall, W.S.                                                                                                                                                                | <i>Report on Over 25 000 Cycles Fatigue Test Results of a REBCO HTS Coil and Crossover Joint in a 7 T Background Magnetic Field at 4.2 K</i>                                        | IEEE Trans. Appl. Supercond.     | 35   | 5     | 1-4      | 10.1109/TASC.2025.3538616       | Yes                           |
| Lu, J.; Levitan, J.W.; Hutley, A.; Bai, H.                                                                                                                                                                                  | <i>REBCO Delamination Characterization by 90 Degree Peel Test</i>                                                                                                                   | IEEE Trans. Appl. Supercond.     | 35   | 5     | 1-5      | 10.1109/TASC.2024.3506492       | Yes                           |
| Lu, J.; Levitan, J.W.; Suetomi, Y.; Dixon, I.R.; Jaroszynski, J.J.                                                                                                                                                          | <i>REBCO Delamination by Electromagnetic Stress due to Screening Current in Magnetic Field</i>                                                                                      | IEEE Trans. Appl. Supercond.     | 36   | 3     | 8400104  | 10.1109/TASC.2025.3620785       | Yes                           |
| Lu, J.; Xin, Y.; Zhang, Y.                                                                                                                                                                                                  | <i>Thermal conductivity of REBCO tapes with different stabilizers at 4.2 - 200 K</i>                                                                                                | IOP Conf. Ser.: Mater. Sci. Eng. | 1327 | 1     | 12226    | 10.1088/1757-899X/1327/1/012226 | Yes                           |

| Authors                                                                                                                                                                         | Title                                                                                                                                                                                | Journal Name                 | Vol | Issue | Pages   | DOI                           | Cites<br>NSF<br>Core<br>Grant |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|---------|-------------------------------|-------------------------------|
| Niu, R.; Han, K.                                                                                                                                                                | <i>Notch tolerance of high-strength Cu-based nanocomposites</i>                                                                                                                      | Mater. Characterization      | 227 |       | 115293  | 10.1016/j.matchar.2025.115293 | Yes                           |
| Niu, R.; Han, K.; Toplosky, V.J.; Toth, J.                                                                                                                                      | <i>Fatigue Properties of Cold-Rolled Cu-Zr Alloy Sheets</i>                                                                                                                          | IEEE Trans. Appl. Supercond. | 36  | 3     | 115293  | 10.1109/TASC.2025.3636496     | Yes                           |
| Siwakoti, P.; Gong, D.L.; Pandey, S.; Li, J.G.; Primeau, L.; Lamichhane, U.; Ram Sankhi, B.; Xin, Y.; Karapetrova, E.; Stremper, J.; Choi, Y.S.; Zhang, Y.; Meyers, D.; Liu, J. | <i>Enhancing anomalous Hall effect with suppressed ferromagnetism in the SrTiO<sub>3</sub>-confined bilayer heterostructure of ultrathin SrRuO<sub>3</sub> and SrIrO<sub>3</sub></i> | Applied Materials Today      | 47  |       | 102960  | 10.1016/j.apmt.2025.102960    | Yes                           |
| Suetomi, Y.; Kim, K.; Adkins, T.; Bai, H.; Dixon, I.R.                                                                                                                          | <i>Combined Axial Pressure and Screening Current Induced Stress Test on REBCO Pancake Coils</i>                                                                                      | IEEE Trans. Appl. Supercond. | 35  | 5     |         | 10.1109/TASC.2024.3520943     | Yes                           |
| Xin, Y.; Lu, J.; Han, K.                                                                                                                                                        | <i>Study of Delamination in REBCO Coated Conductor by Transmission Electron Microscopy</i>                                                                                           | IEEE Trans. Appl. Supercond. | 35  | 5     | 6601405 | 10.1109/TASC.2024.3512520     | Yes                           |
| Xing, C.; Zhang, H.; Noordhoek, K.; Zheng, G.; Chen, K.; Horak, L.; Xin, Y.; Choi, E.; Li, L.; Zhou, H.; Liu, J.                                                                | <i>Probing Ice-Rule-Breaking Transition in Dy<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub> Thin Film by Proximitized Transport and Magnetic Torque</i>                                     | Phys. Rev. Lett.             | 135 | 21    | 216702  | 10.1103/w6cq-2qwl             | Yes                           |

### PUBLICATIONS GENERATED BY CMT/E (82)

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Title                                                                                                                  | Journal Name                      | Vol | Issue | Pages | DOI                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----|-------|-------|-------------------------------|
| Alaviani, S.; Katuri, J.; Ali, J.N.; Anubi, O.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Vision-based learning of magnetic microrobotic swarm using fast dimensionality reduction and feature extraction</i> | Journal of Micro and Bio Robotics | 21  | 2     |       | 10.1007/s12213-025-00197-0    |
| Alexandradinata, A.; Armitage, N.P.; Baydin, A.; Bi, W.; Cao, Y.; Changlani, H.J.; Chertkov, E.; da Silva Neto, E.H.; Delacretaz, L.; El Baggari, I.; Ferguson, G.M.; Gannon, W.J.; Ali Akbar Ghorashi, S.; Goodge, B.H.; Goulko, O.; Grissonnanche, G.; Hallas, A.; Hayes, I.M.; He, Y.U.; Huang, E.W.; Kogar, A.; Kumah, D.; Yeon Lee, J.; Legros, A.; Mahmood, F.; Maximenko, Y.; Pellatz, N.; Polshyn, H.; Sarkar, T.; Scheie, A.; Seyler, K.L.; Shi, Z.; Skinner, B.; Steinke, L.; Thirunavukkuarasu, K.; Victa Trevisan, T.; Vogl, M.; Volkov, P.A.; | <i>The future of the correlated electron problem</i>                                                                   | SciPost Physics Community Reports | 8   |       | 8     | 10.21468/SciPostPhysCommRep.8 |

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Title                                                                                                                                          | Journal Name      | Vol | Issue | Pages        | DOI                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----|-------|--------------|-------------------------------|
| Wang, Y.; Wang, Y.; Wei, D.I.; Wei, K.; Yang, S.; Zhang, X.; Zhang, Y.; Zhao, L.; Zong, A.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                |                   |     |       |              |                               |
| Amanyazova, B.; Yergeshbayeva, S.; Choi, E.; Erkasov, R.; Shatruf, M.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <i>Spin-crossover semiconductors based on homoleptic tris-diimine Fe(II) complexes with fractionally charged TCNQ<sup>•-</sup> anions</i>      | Dalton Trans.     | 54  | 48    | 17825--17833 | 10.1039/d5dt02365c            |
| Anthony-Petersen, R.; Chang, C.L.; Changming, Y.; Chaplinsky, L.; Fink, C.W.; Garcia-Sciveres, M.; Guo, W.; Hertel, S.A.; Li, X.; Lin, J.; Lisovenko, M.; Mahapatra, R.; Matava, W.; McKinsey, D.N.; Osterman, D.Z.; Patel, P.K.; Penning, B.; Platt, M.; Pyle, M.; Qi, Y.; Reed, M.; Rydstrom, I.; Romani, R.K.; Sadoulet, B.; Serfass, B.; Sorensen, P.; Suerfu, B.; Velan, V.; Wang, G.; Wang, Y.; Watkins, S.L.; Williams, M.R.                                                                                                                                                                                     | <i>Low energy backgrounds and excess noise in a two-channel low-threshold calorimeter</i>                                                      | Appl. Phys. Lett. | 126 | 10    | 102601       | 10.1063/5.0247343             |
| Benhal, P.G.; Garba, M.J.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <i>Dynamics of Transition Metal Ion Transport in High-Gradient Magnetic Fields</i>                                                             | J. Phys. Chem. A  | 129 | 15    | 3401-3410    | 10.1021/acs.jpca.4c08312      |
| Bhardwaj, A.; Poree, V.; Yan, H.; Gauthier, N.; Lhotel, E.; Petit, S.; Quilliam, J.A.; Nevidomskyy, A.H.; Sibille, R.; Changlani, H.J.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>Thermodynamics of the dipole-octupole pyrochlore magnet Ce<sub>2</sub>Hf<sub>2</sub>O<sub>7</sub> in applied magnetic fields</i>            | Phys. Rev. B      | 111 |       | 155137       | 10.1103/PhysRevB.111.155137   |
| Blockmon, A.; Johnson, J.; Parker, K.; Kirkman-Davis, E.; Turnbull, M.; Lee, M.; Singleton, J.; McGill, S.A.; Kim, H.; Lee, J.; Musfeldt, J.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <i>Magnetically Driven Quantum Phase Transition in a Low-Dimensional Pyrazine-Bridged Cu<sup>2+</sup> Chain Magnet</i>                         | Inorg. Chem.      | 64  | 25    | 12518--12526 | 10.1021/acs.inorgchem.5c00458 |
| Bui, T.K.; Chang, C.L.; Chang, Y.Y.; Chaplinsky, L.; Fink, C.W.; Garcia-Sciveres, M.; Guo, W.; Hertel, S.A.; Juigne, L.; Kavner, A.; Li, X.; Lin, J.; Lisovenko, M.; Mahapatra, R.; Matava, W.; McKinsey, D.N.; Novati, V.; Patel, P.K.; Penning, B.; Pinckney, H.D.; Platt, M.; Pyle, M.; Qi, Y.; Reed, M.; Rischbieter, G.; Romani, R.K.; Sadoulet, B.; Serfass, B.; Sorensen, P.; Suerfu, B.; Suzuki, A.; Velan, V.; Wang, G.; Wang, Y.; Watkins, S.L.; Williams, M.R.; Wuko, J.K.; Aramaki, T.; Cushman, P.; Gite, N.N.; Gupta, A.; Huber, M.E.; Kurinsky, N.A.; von Krosigk, B.; Mammo, J.S.; Mayer, A.J.; Nelson, | <i>First Limits on Light Dark Matter Interactions in a Low Threshold Two-Channel Athermal Phonon Detector from the TESSERACT Collaboration</i> | Phys. Rev. Lett.  | 135 |       | 161002       | 10.1103/hsrl-crvf             |

| Authors                                                                                                                                                                                                                                                                                                                                                                                               | Title                                                                                                                                                                                  | Journal Name                 | Vol | Issue | Pages  | DOI                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|--------|------------------------------|
| J.; Oser, S.M.; Pandey, L.; Pradeep, A.; Rau, W.; Saab, T.                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                        |                              |     |       |        |                              |
| Chang, C.L.; Chang, Y.Y.; Garcia-Sciveres, M.; Guo, W.; Hertel, S.A.; Li, X.; Lin, J.; Lisovenko, M.; Mahapatra, R.; Matava, W.; McKinsey, D.N.; Patel, P.K.; Penning, B.; Pinckney, H.D.; Platt, M.; Pyle, M.; Qi, Y.; Reed, M.; Rydstrom, I.; Romani, R.K.; Sadoulet, B.; Serfass, B.; Sorensen, P.; Suerfu, B.; Velan, V.; Wang, G.; Wang, Y.; Williams, M.R.; Yefremenko, V.G.; Collaboration, T. | <i>Spontaneous generation of athermal phonon bursts within bulk silicon causing excess noise, low energy background events, and quasiparticle poisoning in superconducting sensors</i> | Appl. Phys. Lett.            | 127 | 26    | 263502 | 10.1063/5.0281876            |
| Cheng, J.; Francis, A.; Shepard, M.; Chen, Y.; Gonzalez, J.; Plant, C.; Judd, C.; Russo, M.; Jaroszynski, J.J.; Logan, J.; Labombard, B.; Sorbom, B.                                                                                                                                                                                                                                                  | <i>Statistics on Ab-Plane Offsets in REBCO Coated Conductors and Implications for Non-Twisted Magnets</i>                                                                              | IEEE Trans. Appl. Supercond. | 35  |       | 1-6    | 10.1109/TASC.2025.3545023    |
| Cheng, Z.J.; Hossain, M.S.; Zhang, Q.; Shao, S.; Liu, J.; Zhao, Y.; Yahyavi, M.; Jiang, Y.X.; Yin, J.X.; Yang, X.; Li, Y.; Cochran, T.A.; Litskevich, M.; Kim, B.; Zhang, J.; Yao, Y.; Balicas, L.; Wang, Z.; Chang, G.; Hasan, M.Z.                                                                                                                                                                  | <i>Broken symmetries associated with a Kagome chiral charge order</i>                                                                                                                  | Nat. Commun.                 | 16  |       | 3782   | 10.1038/s41467-025-58262-y   |
| Das, J.; Kumar, A.; Tripathi, V.                                                                                                                                                                                                                                                                                                                                                                      | <i>Microscopic theory of field-tuned topological transitions in the Kitaev honeycomb model</i>                                                                                         | Phys. Rev. B                 | 111 | 4     |        | 10.1103/PhysRevB.111.L041111 |
| Dietrich, S.; Akbari-Sharabaf, A.; Edgar, J.; Roubos, A.; Freeman, M.L.; Engel, L.W.                                                                                                                                                                                                                                                                                                                  | <i>Hall signal dominated microwave transmission through graphene-loaded waveguides</i>                                                                                                 | Phys. Rev. B                 | 111 | 19    |        | 10.1103/PhysRevB.111.195410  |
| Figgemeier, T.; Wuenzelmann, M.; Eck, P.; Schusser, J.; Crippa, L.; Neu, J.N.; Geldiyev, B.; Kagerer, P.; Buck, J.; Kalluene, M.; Hoesch, M.; Rosnagel, K.; Siegrist, T.M.; Lim, L.; Moessner, R.; Sangiovanni, G.; Di Sante, D.; Reinert, F.; Bentmann, H.                                                                                                                                           | <i>Imaging Orbital Vortex Lines in Three-Dimensional Momentum Space</i>                                                                                                                | Phys. Rev. Lett.             | 15  | 1     |        | 10.1103/PhysRevX.15.011032   |
| Garg, T.; Jaroszynski, J.J.; Choi, E.S.; Sumption, M.D.; Majoros, M.; Collings, E.W.                                                                                                                                                                                                                                                                                                                  | <i>Magnetization in ReBCO-based CORC Cables in Magnetic Fields up to 30 T for Accelerator Applications</i>                                                                             | IEEE Trans. Appl. Supercond. | 35  | 5     | 1-5    | 10.1109/TASC.2025.3540991    |
| Garg, T.; Sumption, M.D.; Majoros, M.; Collings, E.; Jaroszynski, J.J.; Choi, E.S.                                                                                                                                                                                                                                                                                                                    | <i>High-field flux jump instabilities in cables for accelerator or compact fusion magnets and their effective suppression</i>                                                          | Sci. Rep.                    | 15  | 1     |        | 10.1038/s41598-025-24605-4   |

| Authors                                                                                                                                                                                                                                                                                                                                                          | Title                                                                                                           | Journal Name          | Vol | Issue | Pages  | DOI                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------|-----|-------|--------|----------------------------------|
| Guo, W.; Konstantinov, D.; Jin, D.                                                                                                                                                                                                                                                                                                                               | <i>Quantum electronics on quantum liquids and solids</i>                                                        | Prog Quantum Electron | 99  |       | 100552 | 10.1016/j.pquantelec.2024.100552 |
| He, M.; Wang, X.; Cai, J.; Herzog-Arbeitman, J.; Peng, R.; Taniguchi, T.; Watanabe, K.; Stern, A.; Bernevig, B.; Yankowitz, M.; Vafeek, O.; Xu, X.                                                                                                                                                                                                               | <i>Strongly interacting Hofstadter states in magic-angle twisted bilayer graphene</i>                           | Nat. Phys.            | 21  | 9     |        | 10.1038/s41567-025-02997-4       |
| Herzog-Arbeitman, J.; Calugaru, D.; Hu, H.; Yuan, J.; Regnault, N.; Kang, J.; Bernevig, A.; Vafeek, O.                                                                                                                                                                                                                                                           | <i>Kekule spiral order from strained topological heavy fermions</i>                                             | Phys. Rev. B          | 112 | 12    |        | 10.1103/rr5g-3js8                |
| Hossain, M.S.; Liu, X.; Cheng, Z.J.; Zhang, Q.; Premakumar, Y.; Guin, S.N.; Kumar, N.; Shekhar, C.; Wang, Z.; Li, Y.; Kim, B.; Cochran, T.A.; Litskevich, M.; Jiang, Y.X.; Yang, X.P.; Zhang, S.B.; Yao, Y.; Balicas, L.; Felser, C.; Neupert, T.; Hasan, M.Z.                                                                                                   | <i>Amplified Circular Photogalvanic Effect in a Strongly Electron-Phonon-Coupled Topological Material</i>       | ACS Nano              | 19  |       |        | 10.1021/acsnano.5c07434          |
| Hossain, M.S.; Zhang, Q.; Graf, D.E.; Iraola, M.; Muller, T.; Mardanya, S.; Tu, Y.H.; Lai, Z.; Soldini, M.O.; Li, S.; Yao, Y.; Jiang, Y.X.; Cheng, Z.J.; Litskevich, M.; Casas, B.W.; Cochran, T.A.; Yang, X.P.; Kim, B.; Watanabe, K.; Taniguchi, T.; Chowdhury, S.; Bansil, A.; Zhang, H.; Chang, T.R.; Fischer, M.H.; Neupert, T.; Balicas, L.; Hasan, M.Z.   | <i>Tunable superconductivity coexisting with the anomalous Hall effect in a transition metal dichalcogenide</i> | Nat. Commun.          | 16  |       | 2399   | 10.1038/s41467-025-56919-2       |
| Hossain, M.S.; Zhang, Q.; Ingham, J.; Liu, J.; Shao, S.; Li, Y.; Wang, Y.; Pokharel, B.K.; Cheng, Z.J.; Jiang, Y.X.; Litskevich, M.; Kim, B.; Yang, X.; Li, Y.; Cochran, T.A.; Yao, Y.; Popovic, D.; Wang, Z.; Thomale, R.; Balicas, L.; Hasan, M.Z.                                                                                                             | <i>Field Induced Density Wave in a Kagome Superconductor</i>                                                    | Phys. Rev. Lett.      | 135 |       | 186503 | 10.1103/5f9f-bsqw                |
| Hossain, M.D.S.; Cheng, Z.J.; Jiang, Y.X.; Cochran, T.A.; Zhang, S.B.; Wu, H.; Liu, X.; Zheng, X.; Cheng, G.; Kim, B.; Zhang, Q.; Litskevich, M.; Zhang, J.; Liu, J.; Yin, J.X.; Yang, X.P.; Denlinger, J.D.; Tallarida, M.; Dai, J.; Vescovo, E.; Rajapitamahuni, A.; Yao, N.; Keselman, A.; Peng, Y.; Yao, Y.; Wang, Z.; Balicas, L.; Neupert, T.; Hasan, M.Z. | <i>Topological excitonic insulator with tunable momentum order</i>                                              | Nat. Phys.            |     |       |        | 10.1038/s41567-025-02917-6       |



| Authors                                                                                                                                                                                                                                                                         | Title                                                                                                                                   | Journal Name       | Vol  | Issue | Pages   | DOI                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------|------|-------|---------|-----------------------------------|
| Hossain, MD.S.; Islam, R.; Cheng, Z.J.; Muhammad, Z.; Zhang, Q.; Guguchia, Z.; Krieger, J.A.; Casas, B.W.; Jiang, Y.X.; Litskevich, M.; Yang, X.P.; Kim, B.; Cochran, T.A.; Perakis, I.E.; Hicken, T.; Luetkens, H.; Xue, F.; Kargarian, M.; Zhao, W.; Balicas, L.; Hasan, M.Z. | <i>Superconductivity and a van Hove singularity confined to the surface of a topological semimetal</i>                                  | Nat. Commun.       | 16   |       | 3998    | 10.1038/s41467-025-58024-w        |
| Hossain, MD.S.; Zhang, Q.; Choi, E.S.; Ratkovski, D.R.; Lüscher, B.; Li, Y.; Jiang, Y.X.; Litskevich, M.; Cheng, Z.J.; Yin, J.X.; Cochran, T.A.; Casas, B.W.; Kim, B.; Yang, X.; Liu, J.; Yao, Y.; Bangura, A.; Wang, Z.; Fischer, M.H.; Neupert, T.; Balicas, L.; Hasan, M.Z.  | <i>Unconventional gapping behaviour in a kagome superconductor</i>                                                                      | Nat. Phys.         |      |       |         | 10.1038/s41567-024-02770-z        |
| Hua, Z.; Niu, C.; Joy, S.; Tan, P.; Shi, G.; Liu, H.; Guo, J.; Graf, D.E.; Ye, P.; Lewandowski, C.K.; Xiong, P.                                                                                                                                                                 | <i>Interplay of orbital and spin magnetization in trigonal tellurium</i>                                                                | arXiv              | 2507 |       | 14292   | 10.48550/arXiv.2507.14292         |
| Inui, S.; Ahangarfirouzjaei, F.; Guo, W.                                                                                                                                                                                                                                        | <i>Controlled Angular Momentum Injection in a Magnetically Levitated He II Droplet</i>                                                  | J. Low Temp. Phys. |      |       |         | 10.1007/s10909-025-03275-6        |
| Jankousky, M.; Pashov, D.; Mazo, J.H.; Larsen, R.E.; Dobrosavljevic, V.; van Schilfgaarde, M.; Stevanovic, V.                                                                                                                                                                   | <i>Effective bands and band-like electron transport in amorphous solids</i>                                                             | Nat. Phys.         |      |       |         | 10.1038/s41567-025-03099-x        |
| Joy, S.; Levitov, L.; Skinner, B.                                                                                                                                                                                                                                               | <i>Chiral Wigner crystal phases induced by Berry curvature</i>                                                                          | Phys. Rev. Lett.   | 135  |       | 256502  | 10.1103/h5hy-jh6m                 |
| Joy, S.; Skinner, B.                                                                                                                                                                                                                                                            | <i>Watching electronic ice melt</i>                                                                                                     | Sci.               | 388  |       | 702-703 | 10.1126/science.adx5775           |
| Joy, S.; Skinner, B.                                                                                                                                                                                                                                                            | <i>Disorder-induced liquid-solid phase coexistence in 2D electron systems</i>                                                           |                    | 2502 |       | 11235   | 10.48550/arXiv.2502.11235         |
| Kacmarčík, J.; Pribulová, Z.; Shiroka, T.; Kosuth, F.; Szabó, P.; Winiarski, M.J.; Królak, S.; Jaroszynski, J.J.; Shang, T.; Cava, R.J.; Marcenat, C.; Klein, T.; Klimczuk, T.; Samuely, P.                                                                                     | <i>Single-gap two-band superconductivity well above the Pauli limit in non-centrosymmetric TaIr<sub>2</sub>B<sub>2</sub></i>            | Supercond          | 14   |       | 100167  | 10.1016/j.supcon.2025.100167      |
| Kang, J.; Vafeek, O.                                                                                                                                                                                                                                                            | <i>Analytical solution for the relaxed atomic configuration of twisted bilayer graphene including heterostrain</i>                      | Phys. Rev. B       | 112  | 12    |         | 10.1103/s3s7-513d                 |
| Karullithodi, S.R.; Kulichenko, V.; Plata, M.A.; Ptok, A.; Lee, S.; McCandless, G.T.; Chan, J.Y.; Balicas, L.                                                                                                                                                                   | <i>Type-II Weyl nodes, flat bands, and evidence for a topological Hall-effect in the new ferromagnet FeCr<sub>3</sub>Te<sub>6</sub></i> | Phys. Rev. Mater.  | 9    |       | 44203   | 10.1103/PhysRevMaterials.9.044203 |

| Authors                                                                                                                                                                                                                                             | Title                                                                                                                                       | Journal Name                 | Vol | Issue | Pages       | DOI                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|-------------|------------------------------|
| kaur, N.; Savitsky, M.; Scutte, A.F.; Mehta, R.D.; Dridi, N.; Sogbesan, T.C.; Savannah, A.A.; Lopez, D.A.; Yang, D.; Ali, J.N.                                                                                                                      | <i>Navigating Cancer Treatment: A Journey from 2D to 3D Cancer Models and Nanoscale Therapies</i>                                           | ACS Pharmacol. Transl. Sci.  | 8   | 11    | 3773.0-3800 | 10.1021/acsptsci.5c00530     |
| Khan, M.; Rassolov, P.V.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.                                                                                                                                                              | <i>Magnetophoresis of weakly magnetic nanoparticle suspension around a wire</i>                                                             | J. Chem. Phys.               | 163 | 2     | 24903       | 10.1063/5.0269000            |
| Kim, C.; Rath, S.; Zhang, N.; Seth, A.; Simonov, N.V.; Rutherford, A.; Chen, L.; Zhou, H.; Peng, C.; Xu, M.; Xie, W.; Vira, A.D.; Tian, M.; Ozerov, M.; Kimchi, I.; Mourigal, M.; Smirnov, D.; Jiang, Z.                                            | <i>Sharp spectroscopic fingerprints of disorder in an incompressible magnetic state</i>                                                     | Nat. Commun.                 | 17  | 1     | 661         | 10.1038/s41467-025-67394-0   |
| Knapp, S.; Barua, A.; Boegel, C.; Mozaffari, S.; Cothrine, M.; Mandrus, D.; Semenov, D.; McGill, S.A.; Romero, A.; Pradhan, N.R.; Karauskaj, D.                                                                                                     | <i>Quantum Coherence of Excitons Strongly Bound to the Magnetic Order</i>                                                                   | ACS Photonics                | 12  | 11    | 5921--5928  | 10.1021/acsphotonics.5c01214 |
| Kumar, A.; Lewandowski, C.K.; Changlani, H.J.                                                                                                                                                                                                       | <i>Origin and stability of generalized Wigner crystallinity in triangular moiré systems</i>                                                 | npj Quantum Mater. (Nat.)    | 10  | 1     | 95          | 10.1038/s41535-025-00792-1   |
| Kumar, G.; Ruiz, A.; Garcia-Oliver, J.; Xin, Y.; Baldovi, J.; Shatruk, M.                                                                                                                                                                           | <i>Opening the Hysteresis Loop in Ferromagnetic Fe<sub>3</sub>GeTe<sub>2</sub> Nanosheets Through Functionalization with TCNQ Molecules</i> | Angew. Chem. Intern. Edition | 64  | 5     |             | 10.1002/anie.202412425       |
| Lake, B.; Siegrist, T.M.; Albrecht-Schmitt, T.E.; Mohammadigoushki, H.; Humayun, M.; Ali, J.N.                                                                                                                                                      | <i>Recent Advances in Rare Earth Element Recovery: Liquid-Liquid Extraction and Magnetophoretic Separation</i>                              | Ind. Eng. Chem. Res.         | 64  | 41    | 19781-19796 | 10.1021/acs.iecr.5c02137     |
| Lang, Z.; Sen, S.; Tsang, P.; Haule, K.; Dobrosavljevic, V.; Ku, W.                                                                                                                                                                                 | <i>Relevance of long-range screening in Mott transition examined via a hydrogen lattice</i>                                                 | Phys. Rev. B                 | 112 |       | 235158      | 10.1103/ysdzp-l985           |
| Lee, S.; Li, Y.; Lee, Y.; Brown, W.K.; Cai, P.; Moon, A.; Mei, L.; Kim, J.; Xin, Y.; Borchers, J.A.; Heitmann, T.W.; Frontzek, M.; Ratcliff, W.D.; McCandless, G.T.; Chan, J.Y.; Santos, E.J.G.; Kim, J.; Phatak, C.M.; Kulichenko, V.; Balicas, L. | <i>Local Inversion Symmetry Breaking and Thermodynamic Evidence for Ferrimagnetism in Fe<sub>3</sub>GaTe<sub>2</sub></i>                    | ACS Nano                     | 19  |       | 28702-28718 | 10.1021/acsnano.5c08312      |
| Lee, S.; Park, M.; Brown, W.K.; Kulichenko, V.; Xin, Y.; Rhim, S.H.; Hwang, C.; Kim, J.; McCandless, G.T.; Chan, J.Y.; Balicas, L.                                                                                                                  | <i>Disorder driven crossover between anomalous Hall regimes in Fe<sub>3</sub>GaTe<sub>2</sub></i>                                           | Phys. Rev. B                 | 111 |       | 184438      | 10.1103/PhysRevB.111.184438  |
| Li, Y.; Parsons, C. A.; Ramakrishna, S.K.; Divendi, A.; Schofield, M.A.; Reyes, A.P.; Guptasarma, P.                                                                                                                                                | <i>Anomalous 140 K electronic transition in Bi<sub>2</sub>Se<sub>3</sub>: Possible charge order in a defect-engineered system</i>           | Solid State Commun.          | 426 |       | 116176      | 10.1016/j.ssc.2025.116176    |

| Authors                                                                                                                                                                                                                                                                                                                                                                                                          | Title                                                                                                                                    | Journal Name        | Vol | Issue | Pages       | DOI                           |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|-------|-------------|-------------------------------|
| Li, Y.; Zaluzec, N.J.; Casas, B.W.; Moon, A.; Petford-Long, A.K.; Balicas, L.; Phatak, C.M.                                                                                                                                                                                                                                                                                                                      | <i>From vortex to bubble: Unraveling formation of merons and skyrmions in van der Waals ferromagnet Fe<sub>5-x</sub>GeTe<sub>2</sub></i> | MRS Communication s |     |       |             | 10.1557/s43579-025-00800-2    |
| Li, Z.; Moir, C.; McKee, N.; Lee-Wong, E.; Baumbach, R.; Maple, M.; Liu, Y.                                                                                                                                                                                                                                                                                                                                      | <i>Observation of odd-parity superconductivity in UTe<sub>2</sub></i>                                                                    | PNAS                | 122 | 13    |             | 10.1073/pnas.2419734122       |
| Lidsky, D.; Hutchins-Delgado, T.; Sharma, P.; Dobrosavljevic, V.; Lu, T.                                                                                                                                                                                                                                                                                                                                         | <i>Off-state magnetoresistance in long-channel germanium Schottky-barrier MOSFETs</i>                                                    | Appl. Phys. Lett.   | 126 |       | 92104       | 10.1063/5.0245683             |
| Litskevich, M.; Hossain, M.S.; Fu, Y.; Miao, H.; Jiang, Y.; Cheng, G.; Chen, P.; Zhang, Q.; Cheng, Z.J.; Acevedo-Esteves, R.; Nelson, C.; Wang, H.; Gonzalez Jimenez, J.L.; Casas, B.W.; Liu, X.; Tsirkin, S.S.; Dagnino, K.; Zhang, S.; Hsu, C.H.; Shao, S.; Xu, S.; Cochran, T.A.; Yang, X.P.; Xu, H.; Yin, J.; Gerasimenko, Y.A.; Xie, W.; Yao, N.; Balicas, L.; Chang, G.; Neupert, T.; Lei, H.; Hasan, M.Z. | <i>Discovery of a Stripe Phase in an Elemental Solid</i>                                                                                 | ACS Nano Lett.      | 25  |       | 10386–10394 | 10.1021/acs.nanolett.5c01695  |
| Liu, Y.; Yang, C.; Gaertner, G.; Huckabee, J.; Suslov, A.; Refael, G.; Nathan, F.; Lewandowski, C.; Foa Torres, L.; Esin, I.; Barbara, P.; Kalugin, N.                                                                                                                                                                                                                                                           | <i>Signatures of Floquet electronic steady states in graphene under continuous-wave mid-infrared irradiation</i>                         | Nat. Commun.        | 16  | 1     |             | 10.1038/s41467-025-57335-2    |
| Meier, W.R.; Graf, D.E.; Ortiz, B.; Mozaffari, S.; Mandrus, D.                                                                                                                                                                                                                                                                                                                                                   | <i>Pressure suppresses the density wave order in kagome metal LuNb<sub>6</sub>Sn<sub>6</sub></i>                                         | Phys. Rev. Mater.   | 9   | 8     |             | 10.1103/hsdc-9j7p             |
| Mitrovic, P.; Dobrosavljevic, V.; Tanaskovic, D.                                                                                                                                                                                                                                                                                                                                                                 | <i>Precursors to Anderson localization in the Holstein model: Quantum and quantum-classical solutions</i>                                | Phys. Rev. B        | 111 |       | L161105     | 10.1103/PhysRevB.111.L161105  |
| Mohammadigoushki, H.; Humayun, M.; Siegrist, T.M.; Ali, J.N.; Rassolov, P.V.                                                                                                                                                                                                                                                                                                                                     | <i>Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients.</i>                                      | Phys. Rev. Fluids   | 10  |       | 73701       | 10.48550/arXiv.2506.04273     |
| Montero, A.; McCandless, G.; Morgan, Z.; Schundelmier, B.C.; Hoffmann, C.; Baumbach, R.; Chandler, J.                                                                                                                                                                                                                                                                                                            | <i>Structurally Frustrated Remeika Phases: Tolerance Factor and Non-Kramers' Ion Effects</i>                                             | Chem. Mater.        | 37  | 21    | 9014--9024  | 10.1021/acs.chemmater.5c02568 |
| Moon, S.; Jiang, Y.; Neu, J.N.; Siegrist, T.M.; Ozerov, M.; Jiang, Z.; Smirnov, D.                                                                                                                                                                                                                                                                                                                               | <i>Magneto-optical Evidence of the Tilting Effect in Coupled Weyl Bands</i>                                                              | Nano Lett           | 25  | 7     | 2858-2863   | 10.1021/acs.nanolett.4c06072  |
| Mozaffari, S.; Do, S.H.; Madhogaria, R.P.; Flessa Savvidou, A.K.; Casas, B.W.; Meier, W.R.; Xue, R.; Choi, E.S.; Balicas, L.; Mandrus, D.G.                                                                                                                                                                                                                                                                      | <i>Diverse magnetic phase diagram and anomalous Hall effect in antiferromagnetic LuMn<sub>6</sub>Sn<sub>6</sub></i>                      | Phys. Rev. B        | 112 |       | 115147      | 10.1103/hwz4-z9mm             |

| Authors                                                                                                                                                               | Title                                                                                                                                       | Journal Name                    | Vol | Issue | Pages       | DOI                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----|-------|-------------|----------------------------------|
| Padayasi, J.S.; Ma, K.W.; Yang, K.                                                                                                                                    | <i>Fermion liquids as quantum Hall liquids in phase space: A unified approach for anomalies and responses</i>                               | Phys. Rev. B                    | 111 |       | 125138      | 10.1103/PhysRevB.111.125138      |
| Phillips, C.; Shtefiienko, K.; Mozaffari, S.; Madhogaria, R.P.; Meier, W.R.; Flessa Savvidou, A.K.; Casas, B.W.; Balicas, L.; Mandrus, D.G.; Graf, D.E.; Shrestha, K. | <i>Electrical transport and torque magnetometry studies of the kagome compound LuV<sub>6</sub>Sn<sub>6</sub> under high magnetic fields</i> | Phys. Rev. B                    | 111 |       | 155136      | 10.1103/PhysRevB.111.155136      |
| Phong, V.; Guinea, F.; Lewandowski, C.K.                                                                                                                              | <i>Optical absorption and emission from Wannier-Stark spectra of moiré superlattices</i>                                                    | Phys. Rev. B                    | 111 | 20    |             | 10.1103/PhysRevB.111.205132      |
| Poree, V.; Bhardwaj, A.; Lhotel, E.; Petit, S.; Gauthier, N.; Yan, H.; Pomjakushin, V.; Ollivier, J.; Quilliam, J.A.; Nevidomskyy, A.H.; Changlani, H.J.; Sibille, R. | <i>Dipolar-octupolar correlations and hierarchy of exchange interactions in Ce<sub>2</sub>X<sub>2</sub>Hf<sub>2</sub>O<sub>7</sub></i>      | Phys. Rev. B: Rapid Comm./Ltrs. | 112 |       | L180404     | 10.1103/j451-ztvr                |
| Qi, Y.; Guo, W.                                                                                                                                                       | <i>Advances in understanding vacuum break dynamics in liquid helium-cooled tubes for accelerator beamline applications</i>                  | Cryog.                          | 149 |       | 104082      | 10.1016/j.cryogenics.2025.104082 |
| Qi, Y.; Guo, W.                                                                                                                                                       | <i>Particle levitation velocimetry for boundary layer measurements in high Reynolds number liquid helium turbulence</i>                     | Phys. Fluids                    | 37  | 8     | 85248       | 10.1063/5.0287550                |
| Rassolov, P.V.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.                                                                                          | <i>Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients</i>                                          | Phys. Rev. Fluids               | 10  |       | 73701       | 10.1103/vm4j-73p6                |
| Sarangi, B.; Sandra, J.; Aramadaka, C.; Majkic, C.; Jaroszynski, J.; Selvamanickam, V.                                                                                | <i>High critical current double-sided, thick-film REBa<sub>2</sub>Cu<sub>3</sub>O<sub>7-s</sub> tapes by Advanced MOCVD</i>                 | Supercond                       | 15  |       | 100184      | 10.1016/j.supcon.2025.100184     |
| Scutte, A.F.; Harrison, K.N.; Gregory, T.S.; Quashie Jr, D.; Ramakrishnan, S.; Ali, J.N.                                                                              | <i>Rheological Characterization and 3D Fabrication of Artificial Bacterial Biofilms</i>                                                     | ACS Biomater. Sci. and Eng.     | 11  | 6     | 3455--3466  | 10.1021/acsbiomaterials.5c00223  |
| Shih, E.; Shi, Q.; Rhodes, D.A.; Kim, B.; Watanabe, K.; Taniguchi, T.; Yang, K.; Hone, J.; Dean, C.R.                                                                 | <i>Spin-selective magnetoconductivity in WSe<sub>2</sub></i>                                                                                | Nat. Phys.                      | 21  | 8     | 1231-1236   | 10.1038/s41567-025-02918-5       |
| Shiravi, H.; Zheng, W.; Ran, S.; Rhodes, D.A.; Balicas, L.; Zhou, H.; Ni, G.                                                                                          | <i>Twist-engineered phonon polaritons in <math>\alpha</math>-V<sub>2</sub>O<sub>5</sub></i>                                                 | Optics Lett.                    | 50  |       | 2986-2989   | 10.1364/OL.557267                |
| Stasiak, P.Z.; Xing, Y.; Alihosseini, Y.; Barenghi, C.F.; Baggaley, A.; Guo, W.; Galantucci, L.; Krstulovic, G.                                                       | <i>Experimental and theoretical evidence of universality in superfluid vortex reconnections</i>                                             | PNAS                            | 122 | 21    | e2426064122 | 10.1073/pnas.2426064122          |
| Tang, Y.; Inui, S.; Xing, Y.; Qi, Y.; Guo, W.                                                                                                                         | <i>Turbulent diffusion and dispersion in a superfluid</i>                                                                                   | Phys. Rev. Res.                 | 7   |       | 43215       | 10.1103/2hdj-qnw3                |

| Authors                                                                                                                                                                                                                                                      | Title                                                                                                                                                  | Journal Name          | Vol     | Issue | Pages   | DOI                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|-------|---------|----------------------------------|
| Virdi, P.S.; Guo, W.; Cattafesta, L.N.; Cheetham, P.; Cooley, L.; Gladin, J.C.; He, J.; Kim, C.; Li, H.; Ordonez, J.C.; Pamidi, S.V.; Zheng, J.                                                                                                              | <i>Liquid hydrogen storage, thermal management, and transfer-control system for integrated zero emission aviation (IZEA)</i>                           | Appl Energy           | 393     |       | 126054  | 10.1016/j.apenergy.2025.126054   |
| Wang, C.; Gupta, A.; Singh, S.; Pfeiffer, L.; Baldwin, K.; Winkler, R.; Shayegan, M.                                                                                                                                                                         | <i>Competing many-body phases at small fillings in ultrahigh-quality GaAs two-dimensional hole systems: Role of Landau level mixing</i>                | Phys. Rev. B          | 111     | 8     |         | 10.1103/PhysRevB.111.085429      |
| Wang, C.; Madathil, P.; Singh, S.; Gupta, A.; Chung, Y.; Pfeiffer, L.; Baldwin, K.; Shayegan, M.                                                                                                                                                             | <i>Developing Fractional Quantum Hall States at Even-Denominator Fillings 1/6 and 1/8</i>                                                              | Phys. Rev. Lett.      | 134     | 4     |         | 10.1103/PhysRevLett.134.046502   |
| Wang, X.; Reyes, A.P.; Banerjee, H.; Salinas, A.N.; Wilson, S.; Ortiz, B.R.                                                                                                                                                                                  | <i><sup>51</sup>V NMR evidence for interlayer-modulated charge order and a first-order low-temperature transition in CsV<sub>3</sub>Sb<sub>5</sub></i> | Phys. Rev. B          | 112     |       | 235123  | 10.1103/91c9-z267                |
| Wu, Y.Y.; Balicas, L.; Cheng, R.; Zhang, X.                                                                                                                                                                                                                  | <i>Spin excitations and dynamics in 2D magnets: an overview of magnons and magnetic skyrmions</i>                                                      | Prog Quantum Electron | 100-101 |       | 100564  | 10.1016/j.pquantelec.2025.100564 |
| Wu, Z.; Chen, H.; Long, M.; Jin, G.; Zuo, H.; Shaffer, D.; Chichinadze, D.; Cabala, A.; Sechovsky, V.; Valiska, M.; Zhu, Z.; Lonzarich, G. G.; Grosche, F. M.; Eaton, A.                                                                                     | <i>Metamagnetic ripples in the UTe<sub>2</sub> high magnetic field phase diagram</i>                                                                   | Arxiv                 | 2503    |       | 11362   | 10.48550/arXiv.2503.11362        |
| Wu, Z.; Weinberger, T. I.; Hickey, A. J.; Chichinadze, D. V.; Shaffer, D.; Cabala, A.; Chen, H.; Long, M.; Brumm, T. J.; Xie, W.; Lin, Y.; Skourski, Y.; Zengwei, Z.; Graf, D.E.; Sechovsky, V.; Lonzarich, G. G.; Valiska, M.; Grosche, F. M.; Eaton, A. G. | <i>A Quantum Critical Line Bounds the High Field Metamagnetic Transition Surface in UTe<sub>2</sub></i>                                                | Phys. Rev. X          | 15      |       | 21019   | 10.1103/PhysRevX.15.021019       |
| Xing, C.; Zhang, H.; Noordhoek, K.; Zheng, G.; Chen, K.; Horak, L.; Xin, Y.; Choi, E.; Li, L.; Zhou, H.; Liu, J.                                                                                                                                             | <i>Probing Ice-Rule-Breaking Transition in Dy<sub>2</sub>Ti<sub>2</sub>O<sub>7</sub> Thin Film by Proximitized Transport and Magnetic Torque</i>       | Phys. Rev. Lett.      | 135     | 21    | 216702  | 10.1103/w6cq-2qwl                |
| Yahav, D.; Maniv, A.; Potashnikov, D.; Pesach, A.; Caspi, E.N.; Reyes, A.P.; Tao, Q.; Rosen, J.; Maniv, E.                                                                                                                                                   | <i>Hidden magnetic phases in i-MAX compounds</i>                                                                                                       | Phys. Rev. B          | 111     |       | 94427   | 10.1103/PhysRevB.111.094427      |
| Yousuf, S.; Wang, Y.; Ramachandran, S.; Koptur-Palenchar, J.; Tarantini, C.; Xiang, L.; McGill, S.A.; Smirnov, D.; Santos, E.; Feng, P.; Zhang, X.                                                                                                           | <i>Mechanical Resonant Sensing of Spin Texture Dynamics in a 2D Antiferromagnet</i>                                                                    | Adv. Mater.           |         |       | 2420168 | 10.1002/adma.202420168           |



| Authors                                                                                                                                                                                                                                                                                                                     | Title                                                                                                                            | Journal Name     | Vol | Issue | Pages | DOI                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------------|-----|-------|-------|--------------------------------|
| Yu, O.; Boivin, F.; Silberztein, A.; Gervais, G.                                                                                                                                                                                                                                                                            | <i>Observation of Temperature-Independent Anomalous Hall Effect in Thin Bismuth from Near Absolute Zero to 300 K Temperature</i> | Phys. Rev. Lett. | 134 |       | 66603 | 10.1103/PhysRevLett.134.066603 |
| Zhang, Y.; Gao, Y.; Pulkkinen, A.; Guo, X.; Huang, J.; Guo, Y.; Yue, Z.; Oh, J.S.; Moon, A.; Oudah, M.; Gao, X.J.; Marmodoro, A.; Fedorov, A.; Mo, S.K.; Hashimoto, M.; Lu, D.; Rajapitamahuni, A.; Vescovo, E.; Kono, J.; Hallas, A.M.; Birgeneau, R.J.; Balicas, L.; Minar, J.; Hosur, P.; Law, K.T.; Morosan, E.; Yi, M. | <i>Kramers nodal lines in intercalated TaS<sub>2</sub> superconductors</i>                                                       | Nat. Commun.     | 16  |       | 4984  | 10.1038/s41467-025-60020-z     |
| Zhang, Y.; Shavit, G.; Ma, H.N.; Han, Y.; Siu, C.; Mukherjee, A.; Watanabe, K.; Taniguchi, T.; Hsieh, D.; Lewandowski, C.K.; von Oppen, F.; Oreg, Y.; Nadj-Perge, S.                                                                                                                                                        | <i>Twist-programmable superconductivity in spin-orbit-coupled bilayer graphene</i>                                               | Nat.             | 641 | 8063  |       | 10.1038/s41586-025-08959-3     |

### PUBLICATIONS GENERATED BY GEOCHEMISTRY FACILITY (13)

| Authors                                                                                   | Title                                                                                                                           | Journal Name                             | Vol | Issue | Pages      | DOI                          |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-----|-------|------------|------------------------------|
| Chen, X.; Ostrander, C.; Holdaway, B.; Kendall, B.; Anbar, A.; Nielsen, S.H.; Owens, J.D. | <i>Transient marine bottom water oxygenation on continental shelves by 2.65 billion years ago</i>                               | Nat. Geosci.                             | 18  | 5     | 423--429   | 10.1038/s41561-025-01681-9   |
| Gfatter, C.H.; Owens, J.D.; Martinez-Colon, M.                                            | <i>Trace metal adsorption in three serial flow-through systems: implications for foraminiferal culturing experiments</i>        | Journal of Micropalaeontology            | 44  | 2     | 381--399   | 10.5194/jm-44-381-2025       |
| Hacisalihoglu, G.; White, G.A.; Salters, V.J.                                             | <i>Characterization of Seed Quality Traits Within 61 Chickpea (Cicer arietinum) Genotypes: Ionomes and Daily Values</i>         | Seeds                                    | 4   | 1     |            | 10.3390/seeds4010015         |
| Hardy, F.; Wang, X.; Bowman, C.N.; Wang, Y.; Badgley, C.                                  | <i>Dietary fidelity of Miocene ungulates in the context of environmental change in the Mojave Region, western North America</i> | Palaeogeogr. Palaeoclimatol. Palaeoecol. | 673 |       | 113013     | 10.1016/j.palaeo.2025.113013 |
| Ivanova, M.; Teplyakova, S.; Lorenz, C.; Yang, S.; Humayun, M.                            | <i>Origin of the metal in chondritic and achondritic lithologies of the Sierra Gorda 013 Ba-like chondrite</i>                  | Met Planet Sci                           | 60  | 8     | 1762--1784 | 10.1111/maps.70005           |
| Kurek, M.; Pokrovsky, O.; Krickov, I.; Lima, A.; Korets, M.; Spencer, R.G.                | <i>Assessing the Molecular-Level Controls of Dissolved Organic Matter Cycling in West Siberian Lowland Rivers</i>               | J Geophys. Res. Biogeosci.               | 130 | 4     |            | 10.1029/2024JG008537         |
| Li, C.; Wang, S.Q.; Wang, Y.; Deng, T.; Ma, J.; Wang, B.; Jiangzuo, Q.; Sun, D.           | <i>Savanna Ecosystems and Mammalian Adaptations in Mid-Miocene Northern China</i>                                               | Sci. Rep.                                | 15  |       | 25586      | 10.1038/s41598-025-10718-3   |

| Authors                                                                                                                                                                                      | Title                                                                                                                                                  | Journal Name               | Vol | Issue | Pages         | DOI                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----|-------|---------------|---------------------------------|
| Li, S.; Nielsen, S.H.; Owens, J.D.                                                                                                                                                           | <i>Global cycling of vanadium isotopes from multiple ocean water masses and a restricted euxinic basin</i>                                             | Geochim. Cosmochim. Acta   | 409 |       | 82--92        | 10.1016/j.gca.2025.08.037       |
| Maaleki-Moghadam, M.; Lindskog, A.; Noble, P.; Kaljo, D.; Hints, O.; Goodin, J.; Owens, J.D.; Young, S.A.                                                                                    | <i>A multi-basin comparison of paleoredox conditions during the mid-Silurian Mulde/lundgreni event</i>                                                 | Glob. Planet Change        | 255 |       |               | 10.1016/j.gloplacha.2025.105085 |
| Malarewicz, V.; Beyssac, O.; Zanda, B.; Marin-Carbonne, J.; Leroux, H.; Rubatto, D.; Bouvier, A. S.; Deldicque, D.; Pont, S.; Bernard, S.; Bloch, E.; Bouley, S.; Humayun, M.; Hewins, R. H. | <i>Evidence for pre-Noachian granitic rocks on Mars from quartz in meteorite NWA 7533</i>                                                              | Nat. Geosci.               | 18  |       | 207-212       | 10.1038/s41561-025-01653-z      |
| Newby, S.; Li, S.; Severmann, S.; McManus, J.; Scholz, F.; Owens, J.D.                                                                                                                       | <i>Refining the signature of thallium isotopes in low oxygen marine environments</i>                                                                   | Geochim. Cosmochim. Acta   | 407 |       | 338--356      | 10.1016/j.gca.2025.08.020       |
| Stracke, A.; Salters, V.J.                                                                                                                                                                   | <i>The Role of Peridotite for Oceanic Volcanism</i>                                                                                                    | Geochem. Geophys. Geosyst. | 26  | 8     | e2025GC012463 | 10.1029/2025GC012463            |
| Woelki, D.; Salters, V.J.; Stracke, A.; Genske, F.; White, G.A.; Brunelli, D.                                                                                                                | <i>Abundant Ancient Melt-Depleted Peridotite Beneath the Marion Rise, Southwest Indian Ocean, Effects on Basalt Composition and Dynamic Topography</i> | Geochem. Geophys. Geosyst. | 26  | 9     | e2025GC012418 | 10.1029/2025GC012418            |

### PUBLICATIONS GENERATED BY GYPSTACKS / RARE EARTH (5)

| Authors                                                                                        | Title                                                                                                          | Journal Name         | Vol | Issue | Pages       | DOI                       |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|----------------------|-----|-------|-------------|---------------------------|
| Benhal, P.G.; Garba, M.J.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.        | <i>Dynamics of Transition Metal Ion Transport in High-Gradient Magnetic Fields</i>                             | J. Phys. Chem. A     | 129 | 15    | 3401-3410   | 10.1021/acs.jpca.4c08312  |
| Khan, M.; Rassolov, P.V.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.         | <i>Magnetophoresis of weakly magnetic nanoparticle suspension around a wire</i>                                | J. Chem. Phys.       | 163 | 2     | 24903       | 10.1063/5.0269000         |
| Lake, B.; Siegrist, T.M.; Albrecht-Schmitt, T.E.; Mohammadigoushki, H.; Humayun, M.; Ali, J.N. | <i>Recent Advances in Rare Earth Element Recovery: Liquid-Liquid Extraction and Magnetophoretic Separation</i> | Ind. Eng. Chem. Res. | 64  | 41    | 19781-19796 | 10.1021/acs.iecr.5c02137  |
| Mohammadigoushki, H.; Humayun, M.; Siegrist, T.M.; Ali, J.N.; Rassolov, P.V.                   | <i>Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients.</i>            | Phys. Rev. Fluids    | 10  |       | 73701       | 10.48550/arXiv.2506.04273 |
| Rassolov, P.V.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.                   | <i>Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients</i>             | Phys. Rev. Fluids    | 10  |       | 73701       | 10.1103/vm4j-73p6         |

## PUBLICATIONS GENERATED BY MBI AT UF (43)

| Authors                                                                                                                                                                                                                                                                                                                          | Title                                                                                                                                    | Journal Name                                 | Vol | Issue | Pages     | DOI                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|-----|-------|-----------|-----------------------------|
| Albayram, M.; Richmond, S.B.; Yagmurlu, K.; Tuna, I.S.; Karakaya, E.; Ravichandran, H.; Tufan, F.; Llesha, E.; Mut, M.; Bunyak, F.; Kalani, Y.; Ergul, A.; Seidler, R.D.; Albayram, O.                                                                                                                                           | <i>Meningeal lymphatic architecture and drainage dynamics surrounding the human middle meningeal artery</i>                              | iSci.                                        | 28  | 11    | 113693    | 10.1016/j.isci.2025.113693  |
| Arpin, D.J.; Subramony, S.H.; Vaillancourt, D.E.; Ashizawa, T.; Durr, A.; Mareci, T.H.; Klockgether, T.; Faber, J.; Paulson, H.L.; Oz, G.; Burns, M.R.                                                                                                                                                                           | <i>Fixel-Based Analysis of Diffusion Imaging as a Quantitative Marker of Disease State in Spinocerebellar Ataxia</i>                     | Ann Clin Transl Neurol                       | 12  | 9     | 1846-1857 | 10.1002/acn3.70116          |
| Asken, B.M.; Curiel Cid, R.E.; Crocco, E.A.; Armstrong, M.J.; Levy, S.; Arias, F.; Rosselli, M.; Velez Uribe, I.; Barker, W.W.; Matusz, E.F.; DeSimone, J.C.; Wang, W.; Fiala, J.; Marsiske, M.M.; DeKosky, S.T.; Vaillancourt, D.E.; Duara, R.; Loewenstein, D.A.; Smith, G.E.                                                  | <i>Informing etiological heterogeneity of mild cognitive impairment and risk for progression to dementia with plasma p-tau217</i>        | Journal of Prevention of Alzheimer's Disease | 12  | 1     | 100011    | 10.1016/j.tjpad.2024.100011 |
| Barb, D.; Kalavalapalli, S.; Godinez Leiva, E.; Bril, F.; Huot-Marchand, P.; Dzen, L.; Rosenberg, J.T.; Junien, J.; Broqua, P.; Ortiz Rocha, A.; Lomonaco, R.; Abitbol, J.; Cooreman, M.P.; Cusi, K.                                                                                                                             | <i>Pan-PPAR agonist lanifibranor improves insulin resistance and hepatic steatosis in patients with T2D and MASLD</i>                    | J. Hepatol                                   | 82  | 6     | 979-991   | 10.1016/j.jhep.2024.12.045  |
| Barrick, T.R.; Ingo, C.; Hall, M.G.; Howe, F.A.                                                                                                                                                                                                                                                                                  | <i>Quasi-Diffusion Imaging: Application to Ultra-High b-Value and Time-Dependent Diffusion Images of Brain Tissue</i>                    | NMR in BioMed.                               | 38  | 4     | e70011    | 10.1002/nbm.70011           |
| Bohsali, A.A.; Gullett, J.M.; FitzGerald, D.B.; Mareci, T.H.; Crosson, B.; White, K.; Nadeau, S.E.                                                                                                                                                                                                                               | <i>Neural connectivity underlying core language functions</i>                                                                            | Brain Lang                                   | 262 |       | 105535    | 10.1016/j.bandl.2025.105535 |
| Britton, M.K.; Hoogerwoerd, H.; Juhasz, J.; Johnson, K.J.; Stewart, P.D.; Bharadwaj, P.K.; Merritt, S.S.; Jessup, C.J.; Wright, C.B.; Hishaw, G.A.; Raichlen, D.A.; Del Bene, V.A.; Wadley, V.G.; Trouard, T.P.; Alperin, N.; Levin, B.E.; Rundek, T.; Visscher, K.M.; Alexander, G.E.; Cohen, R.A.; Porges, E.C.; Gullett, J.M. | <i>Your brain doesn't look a day past 70! Cross-sectional associations with brain-predicted age in the cognitively-intact oldest-old</i> | GeroScience                                  |     |       |           | 10.1007/s11357-025-02027-4  |
| Britton, M.K.; Jensen, G.; Edden, R.A.; Puts, N.A.; Nolin, S.A.; Merritt, S.S.; Rezaei, R.F.; Forbes, M.; Johnson, K.J.; Bharadwaj, P.K.; Franchetti, M.K.; Raichlen, D.A.                                                                                                                                                       | <i>"Surviving and Thriving": evidence for cortical GABA stabilization in cognitively-intact oldest-old adults</i>                        | Transl. Psychiatry                           | 15  | 1     |           | 10.1038/s41398-025-03302-w  |

| Authors                                                                                                                                                                                                                                                     | Title                                                                                                                                                                                              | Journal Name                 | Vol | Issue | Pages     | DOI                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|-----------|-----------------------------|
| Jessup, C.J.; Hishaw, G.A.; Van Etten, E.J.; Gudmundson, A.T.; Murali-Manohar, S.; Cowart, H.; Trouard, T.P.; Geldmacher, D.S.; Wadley, V.G.; Alperin, N.; Levin, B.E.; Rundek, T.; Visscher, K.M.; Woods, A.J.; Alexander, G.E.; Cohen, R.A.; Porges, E.C. |                                                                                                                                                                                                    |                              |     |       |           |                             |
| Bush, N.J.; Cushnie, A.K.; Boissoneault, J.; Aghabeigi, S.; Alexander, C.G.; Staud, R.; Robinson, M.E.                                                                                                                                                      | <i>The Two Sides of Placebo Analgesia: Differential Functional Connectivity Reveals Mechanisms of Placebo Analgesic Response</i>                                                                   | J. Pain Res.                 | 18  |       | 189-201   | 10.2147/JPR.S483157         |
| Christensen, D.; Shin, Y.; Wang, J.; Cuomo, C.R.; Dentry, T.; Gemmell, H.M.; Pulver, S.L.; Orlando, A.; McKinney, W.S.; Stevens, C.J.; Unruh, K.E.; Karmakar, B.; Coombes, S.A.; Mosconi, M.W.; Wang, Z.                                                    | <i>Subcortical brain volume variations in autistic individuals across the lifespan</i>                                                                                                             | Mol Autism                   | 16  | 1     |           | 10.1186/s13229-025-00673-1  |
| Cox, D.; Byrne, B.; Hammers, D.W.; Landry, J.; Sweeney, H.L.                                                                                                                                                                                                | <i>Effect of Tadalafil on cardiac function and left ventricular dimensions in Duchenne muscular dystrophy: safety and cardiac MRI substudy results from a randomized, placebo-controlled trial</i> | Bmc Cardiovascular Disorders | 25  | 1     |           | 10.1186/s12872-025-04727-3  |
| Cruz-Almeida, Y.; Montesino-Goicolea, S.; Valdes-Hernandez, P.; Huo, Z.G.; Staud, R.; Ebner, N.C.                                                                                                                                                           | <i>Understanding Cognition, Oxytocin, and Pain in Elders (UCOPE): protocol for a double-blinded cross-over trial in chronic knee osteoarthritis pain</i>                                           | Trials                       | 26  | 1     |           | 10.1186/s13063-024-08715-4  |
| Cruz-Almeida, Y.; Valdes-Hernandez, P.A.; Liang, Y.; Ding, M.; Neubert, J.K.                                                                                                                                                                                | <i>Brain aging among individuals with trigeminal neuralgia</i>                                                                                                                                     | Neurobiol Pain               | 18  |       | 100201    | 10.1016/j.ynpai.2025.100201 |
| Cushnie, A.K.; Bush, N.J.; Sevel, L.S.; Stennett-Blackmon, B.; Farone, A.; Nixon, S.; Robinson, M.E.; Boissoneault, J.                                                                                                                                      | <i>Insula under the influence: Alcohol-induced changes in resting state functional connectivity</i>                                                                                                | Alcohol: Clin. Exp. Res.     | 49  | 6     | 1221-1232 | 10.1111/acer.70053          |
| Eierle, S.; Taivassalo, T.; Park, H.; Cooke, K.D.; Moslemi, Z.; Forbes, S.C.; Walter, G.A.; Vandenborne, K.H.; Subramony, S.H.; Lott, D.J.                                                                                                                  | <i>Quantitative Magnetic Resonance Imaging of the Forearm in Myotonic Dystrophy Type 1</i>                                                                                                         | Tomography                   | 11  | 12    |           | 10.3390/tomography11120136  |
| Fuller, D.D.; Rana, S.; Thakre, P.P.; Benevides, E.S.; Pope, M.K.; Todd, A.G.; Jensen, V.N.; Vaught, L.; Cloutier, D.A.; Ribas, R.A.; Larson, R.C.; Gentry, M.S.; Sun, R.C.;                                                                                | <i>Neonatal systemic gene therapy restores cardiorespiratory function in a rat model of Pompe disease</i>                                                                                          | Mol. Therapy                 | 33  | 9     | 4276-4289 | 10.1016/j.ymthe.2025.06.022 |

| Authors                                                                                                                                                                                                                                    | Title                                                                                                                                                                                                   | Journal Name                 | Vol | Issue | Pages       | DOI                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-----|-------|-------------|------------------------------------|
| Chandran, V.; Corti, M.; Falk, D.J.; Byrne, B.J.                                                                                                                                                                                           |                                                                                                                                                                                                         |                              |     |       |             |                                    |
| Hughes, C.; Ebner, N.C.; Pehlivanoglu, D.; Heemskerk, A.; Lin, T.; ten Brinke, L.; Turner, G.; Spreng, R.N.                                                                                                                                | <i>Dissociable brain activity for high-stakes deception detection in young and older adults</i>                                                                                                         | Soc Cogn Affect Neurosci     | 20  | 1     |             | 10.1093/scan/nsaf088               |
| Hupfeld, K.E.; Murali-Manohar, S.; Zöllner, H.J.; Song, Y.; Davies-Jenkins, C.W.; Gudmundson, A.T.; Simicic, D.; Lamesgin Simegn, G.; Carter, E.E.; Hui, S.C.; Yedavalli, V.; Oeltzschner, G.; Porges, E.C.; Edden, R.A.                   | <i>Metabolite T relaxation times decrease across the adult lifespan in a large multi-site cohort</i>                                                                                                    | Magnet. Reson. in Med.       | 93  | 3     | 916-929     | 10.1002/mrm.30340                  |
| Iriah, S.C.; Rodriguez, N.; Febo, M.; Morrisette, M.; Strandwitz, P.; Kulkarni, P.; Ferris, C.F.                                                                                                                                           | <i>The microbiome's influence on the neurobiology of opioid addiction and brain connectivity</i>                                                                                                        | Brain Res. Bulletin          | 220 |       | 111159      | 10.1016/j.brainresbull.2024.111159 |
| Kim, M.K.; Daniels, M.J.; Rooney, W.D.; Willcocks, R.J.; Walter, G.A.; Vandenborne, K.H.                                                                                                                                                   | <i>A New Algorithm for Sampling Parameters in a Structured Correlation Matrix With Application to Estimating Optimal Combinations of Muscles to Quantify Progression in Duchenne Muscular Dystrophy</i> | Statistics in Med.           | 44  | 20-22 |             | 10.1002/sim.70252                  |
| Langer, K.G.; O'Neal, A.G.; Garcia, A.; Chen, A.; Porges, E.C.; Williamson, J.B.; Woods, A.J.; Cohen, R.A.                                                                                                                                 | <i>Functional connectivity in distributed cortical networks associated with semantic processing in healthy older adults</i>                                                                             | Frontiers in Aging Neurosci. | 17  |       |             | 10.3389/fnagi.2025.1479861         |
| Liu, C.; Pliner, E.M.; Salminen, J.; Downey, R.J.; Hwang, J.; Roy, A.; Swearingner, R.; Richer, N.; Hass, C.J.; Clark, D.J.; Manini, T.M.; Cruz-Almeida, Y.; Seidler, R.D.; Ferris, D.P.                                                   | <i>Age differences in electrocortical dynamics during uneven terrain walking</i>                                                                                                                        | Imaging Neurosci             | 3   |       | IMAG.a.1039 | 10.1162/IMAG.a.1039                |
| Ma, Y.; Brown, J.A.; Chen, C.; Ding, M.; Wu, W.; Li, W.                                                                                                                                                                                    | <i>Alpha-Frequency Stimulation Enhances Synchronization of Alpha Oscillations with Default Mode Network Connectivity</i>                                                                                | eNeuro                       | 12  | 3     |             | 10.1523/ENEURO.0449-24.2025        |
| Meyyappan, S.; Rajan, A.; Yang, Q.; Mangun, G.R.; Ding, M.                                                                                                                                                                                 | <i>Decoding Visual Spatial Attention Control</i>                                                                                                                                                        | eNeuro                       | 12  | 3     |             | 10.1523/ENEURO.0512-24.2025        |
| Mickle, A.M.; Tanner, J.J.; Holmes, U.; Rashid, A.; Barolette, O.; Addison, B.; Sambuco, N.; Garvan, C.; Lai, S.; Seubert, C.; Schmidt, S.; Staud, R.; Edberg, J.C.; Redden, D.; Goodin, B.R.; Price, C.C.; Fillingim, R.B.; Sibille, K.T. | <i>Applying evidence-based cross-disciplinary concepts helps to explain the heterogeneity in pain, function, and biological measures in individuals with knee pain with/at risk of osteoarthritis</i>   | Pain Rep                     | 10  | 1     |             | 10.1097/PR9.0000000000001225       |



| Authors                                                                                                                                                                                                                                                                                                                 | Title                                                                                                                                                                         | Journal Name           | Vol | Issue | Pages     | DOI                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----|-------|-----------|----------------------------------|
| Montesino-Goicolea, S.; Valdes-Hernandez, P.A.; Nin, O.; Smith, C.S.; Porges, E.C.; Cruz-Almeida, Y.                                                                                                                                                                                                                    | <i>Comparing self-reported sleep quality and wearable-derived sleep metrics in middle-aged and older adults with chronic pain: a psychometric study</i>                       | Front Pain Res         | 6   |       |           | 10.3389/fpain.2025.1704377       |
| Moore, A.; Lewis, B.; Farrior, H.; Hinckley, J.; Jo Nixon, S.; Bhatia, D.                                                                                                                                                                                                                                               | <i>Impact of Pre-Adolescent Substance Familiarity on Subsequent Use: Longitudinal Analysis of Risk by Latent Classes in the Adolescent Brain Cognitive Development Sample</i> | Substance Use & Misuse | 60  | 1     | 1--11     | 10.1080/10826084.2024.2403109    |
| Murali-Manohar, S.; Zöllner, H.J.; Hupfeld, K.E.; Song, Y.; Carter, E.E.; Yedavalli, V.; Hui, S.; Simicic, D.; Gudmundson, A.T.; Simegn, G.; Davies-Jenkins, C.W.; Oeltzschner, G.; Porges, E.C.; Edden, R.A.                                                                                                           | <i>Age dependency of neurometabolite T1 relaxation times</i>                                                                                                                  | Magnet. Reson. in Med. | 94  | 2     | 508-520   | 10.1002/mrm.30507                |
| Nolin, S.; Faulkner, M.; Stewart, P.; Fleming, L.; Merritt, S.; Rezaei, R.; Bharadwaj, P.; Franchetti, M.; Raichlen, D.; Jessup, C.; Edwards, L.; Hishaw, G.; Van Etten, E.; Trouard, T.; Geldmacher, D.; Wadley, V.; Alperin, N.; Porges, E.; Woods, A.; Cohen, R.; Levin, B.; Rundek, T.; Alexander, G.; Visscher, K. | <i>Network segregation is associated with processing speed in the cognitively healthy oldest-old</i>                                                                          | eLife                  | 14  |       | e78076    | 10.7554/eLife.78076              |
| Pravdivtsev, A.N.; Tickner, B.J.; Glöggler, S.; Hövener, J.; Buntkowsky, G.; Duckett, S.B.; Bowers, C.R.; Zhivonitko, V.V.                                                                                                                                                                                              | <i>Unconventional Parahydrogen-Induced Hyperpolarization Effects in Chemistry and Catalysis: From Photoreactions to Enzymes</i>                                               | ACS Catalysis          | 15  | 8     | 6386-6409 | 10.1021/acscatal.4c07870         |
| Sato, S.D.; Shah, V.A.; Fettrow, T.; Hall, K.G.; Tays, G.D.; Cenko, E.; Roy, A.; Clark, D.J.; Ferris, D.P.; Hass, C.J.; Manini, T.M.; Seidler, R.D.                                                                                                                                                                     | <i>Resting state brain network segregation is associated with walking speed and working memory in older adults</i>                                                            | NeuroImage             | 310 |       | 121155    | 10.1016/j.neuroimage.2025.121155 |
| Shah, V.A.; Cruz-Almeida, Y.; Roy, A.; Cenko, E.; Downey, R.J.; Ferris, D.P.; Hass, C.J.; Reuter-Lorenz, P.A.; Clark, D.J.; Manini, T.M.; Seidler, R.D.                                                                                                                                                                 | <i>Correlates of gait speed changes during uneven terrain walking in older adults: differential roles of cognitive and sensorimotor function</i>                              | Exp. Brain Res.        | 243 | 3     |           | 10.1007/s00221-025-07019-6       |
| Shin, Y.S.; Christensen, D.; Wang, J.Y.; Shirley, D.J.; Orlando, A.M.; Romero, R.A.; Vaillancourt, D.E.; Wilkes, B.J.; Coombes, S.A.; Wang, Z.                                                                                                                                                                          | <i>Transcallosal white matter and cortical gray matter variations in autistic adults aged 30-73 years</i>                                                                     | Mol Autism             | 16  | 1     |           | 10.1186/s13229-025-00652-6       |

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Title                                                                                                                                         | Journal Name         | Vol | Issue | Pages   | DOI                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----|-------|---------|--------------------------------|
| Simegn, G.L.; Song, Y.L.; Murali-Manohar, S.; Zöllner, H.J.; Davies-Jenkins, C.W.; Simicic, D.; Hupfeld, K.E.; Gudmundson, A.T.; Muska, E.; Carter, E.; Hui, S.C.; Yedavalli, V.; Oeltzschner, G.; Dean, D.C.; Ceritoglu, C.; Ratnanather, J.T.; Porges, E.; Edden, R.                                                                                                                                                                                                                                                                                                                        | <i>A Water Relaxation Atlas for Age- and Region-Specific Metabolite Concentration Correction at 3 T</i>                                       | NMR in BioMed.       | 38  | 1     |         | 10.1002/nbm.5300               |
| Song, Y.; Prisciandaro, J.J.; Apsvalka, D.; Bernard, M.; Berrington, A.; Castelo-Branco, M.; Britton, M.K.; Correia, M.M.; Cuypers, K.; Domagalik, A.; Dydak, U.; Duncan, N.W.; Dwyer, G.E.; Gong, T.; Greenhouse, I.; Hat, K.; Hehl, M.; Honda, S.; Horton, C.; Hui, S.C.; Jackson, S.R.; Jones, D.L.; Klan, M.S.; Kyoony Lyoo, I.N.; Mada, M.O.; McNamara, B.V.; Mullins, P.G.; Muska, E.; Nakajima, S.; Nishio, H.; Pereira, A.C.; Porges, E.C.; Rowsell, M.; Ruopp, R.; Shortell, D.D.; Smith, C.M.; Swinnen, S.; Susnjar, A.; Tseng, L.; Violante, I.R.; Yoon, S.; Edden, R.A.; Dyke, K. | <i>Magnetic resonance spectroscopy and the menstrual cycle: A multi-centre assessment of menstrual cycle effects on GABA &amp; GSH</i>        | J. Neurosci. Methods | 418 |       | 110430  | 10.1016/j.jneumeth.2025.110430 |
| Vaillancourt, D.E.; Barmpoutis, A.; Wu, S.S.; DeSimone, J.C.; Schauder, M.; Chen, R.; Parrish, T.B.; Wang, W.; Molho, E.; Morgan, J.C.; Simon, D.K.; Scott, B.L.; Rosenthal, L.S.; Gomperts, S.N.; Akhtar, R.S.; Grimes, D.; De Jesus, S.; Stover, N.; Bayram, E.; Ramirez-Zamora, A.; Prokop, S.; Fang, R.; Slevin, J.T.; Kanel, P.; Bohnen, N.I.; Tuite, P.; Aradi, S.; Strafella, A.P.; Siddiqui, M.S.; Davis, A.A.; Huang, X.; Ostrem, J.L.; Fernandez, H.; Litvan, I.; Hauser, R.A.; Pantelyat, A.; McFarland, N.R.; Xie, T.; Okun, M.S.                                                 | <i>Automated Imaging Differentiation for Parkinsonism</i>                                                                                     | JAMA Neurol          | 82  | 5     | 495-505 | 10.1001/jamaneurol.2025.0112   |
| Valdes-Hernandez, P.A.; Montesino-Goicolea, S.; Laffitte Nodarse, C.; Johnson, A.J.; Fillingim, R.B.; Cruz-Almeida, Y.                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <i>Widespread and prolonged pain may reduce brain clearance capacity only via sleep impairment: Evidence from participants with knee pain</i> | The Journal of Pain  | 30  |       | 105356  | 10.1016/j.jpain.2025.105356    |

| Authors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Title                                                                                                                                                                                                       | Journal Name                                  | Vol | Issue | Pages     | DOI                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-----|-------|-----------|------------------------------|
| Vandenborne, K.H.; Walter, G.A.; Straub, V.; Willcocks, R.J.; Forbes, S.C.; Mercuri, E.M.; Muntoni, F.; Ding, K.; Ennamuri, S.; Reid, C.; Murphy, A.P.; Manfrini, M.; Mendell, J.R.; Elkins, J.S.; Rodino-Klapac, L.R.                                                                                                                                                                                                                                                                                                                                                                            | <i>Quantitative Muscle Magnetic Resonance Outcomes in Patients With Duchenne Muscular Dystrophy: An Exploratory Analysis From the EMBARK Randomized Clinical Trial</i>                                      | JAMA Neurol                                   | 82  | 7     | 734-744   | 10.1001/jamaneurol.2025.0992 |
| Wanner, I.; McCabe, J.T.; Huie, J.; Harris, N.G.; Paydar, A.; McMann-Chapman, C.; Tobar, A.; Korotcov, A.; Burns, M.P.; Koehler, R.C.; Wan, J.; Allende Labastida, J.; Tong, J.; Zhou, J.; Davis, L.; Radabaugh, H.L.; Ferguson, A.R.; Van Meter, T.E.; Febo, M.; Bose, P.; Wang, K.K.; Kobeissy, F.; Apiliogullari, S.; Zhu, J.; Rubenstein, R.; Awwad, H.O.                                                                                                                                                                                                                                     | <i>Prospective Harmonization, Common Data Elements, and Sharing Strategies for Multicenter Pre-Clinical Traumatic Brain Injury Research in the Translational Outcomes Project in Neurotrauma Consortium</i> | J. Neurotrauma                                | 0   | 0     |           | 10.1089/neu.2023.0653        |
| Willmering, M.M.; Krishnamoorthy, G.; Robison, R.K.; Rosenberg, J.T.; Woods, J.C.; Pipe, J.G.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <i>High-quality FLORET UTE imaging for clinical translation</i>                                                                                                                                             | Magnet. Reson. in Med.                        | 93  | 1     | 276-288   | 10.1002/mrm.30277            |
| Younes, K.; Johns, E.; Young, C.B.; Kennedy, G.; Mukherjee, S.; Vossler, H.A.; Winer, J.; Cody, K.; Henderson, V.W.; Poston, K.L.; Betthausen, T.J.; Bevis, B.; Brooks, W.M.; Burns, J.M.; Coombes, S.A.; DeCarli, C.; DiFilippo, F.P.; Duara, R.; Fan, A.P.; Gibbons, L.E.; Golde, T.; Johnson, S.C.; Lepping, R.J.; Leverenz, J.; McDougall, S.; Rogalski, E.; Sanders, E.; Pasaye, J.; Sridhar, J.; Saykin, A.J.; Sridharan, A.; Swerdlow, R.; Trittschuh, E.H.; Vaillancourt, D.; Vidoni, E.; Wang, W.; Mez, J.; Hohman, T.J.; Tosun, D.; Biber, S.; Kukull, W.A.; Crane, P.K.; Mormino, E.C. | <i>Amyloid PET predicts longitudinal functional and cognitive trajectories in a heterogeneous cohort</i>                                                                                                    | Alzheimer's & Dementia                        | 21  | 3     | e70075    | 10.1002/alz.70075            |
| Zhang, Y.; Mitelut, C.; Arpin, D.J.; Vaillancourt, D.; Murphy, T.; Saxena, S.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <i>Behavioral Classification of Sequential Neural Activity Using Time Varying Recurrent Neural Networks</i>                                                                                                 | IEEE Trans. on Neural Syst. and Rehabil. Eng. | 33  |       | 2638-2649 | 10.1109/TNSRE.2025.3586175   |
| Zheng, L.; Boogaart, Z.; McAvan, A.; Garren, J.; Doner, S.; Wilkes, B.; Groves, W.; Yuksel, E.; Cherep, L.; Ekstrom, A.; Weisberg, S.                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Newly trained navigation and verbal memory skills in humans elicit changes in task-related networks but not brain structure</i>                                                                          | eLife                                         | 14  |       | RP106873  | 10.7554/eLife.106873         |

**PUBLICATIONS GENERATED BY UF PHYSICS (5)**

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|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------|----|--|-------|--------------------------|
|                                                                                                                                        |                                                                                                    |                                                      |    |  |       |                          |
| Flynn, S.; Benyacko, C.L.; Mihalik, M.; Lee, J.; Ma, F.; Bates, M.E.; Sinha, S.; Abboud, K.A.; Mihalik, M.; Meisel, M.W.; Hamlin, J.J. | <i>Synthesis of cobalt grown from Co-S eutectic in high magnetic fields</i>                        | Phys. Rev. Mater.                                    | 9  |  | 94401 | 10.1103/9bb3-4pby        |
|                                                                                                                                        |                                                                                                    |                                                      |    |  |       |                          |
| Tener, Z.P.; Flynn, S.; Donald, A.M.; Hamlin, J.J.; Meisel, M.W.; Manuel, M.V.; Kesler, M.S.                                           | <i>Thermocouples in Resistive and Induction Furnaces Operated in Strong Magnetic Fields (2025)</i> | IEEE Transactions on Instrumentation and Measurement | 74 |  | 1-5   | 10.1109/TIM.2025.3602597 |
|                                                                                                                                        |                                                                                                    |                                                      |    |  |       |                          |

**5.2 INTERNET DISSEMINATION (8)**

| Authors                                                                             | Title                                                                                                                | Link                                                                                              | Facilities                                                 |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| Garg, T.; Sumption, M.D.; Majoros, M.; Collings, E.; Jaroszynski, J. and Choi, E.S. |                                                                                                                      |                                                                                                   | DC Field Facility, CMT/E                                   |
|                                                                                     | <i>Disorder-induced liquid-solid phase coexistence in 2D electron systems</i>                                        | <a href="https://doi.org/10.48550/arXiv.2502.11235">https://doi.org/10.48550/arXiv.2502.11235</a> | CMT/E                                                      |
|                                                                                     | <i>Interplay of orbital and spin magnetization in trigonal tellurium</i>                                             | <a href="https://doi.org/10.48550/arXiv.2507.14292">https://doi.org/10.48550/arXiv.2507.14292</a> | CMT/E                                                      |
|                                                                                     | <i>Critical Current, Lengthwise Fluctuations, and Flux Jumps in REBCO CC: A Torque Magnetometry Study up to 45 T</i> | <a href="https://arxiv.org/abs/2502.02706">https://arxiv.org/abs/2502.02706</a>                   | DC Field Facility, CMT/E, Applied Superconductivity Center |
| Joy, S.; Levitov, L.; Skinner, B.                                                   | <i>Chiral Wigner crystal phases induced by Berry curvature</i>                                                       | <a href="https://doi.org/10.48550/arXiv.2507.22121">https://doi.org/10.48550/arXiv.2507.22121</a> | CMT/E                                                      |
|                                                                                     | <i>Single-gap two-band superconductivity well above the Pauli limit in non-centrosymmetric TaIr2B2</i>               | <a href="https://arxiv.org/abs/2504.00662">https://arxiv.org/abs/2504.00662</a>                   | DC Field Facility, CMT/E                                   |
| Lu, J.; Levitan, J.; Suetomi, Y.; Dixon, I. and Jaroszynski, J.                     | <i>REBCO delamination by transverse electromagnetic stress due to screening current in magnetic field</i>            | <a href="https://arxiv.org/abs/2507.21301">https://arxiv.org/abs/2507.21301</a>                   | DC Field Facility, CMT/E, MS & T                           |

| Authors                                                                                                                                                                  | Title                                                                                | Link | Facilities |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------|------------|
| Wu, Z.; Chen, H.; Long, M.; Jin, G.; Zuo, H.; Shaffer, D.; Chichinadze, D.; Cabala, A.; Sechovsky, V.; Valiska, M.; Zhu, Z.; Lonzarich, G. G.; Grosche, F. M.; Eaton, A. | <i>Metamagnetic ripples in the UTe<sub>2</sub> high magnetic field phase diagram</i> |      | CMT/E      |

### 5.3 PRODUCTS (5)

| Authors                                                                          | Title                                                                                     | Product Information                             | Facilities   |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------|--------------|
| Hu, Y.; Chen, Y.; Oyekunle, I.P.                                                 | <i>Solid oxide electrolytes and methods for making the same</i>                           | US Patent application US20250158114A1           | NMR Facility |
| Markiewicz, W.D., Bird, M.D., Dixon, I.R., Marshall, W.S., Painter, T.A., Xu, P. | <i>Symmetric quench protection of resistive insulation coils</i>                          | US12347612B2                                    | MS & T       |
| Ogbolu, B.; Hu, Y.; Gamaralalage, T.D.                                           | <i>High-performance sodium ion electrolytes and efficient methods for making the same</i> | US Patent number US12304827B2 awarded 5/20/2025 | NMR Facility |
| Oyekunle, I.P.; Truong, E.; Poudel, T.P.; Hu, Y.                                 | <i>Sulfide electrolytes and efficient methods for making the same</i>                     | US patent application US20250171325A1           | NMR Facility |
| Poudel, T.P.; Hu, Y.; Oyekunle, I.P.                                             | <i>Solid electrolytes and methods for making the same</i>                                 | US Patent application number US20250171327A1    | NMR Facility |

### 5.4 DEGREES

#### M.S. DEGREES (7 LOCAL/1 EXTERNAL)

| Authors                  | Titles                                                                                                                   | MagLab Facilities     | University                     | Degrees         |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------|-----------------|
| Bell, Celicia            | <i>White matter in pain and aging</i>                                                                                    | MBI-UF                | UF                             | M.S. (local)    |
| Bryant, Hannah           | <i>Evaluation of Sodium Redistribution in Preclinical Stroke Models: A Triple Quantum MRI Approach</i>                   | NMR Facility          | FSU                            | M.S. (local)    |
| Kamadana, Krishna Saketh | <i>Development of Computational Tools for Top-Down Proteomics</i>                                                        | ICR Facility          | FSU                            | M.S. (local)    |
| Lopez, Mariana           | [Title not available]                                                                                                    | AMRIS Facility at UF  | UF                             | M.S. (local)    |
| Priester, Shane          | [Title not available]                                                                                                    | AMRIS Facility at UF  | UF                             | M.S. (local)    |
| Radovich, Jenna          | <i>Sodium MRI at 21.1 T to Evaluate Longitudinal Sodium Function in an Animal Model of Aging and Alzheimer's Disease</i> | NMR Facility          | FSU                            | M.S. (local)    |
| Thomason, Riley          | <i>Tracing Storm Runoff from Hurricane Idalia in Two Springs in North Florida Using Oxygen and Hydrogen Isotopes</i>     | Geochemistry Facility | FSU                            | M.S. (local)    |
| Ofori, Lovia             | <i>High-Frequency Electron Paramagnetic Resonance in the Kagome-lattice YMn<sub>6</sub>Sn<sub>6</sub> crystal</i>        | EMR Facility          | University of Texas at El Paso | M.S. (external) |



**PH.D. DEGREES (19 LOCAL/8 EXTERNAL)**

| Authors             | Titles                                                                                                                                                        | MagLab Facilities    | University | Degrees       |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------|---------------|
| Bhagu, Jamini       | <i>Magnetic Resonance Imaging and Spectroscopy-based Evaluation of Biotherapeutics</i>                                                                        | NMR Facility         | FSU        | Ph.D. (local) |
| Boloki, Omar        | <i>Fundamental Understanding of Gas Transport in Novel Hybrid Membranes and Porous Materials via Pulsed Field Gradient NMR</i>                                | AMRIS Facility at UF | UF         | Ph.D. (local) |
| Chang, Mario        | <i>Investigating Cancer Metabolism and Therapeutic Efficacy with Stable Isotope Tracer Methods</i>                                                            | AMRIS Facility at UF | UF         | Ph.D. (local) |
| Dowdell, Zachary    | <i>Advancing Crystal Engineering through Mechanochemistry: Synthesis and Solid-State NMR of Pharmaceutical Salts, Cocrystals, and Integrative Solid Forms</i> | NMR Facility         | FSU        | Ph.D. (local) |
| Fleischer III, Carl | <i>Applications of Quadrupolar Nuclear Magnetic Resonance Crystallography Guided Crystal Structure Prediction</i>                                             | NMR Facility         | FSU        | Ph.D. (local) |
| Guzman, Clemente    | <i>Combining SQUID Devices and Microwave Resonators for Coherent Control and Detection of Quantum Spins</i>                                                   | CMT/E                | FSU        | Ph.D. (local) |
| Jindal, Vishwas     | <i>[Title not available]</i>                                                                                                                                  | MBI-UF               | UF         | Ph.D. (local) |
| Johnson, Reece      | <i>Surface-supported heterogeneous niobium catalysts for hydrocarbon transformations</i>                                                                      | AMRIS Facility at UF | UF         | Ph.D. (local) |
| Kimball, James      | <i>New Methods for Signal Enhancement in Solid-State NMR</i>                                                                                                  | NMR Facility         | FSU        | Ph.D. (local) |
| Marshall, Erin      | <i>[Title not available]</i>                                                                                                                                  | AMRIS Facility at UF | UF         | Ph.D. (local) |
| McCadden, Caitlin   | <i>Discovery of novel terpene synthases and characterization of oxidative transformations in diterpenoid biosynthesis</i>                                     | AMRIS Facility at UF | UF         | Ph.D. (local) |
| Moore, Andrew       | <i>Identification of prospective predictors of alcohol initiation during early adolescence</i>                                                                | MBI-UF               | UF         | Ph.D. (local) |
| Olsen, Stine        | <i>Unveiling marine natural products from cold-water organisms</i>                                                                                            | AMRIS Facility at UF | UF         | Ph.D. (local) |
| Pabbathi, Smitha    | <i>Investigating the human GPCR interactions with G protein and allosteric modulators from a structural perspective</i>                                       | AMRIS Facility at UF | UF         | Ph.D. (local) |
| Ratajska, Adrianna  | <i>Cognition in Essential Tremor: A neuroimaging and biomarker study</i>                                                                                      | MBI-UF               | UF         | Ph.D. (local) |
| Ray, Arka           | <i>Membrane lipids regulate functioning of G protein-coupled receptors</i>                                                                                    | AMRIS Facility at UF | UF         | Ph.D. (local) |
| Rushin, Anna        | <i>[Title not available]</i>                                                                                                                                  | AMRIS Facility at UF | UF         | Ph.D. (local) |
| Schundelmier, Benny | <i>Exploring Quantum Materials for Improving Thermoelectric Properties and Discovering Novel Characteristics</i>                                              | DC Field Facility    | FSU        | Ph.D. (local) |

| Authors             | Titles                                                                                                                                                                                                                      | MagLab Facilities          | University                          | Degrees          |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------------|------------------|
| Simon, Zachary      | <i>Amyloid-<math>\beta</math> and apolipoprotein-<math>\epsilon</math>4 differentially affect functional connectivity and network topology in murine models of Alzheimer's disease risk factors</i>                         | AMRIS Facility at UF       | UF                                  | Ph.D. (local)    |
| Acharya, Gokul      | <i>Synthesis and Properties study of Layered Magnetic Topological Materials</i>                                                                                                                                             | DC Field Facility          | University of Arkansas              | Ph.D. (external) |
| Agarwal, Shiva      | <i>Probing Shielding Tensor Components of Amino Acids Using Nuclear Magnetic Resonance</i>                                                                                                                                  | NMR Facility               | Western Michigan University         | Ph.D. (external) |
| Azizivahed, Tahereh | <i>Solid-State NMR Study of Adsorption and Selectivity in Metal-organic Frameworks</i>                                                                                                                                      | NMR Facility               | The University of Western Ontario   | Ph.D. (external) |
| Díaz-Sánchez, Luis  | <i>MALDI-MS analysis of biomarkers in phytoplankton</i>                                                                                                                                                                     | ICR Facility               | Universidad Industrial de Santander | Ph.D. (external) |
| Lamahewage, Sujeewa | <i>Expanding the frontiers of solid-state NMR spectroscopy: Techniques and applications for quadrupolar nuclei and structural analysis</i>                                                                                  | EMR Facility, NMR Facility | iowa state university               | Ph.D. (external) |
| Xu, Jiabin          | <i>Local Structural Characterization of Metal-Organic Frameworks and Their Multifaceted Applications</i>                                                                                                                    | NMR Facility               | The University of Western Ontario   | Ph.D. (external) |
| Zadorozhnyi, Roman  | <i>Structural Basis of HIV-1 Inhibitor Activity, and Resistance, and Characterization of Active Pharmaceutical Ingredients in Drugs and Microcrystalline Proteins by Multinuclear Magic Angle Spinning NMR Spectroscopy</i> | EMR Facility               | University of Delaware              | Ph.D. (external) |
| Zhang, Wanli        | <i>Characterization of Metal-organic Frameworks via Wideline and High-resolution Solid-state NMR Spectroscopy</i>                                                                                                           | NMR Facility               | The University of Western Ontario   | Ph.D. (external) |

**APPENDIX 1 - PERSONNEL**

Data as of January 23, 2026

**MAGLAB AT FSU (470)**

| <b>Last Name</b> | <b>First Name</b> | <b>Position Title</b>             | <b>Position Category</b> | <b>Division</b> |
|------------------|-------------------|-----------------------------------|--------------------------|-----------------|
| Abraimov         | Dmytro            | Research Faculty III              | Senior Personnel         | ASC             |
| Abuzar           | Ahmed             | Graduate Research Assistant       | Graduate Student         | ASC             |
| Aguirre          | Cesar             | Research Assistant                | Undergraduate Student    | ASC             |
| Akin-Adamu       | Morakinyo         | Graduate Research Assistant       | Graduate Student         | ASC             |
| Alves            | Timothy           | Laboratory Assistant / Technician | Undergraduate Student    | ASC             |
| Balachandran     | Shreyas           | Associate Professor               | Senior Personnel         | ASC             |
| Bang             | Jeseok            | Visiting Research Faculty I       | Senior Personnel         | ASC             |
| Barbour          | Craig             | Laboratory Assistant / Technician | Graduate Student         | ASC             |
| Barua            | Shaon             | Postdoctoral Associate            | Postdoc                  | ASC             |
| Bates            | Aaron             | Laboratory Assistant / Technician | Undergraduate Student    | ASC             |
| Boritz           | Trent             | Laboratory Assistant 3            | Undergraduate Student    | ASC             |
| Brady            | Cindonia          | Research Assistant                | Other Professional       | ASC             |
| Brown            | Jamia             | Laboratory Assistant / Technician | Undergraduate Student    | ASC             |
| Carter           | Sophie            | Laboratory Assistant / Technician | Undergraduate Student    | ASC             |
| Casanova         | Allison           | Research Assistant                | Undergraduate Student    | ASC             |
| Chakraborty      | Shantanu          | Postdoctoral Associate            | Postdoc                  | ASC             |
| Cheggour         | Najib             | Research Faculty III              | Senior Personnel         | ASC             |
| Chetri           | Santosh           | Postdoctoral Associate            | Postdoc                  | ASC             |
| Ciaccio          | Kathleen          | Research Assistant                | Undergraduate Student    | ASC             |
| Davis            | Daniel            | Research Faculty I                | Senior Personnel         | ASC             |
| DeLong           | Adam              | Graduate Research Assistant       | Graduate Student         | ASC             |
| Duey             | Pierce            | Laboratory Assistant I            | Undergraduate Student    | ASC             |
| Engel            | Lloyd             | Other Professional                | Other Professional       | ASC             |
| Heaney           | Kegan             | Graduate Research Assistant       | Graduate Student         | ASC             |
| Hellstrom        | Eric              | Professor                         | Senior Personnel         | ASC             |
| Hoolihan         | Aidan             | Graduate Research Assistant       | Graduate Student         | ASC             |
| Jani             | Rafsun            | Graduate Research Assistant       | Graduate Student         | ASC             |
| Jiang            | Jianyi            | Research Faculty III              | Senior Personnel         | ASC             |
| Jones            | JaKeyvan          | Laboratory Assistant / Technician | Undergraduate Student    | ASC             |
| Jordan           | Maddox            | Laboratory Assistant / Technician | Undergraduate Student    | ASC             |
| Juliao           | Andre             | Graduate Research Assistant       | Graduate Student         | ASC             |
| Kametani         | Fumitake          | Assistant Professor               | Senior Personnel         | ASC             |

| Last Name           | First Name    | Position Title                      | Position Category     | Division |
|---------------------|---------------|-------------------------------------|-----------------------|----------|
| Kametani            | Nonoko        | Laboratory Assistant II             | Undergraduate Student | ASC      |
| Kim                 | Youngjae      | Research Faculty II                 | Senior Personnel      | ASC      |
| Kvitkovic           | Jozef         | Visiting Assistant In Research      | Senior Personnel      | ASC      |
| Larbalestier        | David         | Professor                           | Senior Personnel      | ASC      |
| Lee                 | Jonathan      | Graduate Research Assistant         | Graduate Student      | ASC      |
| Lee                 | Peter         | Visiting Research Faculty III       | Senior Personnel      | ASC      |
| Linville            | Connie        | Senior Administrative Specialist    | Other Professional    | ASC      |
| Liu                 | Junliang      | Research Faculty I                  | Senior Personnel      | ASC      |
| Long                | Julian        | Postdoctoral Associate              | Postdoc               | ASC      |
| Mahmood             | Mushfique     | Graduate Research Assistant         | Graduate Student      | ASC      |
| Mandal              | Manish        | Graduate Research Assistant         | Graduate Student      | ASC      |
| Martin              | Emma          | Graduate Research Assistant         | Graduate Student      | ASC      |
| Melvin              | Zachary       | Laboratory Assistant / Technician   | Undergraduate Student | ASC      |
| Miller              | George        | Scientific Research Specialist      | Other Professional    | ASC      |
| Molitor             | Nicholas      | Graduate Research Assistant         | Graduate Student      | ASC      |
| Morillo             | Emilio        | Research Engineer II                | Other Professional    | ASC      |
| Murphy              | Garfield      | Graduate Research Assistant         | Graduate Student      | ASC      |
| Park                | Wan Kyu       | Research Faculty III                | Senior Personnel      | ASC      |
| Polyanskii          | Anatolii      | Magneto Optical Research Specialist | Other Professional    | ASC      |
| Prather             | David         | Laboratory Assistant                | Undergraduate Student | ASC      |
| Ramanna Shekharappa | Manoj Kumar   | Graduate Research Assistant         | Graduate Student      | ASC      |
| Ries                | Rastislav     | Postdoctoral Associate              | Postdoc               | ASC      |
| Robbins             | Chase         | Laboratory Assistant / Technician   | Undergraduate Student | ASC      |
| Roberts             | Mark          | Technical Designer 3                | Other Professional    | ASC      |
| Rogers              | Felicia       | Sr. Administrative Specialist       | Other Professional    | ASC      |
| Segal               | Christopher   | Research Faculty II                 | Senior Personnel      | ASC      |
| Semenov             | Dmitry        | Associate In Research               | Senior Personnel      | ASC      |
| Shuvo               | Tanmay Sarker | Graduate Research Assistant         | Graduate Student      | ASC      |
| Starch              | William       | Sr. Research Associate              | Senior Personnel      | ASC      |
| Tarantini           | Chiara        | Research Faculty III                | Senior Personnel      | ASC      |
| Trociewitz          | Ulf           | Research Faculty III                | Senior Personnel      | ASC      |
| Valdez              | Alexandro     | Laboratory Associate I              | Undergraduate Student | ASC      |
| Watson              | Gabriel       | Graduate Research Assistant         | Graduate Student      | ASC      |
| Xu                  | Aixia         | Research Faculty II                 | Senior Personnel      | ASC      |
| Aguilera            | Martha        | Research Faculty II                 | Senior Personnel      | CIMAR    |

| Last Name       | First Name | Position Title                   | Position Category                    | Division |
|-----------------|------------|----------------------------------|--------------------------------------|----------|
| Alharbi         | Khaled     | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Amadi           | Chiemeka   | Undergraduate Research Assistant | Undergraduate Student                | CIMAR    |
| Amanze          | Charles    | Technician                       | Graduate Student                     | CIMAR    |
| Anderson        | Lissa      | Research Faculty II              | Senior Personnel                     | CIMAR    |
| Arbaban         | Arshia     | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Babcock-Adams   | Lydia      | Visiting Research Faculty I      | Senior Personnel                     | CIMAR    |
| Balmer          | Isabella   | Undergraduate Research Assistant | Undergraduate Student                | CIMAR    |
| Bao             | Qijin      | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Barnes          | Heather    | Program Coordinator              | Other Professional                   | CIMAR    |
| Blakney         | Gregory    | Research Faculty II              | Senior Personnel                     | CIMAR    |
| Blue            | Ashley     | Scientific Research Specialist   | Support Staff - Technical/Managerial | CIMAR    |
| Boglaev         | Sophie     | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Booker          | Kyla       | Undergraduate Research Assistant | Undergraduate Student                | CIMAR    |
| Brey            | William    | Research Faculty III             | Senior Personnel                     | CIMAR    |
| Bui             | Huyen      | Graduate Research Assistant      | Undergraduate Student                | CIMAR    |
| Butcher         | David      | Research Faculty I               | Senior Personnel                     | CIMAR    |
| Chandler        | Brooks     | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Chantra         | Dominic    | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Chen            | Huan       | Research Faculty II              | Senior Personnel                     | CIMAR    |
| Chiasson        | Ty         | Undergraduate Research Assistant | Undergraduate Student                | CIMAR    |
| Cross           | Timothy    | Researcher/Scientist             | Senior Personnel                     | CIMAR    |
| Da Vitoria Lobo | Thurston   | Undergraduate Research Assistant | Undergraduate Student                | CIMAR    |
| DeFiglia        | Steven     | Postdoctoral Associate           | Postdoc                              | CIMAR    |
| Dindinger       | Joshua     | Undergraduate Research Assistant | Undergraduate Student                | CIMAR    |
| Dubroca         | Thierry    | Research Faculty II              | Senior Personnel                     | CIMAR    |
| Dunham          | Sean       | Postdoctoral Associate           | Postdoc                              | CIMAR    |
| Eerati          | Vijay      | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Elumalai        | Malathy    | Associate In Research            | Senior Personnel                     | CIMAR    |
| Esmonde         | Colin      | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Fantle          | Landon     | Undergraduate Research Assistant | Undergraduate Student                | CIMAR    |
| Fredriksson     | Georgia    | Graduate Research Assistant      | Graduate Student                     | CIMAR    |
| Frydman         | Lucio      | Professor                        | Senior Personnel                     | CIMAR    |
| Gan             | Zhehong    | Research Faculty III             | Senior Personnel                     | CIMAR    |



| Last Name         | First Name  | Position Title                               | Position Category                    | Division |
|-------------------|-------------|----------------------------------------------|--------------------------------------|----------|
| Gilmore           | Madison     | Laboratory Assistant / Technician            | Undergraduate Student                | CIMAR    |
| Gor'kov           | Peter       | Sr. Research Associate                       | Senior Personnel                     | CIMAR    |
| Grant             | Samuel      | Professor                                    | Senior Personnel                     | CIMAR    |
| Gunaga            | Shubha      | Postdoctoral Associate                       | Postdoc                              | CIMAR    |
| Hakansson         | Kristina    | Professor                                    | Senior Personnel                     | CIMAR    |
| Hendrickson       | Christopher | Research Faculty III                         | Senior Personnel                     | CIMAR    |
| Hilliard          | Aleksandra  | Graduate Research Assistant                  | Graduate Student                     | CIMAR    |
| Holder Montenegro | Christopher | Graduate Research Assistant / Data Scientist | Graduate Student                     | CIMAR    |
| Holmes            | Sean        | Research Faculty I                           | Senior Personnel                     | CIMAR    |
| Hu                | Yan-Yan     | Assistant Professor                          | Senior Personnel                     | CIMAR    |
| Hughes            | Emily       | Graduate Research Assistant                  | Graduate Student                     | CIMAR    |
| Hung              | Ivan        | Sr. Research Associate                       | Senior Personnel                     | CIMAR    |
| Hurdis            | Christian   | Undergraduate Research Assistant             | Undergraduate Student                | CIMAR    |
| Jemmott           | Krista      | Program Coordinator                          | Support Staff - Secretarial/Clerical | CIMAR    |
| Joerder           | Dylan       | Undergraduate Research Assistant             | Undergraduate Student                | CIMAR    |
| Joshi             | Shreya      | Undergraduate Research Assistant             | Undergraduate Student                | CIMAR    |
| Kaiser            | Nathan      | Visiting Research Faculty III                | Senior Personnel                     | CIMAR    |
| Kitamura          | Mai         | Graduate Research Assistant                  | Graduate Student                     | CIMAR    |
| Kitchen           | Jason       | NMR Research Engineer                        | Other Professional                   | CIMAR    |
| Koolath           | Ajsal       | Graduate Research Assistant                  | Graduate Student                     | CIMAR    |
| Litvak            | Ilya        | Sr. Research Associate                       | Senior Personnel                     | CIMAR    |
| Lumata            | Jenica      | Postdoctoral Associate                       | Postdoc                              | CIMAR    |
| Martin            | Julia       | Undergrad Research Assistant                 | Undergraduate Student                | CIMAR    |
| McCloy            | Charles     | Graduate Research Assistant                  | Graduate Student                     | CIMAR    |
| McVay             | Brianna     | Undergraduate Research Assistant             | Graduate Student                     | CIMAR    |
| Mechakra          | Lina        | Graduate Research Assistant                  | Graduate Student                     | CIMAR    |
| Mentink-Vigier    | Frederic    | Research Faculty II                          | Senior Personnel                     | CIMAR    |
| Metkar            | Sanjay      | Postdoctoral Associate                       | Postdoc                              | CIMAR    |
| Mohammadigoushki  | Hadi        | Associate Professor                          | Senior Personnel                     | CIMAR    |
| Mondal            | Jotirmoy    | Graduate Research Assistant                  | Graduate Student                     | CIMAR    |
| Moss              | Olivia      | Postdoctoral Associate                       | Postdoc                              | CIMAR    |
| Mota              | Ahsly       | Undergraduate Research Assistant             | Undergraduate Student                | CIMAR    |

| Last Name        | First Name | Position Title                   | Position Category     | Division |
|------------------|------------|----------------------------------|-----------------------|----------|
| Mozolic          | Kimberly   | Sr Administrative Specialist     | Other Professional    | CIMAR    |
| Naha             | Sunandan   | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Noche            | Elfren Roy | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Norton           | Jameson    | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Nuhu             | Hussaini   | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Obi              | Cletus     | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Ojelade          | Islamiyat  | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Ojha             | Pawan      | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Osborn           | Peyton     | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Patel            | Trisha     | Undergraduate Research Assistant | Undergraduate Student | CIMAR    |
| Payen            | Kate       | Undergraduate Research Assistant | Undergraduate Student | CIMAR    |
| Peterson         | Joseph     | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Pichardo         | Miguel     | Undergraduate Research Assistant | Undergraduate Student | CIMAR    |
| Polak            | Marek      | Postdoctoral Associate           | Postdoc               | CIMAR    |
| Potu             | Teja       | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Pulparamban      | Arif       | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Quinn            | John       | Research Engineer                | Other Professional    | CIMAR    |
| Radovich         | Jenna      | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Ramamoorthy      | Ayyalusamy | Professor                        | Senior Personnel      | CIMAR    |
| Ranner           | Steven     | Scientific Research Specialist   | Other Professional    | CIMAR    |
| Rey Yash         | Jakub      | Undergrad Research Assistant     | Undergraduate Student | CIMAR    |
| Richter          | Dayna      | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Rodgers          | Ryan       | Research Faculty III             | Senior Personnel      | CIMAR    |
| Rodriguez Torres | Celina     | Undergraduate Research Assistant | Undergraduate Student | CIMAR    |
| Rokonujaman      | Md         | Postdoctoral Associate           | Postdoc               | CIMAR    |
| Roy              | Anamika    | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Saha             | Jhinuk     | Postdoctoral Associate           | Postdoc               | CIMAR    |
| Sanchez          | Jazmine    | Graduate Research Assistant      | Graduate Student      | CIMAR    |
| Schurko          | Robert     | Professor                        | Senior Personnel      | CIMAR    |

| Last Name       | First Name    | Position Title                   | Position Category                    | Division                 |
|-----------------|---------------|----------------------------------|--------------------------------------|--------------------------|
| Scott           | Faith         | Visiting Assistant In Research   | Senior Personnel                     | CIMAR                    |
| Silvers         | Robert        | Assistant Professor              | Senior Personnel                     | CIMAR                    |
| Smith           | Robert        | Graduate Research Assistant      | Graduate Student                     | CIMAR                    |
| Talukder        | Noor Mohammad | Graduate Research Assistant      | Graduate Student                     | CIMAR                    |
| Tello Rodriguez | Alvaro        | Undergraduate Research Assistant | Undergraduate Student                | CIMAR                    |
| Termos          | Sara          | Graduate Research Assistant      | Graduate Student                     | CIMAR                    |
| Toheed          | Tehreem       | Graduate Research Assistant      | Graduate Student                     | CIMAR                    |
| Valdes          | Mya           | Undergraduate Research Assistant | Undergraduate Student                | CIMAR                    |
| Weisbrod        | Chad          | Research Faculty II              | Senior Personnel                     | CIMAR                    |
| Wi              | Sungsool      | Research Faculty II              | Senior Personnel                     | CIMAR                    |
| Wolfe           | Dana          | Undergraduate Research Assistant | Graduate Student                     | CIMAR                    |
| Wu              | Kuan-Lu       | Graduate Research Assistant      | Graduate Student                     | CIMAR                    |
| Yamoah          | Emmanuel      | Sr Administrative Specialist     | Other Professional                   | CIMAR                    |
| Yoshida         | Ayano         | Graduate Research Assistant      | Graduate Student                     | CIMAR                    |
| Ali             | Jamel         | Assistant Professor              | Senior Personnel                     | Condensed Matter Science |
| Alihosseini     | Yousef        | Graduate Research Assistant      | Graduate Student                     | Condensed Matter Science |
| Andrei          | Petru         | Associate Professor              | Senior Personnel                     | Condensed Matter Science |
| Atwood          | Sabastian     | Postdoctoral Associate           | Postdoc                              | Condensed Matter Science |
| Bangura         | Ali           | Research Faculty III             | Senior Personnel                     | Condensed Matter Science |
| Beekman         | Christianne   | Associate Professor              | Senior Personnel                     | Condensed Matter Science |
| Benjamin        | Shermane      | Research Faculty I               | Senior Personnel                     | Condensed Matter Science |
| Bennett         | Sarah         | Research Assistant               | Undergraduate Student                | Condensed Matter Science |
| Boebinger       | Gregory       | Professor                        | Senior Personnel                     | Condensed Matter Science |
| Bonesteel       | Nicholas      | Professor                        | Senior Personnel                     | Condensed Matter Science |
| Broerman        | Daphne        | FSU UROP Undergraduate           | Undergraduate Student                | Condensed Matter Science |
| Cao             | Jianming      | Professor                        | Senior Personnel                     | Condensed Matter Science |
| Centers         | Abigail       | Application Developer/Designer   | Support Staff - Technical/Managerial | Condensed Matter Science |

| Last Name         | First Name     | Position Title                    | Position Category     | Division                 |
|-------------------|----------------|-----------------------------------|-----------------------|--------------------------|
| Changlani         | Hitesh         | Associate Professor               | Senior Personnel      | Condensed Matter Science |
| Chiorescu         | Irinel         | Professor                         | Senior Personnel      | Condensed Matter Science |
| Choi              | Eun Sang       | Research Faculty III              | Senior Personnel      | Condensed Matter Science |
| Chonillo          | Michael        | Laboratory Assistant / Technician | Undergraduate Student | Condensed Matter Science |
| Colon             | Andrew         | Undergraduate Research Assistant  | Undergraduate Student | Condensed Matter Science |
| Cong              | Rong           | Research Faculty I                | Senior Personnel      | Condensed Matter Science |
| Dalal             | Naresh         | Professor                         | Senior Personnel      | Condensed Matter Science |
| Dissanayake       | Charuni        | Postdoctoral Research Associate   | Postdoc               | Condensed Matter Science |
| Dobrosavljevic    | Vladimir       | Professor                         | Senior Personnel      | Condensed Matter Science |
| Fahmida           | Maisha         | Graduate Research Assistant       | Graduate Student      | Condensed Matter Science |
| Fajer             | Piotr          | Professor                         | Senior Personnel      | Condensed Matter Science |
| Forsythe          | Ava            | Undergraduate Research Assistant  | Undergraduate Student | Condensed Matter Science |
| Frank             | Noah           | Research Assistant                | Undergraduate Student | Condensed Matter Science |
| Gao               | Tiffany        | Undergraduate Research Assistant  | Undergraduate Student | Condensed Matter Science |
| Germanton         | Gary           | Graduate Research Assistant       | Graduate Student      | Condensed Matter Science |
| Ghafoor           | Mehak          | Graduate Research Assistant       | Graduate Student      | Condensed Matter Science |
| Graf              | David          | Research Faculty III              | Senior Personnel      | Condensed Matter Science |
| Grimm             | Brittany       | Postdoctoral Associate            | Postdoc               | Condensed Matter Science |
| Guo               | Wei            | Professor                         | Senior Personnel      | Condensed Matter Science |
| Gupta             | Arijit         | Graduate Research Assistant       | Graduate Student      | Condensed Matter Science |
| Hanabe Subramanya | Manoj Vinayaka | Postdoctoral Associate            | Postdoc               | Condensed Matter Science |
| Hill              | Stephen        | Professor                         | Senior Personnel      | Condensed Matter Science |
| Hornyak           | Drew           | Undergraduate Research Assistant  | Undergraduate Student | Condensed Matter Science |
| Hrubý             | Jakub          | Postdoctoral Associate            | Postdoc               | Condensed Matter Science |
| Hu                | Zhengfei       | Graduate Research Assistant       | Graduate Student      | Condensed Matter Science |
| Hulse             | Mikai          | Graduate Research Assistant       | Graduate Student      | Condensed Matter Science |

| Last Name      | First Name   | Position Title                                               | Position Category     | Division                 |
|----------------|--------------|--------------------------------------------------------------|-----------------------|--------------------------|
| Ibrahim Hammam | Mohammed     | Graduate Research Assistant                                  | Graduate Student      | Condensed Matter Science |
| Irfan          | Mohammad     | Graduate Research Assistant                                  | Graduate Student      | Condensed Matter Science |
| Jaroszynski    | Jan          | Research Faculty III                                         | Senior Personnel      | Condensed Matter Science |
| Jermyn         | Sophie       | Research Assistant                                           | Undergraduate Student | Condensed Matter Science |
| Joy            | Sandeep      | Postdoctoral Associate                                       | Postdoc               | Condensed Matter Science |
| Karullithodi   | Shyam Raj    | Graduate Research Assistant                                  | Graduate Student      | Condensed Matter Science |
| Krzystek       | Jurek        | Research Faculty III                                         | Senior Personnel      | Condensed Matter Science |
| Kulichenko     | Vadym        | Visiting Scientist/Researcher                                | Senior Personnel      | Condensed Matter Science |
| Kumar          | Aman         | Postdoctoral Research Associate                              | Postdoc               | Condensed Matter Science |
| Lawrence       | Garry        | Senior Administrative Specialist                             | Other Professional    | Condensed Matter Science |
| Lee            | Sang-Eon     | Postdoctoral Associate                                       | Postdoc               | Condensed Matter Science |
| Lerner         | Mark         | Laboratory Assistant / Technician                            | Graduate Student      | Condensed Matter Science |
| Lewandowski    | Cyprian      | Assistant Professor                                          | Senior Personnel      | Condensed Matter Science |
| McGill         | Stephen      | Research Faculty III                                         | Senior Personnel      | Condensed Matter Science |
| Mei            | Lingrui      | Graduate Research Assistant                                  | Graduate Student      | Condensed Matter Science |
| Nelson         | William      | Provost Postdoctoral Fellowship                              | Postdoc               | Condensed Matter Science |
| Ni             | Guangxin     | Assistant Professor                                          | Senior Personnel      | Condensed Matter Science |
| Odewole        | Olugbeminiyi | Research Assistant                                           | Undergraduate Student | Condensed Matter Science |
| Orlando        | Tomas        | Research Faculty I                                           | Senior Personnel      | Condensed Matter Science |
| Ozarowski      | Andrzej      | Research Faculty III                                         | Senior Personnel      | Condensed Matter Science |
| Ozerov         | Mykhaylo     | Research Faculty II                                          | Senior Personnel      | Condensed Matter Science |
| Padayasi       | Jaychandran  | Postdoctoral Associate - FSU Quantum Postdoctoral Fellowship | Postdoc               | Condensed Matter Science |
| Park           | Jin Gyu      | Sr. Research Associate                                       | Senior Personnel      | Condensed Matter Science |
| Peretti        | Charles      | FSU Quantum Fellowship Postdoctoral Associate                | Postdoc               | Condensed Matter Science |
| Popovic        | Dragana      | Research Faculty III                                         | Senior Personnel      | Condensed Matter Science |



| Last Name    | First Name  | Position Title                     | Position Category                    | Division                 |
|--------------|-------------|------------------------------------|--------------------------------------|--------------------------|
| Powers       | Kiera       | Research Assistant                 | Undergraduate Student                | Condensed Matter Science |
| Qi           | Yinghe      | Postdoctoral Associate             | Postdoc                              | Condensed Matter Science |
| Rababah      | Qutadah     | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Rabbi        | Rafsan      | Visiting Scientist/Researcher      | Support Staff - Technical/Managerial | Condensed Matter Science |
| Ramakrishnan | Subramanian | Associate Professor                | Senior Personnel                     | Condensed Matter Science |
| Ratkovski    | Danilo      | Research Engineer IV               | Other Professional                   | Condensed Matter Science |
| Raza         | Ahmad       | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Reid         | Jennifer    | Crow - Schuler Postdoctoral Fellow | Postdoc                              | Condensed Matter Science |
| Reyes        | Arneil      | Research Faculty III               | Senior Personnel                     | Condensed Matter Science |
| Roubos       | Alexander   | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Salehin      | Musfequs    | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Schundelmier | Benny       | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Sculley      | Justin      | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Scutte       | Annie       | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Sealey       | Isabelle    | InternFSU                          | Undergraduate Student                | Condensed Matter Science |
| Sherif       | Sogoud      | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Shi          | Gang        | Research Assistant                 | Graduate Student                     | Condensed Matter Science |
| Shiravi      | Hosseini    | Graduate Research Assistant        | Graduate Student                     | Condensed Matter Science |
| Siegrist     | Theo        | Professor                          | Senior Personnel                     | Condensed Matter Science |
| Smirnov      | Dmitry      | Research Faculty III               | Senior Personnel                     | Condensed Matter Science |
| Smith        | Daniel      | Research Assistant                 | Undergraduate Student                | Condensed Matter Science |
| Smith        | Julia       | Research Faculty II                | Senior Personnel                     | Condensed Matter Science |
| Sterenber    | Matan       | Visiting Scientist/Researcher      | Graduate Student                     | Condensed Matter Science |
| Stoian       | Sebastian   | Assistant Professor                | Senior Personnel                     | Condensed Matter Science |
| Sun          | Jun Ho      | Postdoctoral Associate             | Postdoc                              | Condensed Matter Science |
| Suslov       | Alexey      | Research Faculty III               | Senior Personnel                     | Condensed Matter Science |

| Last Name         | First Name  | Position Title                          | Position Category                    | Division                 |
|-------------------|-------------|-----------------------------------------|--------------------------------------|--------------------------|
| Thangavel         | Kavipriya   | Postdoctoral Associate                  | Postdoc                              | Condensed Matter Science |
| Thirunavukkuarasu | Komalavalli | Assistant Professor                     | Senior Personnel                     | Condensed Matter Science |
| Trociewitz        | Bianca      | Research Engineer                       | Other Professional                   | Condensed Matter Science |
| Vafek             | Oskar       | Professor                               | Senior Personnel                     | Condensed Matter Science |
| van Tol           | Johan       | Research Faculty III                    | Senior Personnel                     | Condensed Matter Science |
| Virdi             | Parmit      | Graduate Research Assistant             | Graduate Student                     | Condensed Matter Science |
| Wang              | Yuxin       | Graduate Research Assistant             | Graduate Student                     | Condensed Matter Science |
| Weaver            | Sherwood    | Research Assistant                      | Graduate Student                     | Condensed Matter Science |
| Wei               | Kaya        | Research Faculty I                      | Senior Personnel                     | Condensed Matter Science |
| Woods             | Andrew      | Research Faculty I                      | Senior Personnel                     | Condensed Matter Science |
| Xiao              | Kaitai      | Graduate Research Assistant             | Graduate Student                     | Condensed Matter Science |
| Xiong             | Peng        | Professor                               | Senior Personnel                     | Condensed Matter Science |
| Yang              | Kun         | Professor                               | Senior Personnel                     | Condensed Matter Science |
| Zeron             | Maynor      | Undergraduate Research Assistant        | Undergraduate Student                | Condensed Matter Science |
| Zhang             | Naipeng     | Postdoctoral Associate                  | Postdoc                              | Condensed Matter Science |
| Zhang             | Shengzhi    | Visiting Research Faculty I             | Senior Personnel                     | Condensed Matter Science |
| Avellone          | Thomas      | Research Assistant                      | Undergraduate Student                | DC Instrumentation       |
| Boenig            | Heinrich    | Engineer                                | Other Professional                   | DC Instrumentation       |
| Brehm             | William     | Scientific Research Specialist          | Support Staff - Technical/Managerial | DC Instrumentation       |
| Brumm             | Troy        | Research Engineer                       | Other Professional                   | DC Instrumentation       |
| France            | Justin      | Research Engineering Support Specialist | Support Staff - Technical/Managerial | DC Instrumentation       |
| Freeman           | Daniel      | Scientific Research Specialist          | Support Staff - Technical/Managerial | DC Instrumentation       |
| Gordon            | Larry       | Scientific Research Specialist          | Support Staff - Technical/Managerial | DC Instrumentation       |
| Hannahs           | Scott       | Research Faculty III                    | Senior Personnel                     | DC Instrumentation       |
| Hicks             | Michael     | Scientific Research Specialist          | Support Staff - Technical/Managerial | DC Instrumentation       |
| Issitt            | Donald      | Technical/Research Designer             | Support Staff - Technical/Managerial | DC Instrumentation       |

| Last Name      | First Name  | Position Title                      | Position Category                    | Division           |
|----------------|-------------|-------------------------------------|--------------------------------------|--------------------|
| Jiang          | Zhiyi       | Cryogenic Research Engineer         | Support Staff - Technical/Managerial | DC Instrumentation |
| Lawrence       | Yanique     | Research Engineer                   | Other Professional                   | DC Instrumentation |
| Maier          | Scott       | Research Engineer                   | Other Professional                   | DC Instrumentation |
| Martin         | Clyde       | Research Engineer III               | Other Professional                   | DC Instrumentation |
| McIntosh       | Daniel      | Scientific Research Specialist      | Other Professional                   | DC Instrumentation |
| Melendez       | Jonathan    | Scientific Research Specialist      | Support Staff - Technical/Managerial | DC Instrumentation |
| Nowell         | Robert      | Research Engineer                   | Other Professional                   | DC Instrumentation |
| Piotrowski     | Joel        | Research Engineer                   | Other Professional                   | DC Instrumentation |
| Powell         | James       | Research Engineer                   | Other Professional                   | DC Instrumentation |
| Rubes          | Edward      | Research Engineer                   | Other Professional                   | DC Instrumentation |
| Sloan          | David       | Scientific Research Specialist      | Support Staff - Technical/Managerial | DC Instrumentation |
| Sunuwar        | Dhruba      | Research Engineer RE3               | Other Professional                   | DC Instrumentation |
| Taylor         | Jeremy      | Technical Research Designer I       | Other Professional                   | DC Instrumentation |
| Thomas         | Christopher | Scientific Research Specialist      | Support Staff - Technical/Managerial | DC Instrumentation |
| Torres Camacho | Jesus       | Scientific Research Specialist      | Support Staff - Technical/Managerial | DC Instrumentation |
| Amm            | Kathleen    | Research Faculty III                | Senior Personnel                     | Director's Office  |
| Arline         | Benjamin    | Safety Research Engineer            | Other Professional                   | Director's Office  |
| Bilenky        | Stephen     | Videographer                        | Other Professional                   | Director's Office  |
| Bird           | Mark        | Research Faculty III                | Senior Personnel                     | Director's Office  |
| Bolstridge     | Ashleigh    | Program Manager                     | Other Professional                   | Director's Office  |
| Brown          | Alfie       | NHMFL Safety Program Director       | Other Professional                   | Director's Office  |
| Bush           | Julia       | Administrative Assistant            | Support Staff - Secretarial/Clerical | Director's Office  |
| Conklin        | Christopher | Front Desk Security                 | Support Staff - Technical/Managerial | Director's Office  |
| Conklin        | Justin      | Front Desk Security                 | Support Staff - Secretarial/Clerical | Director's Office  |
| Cooley         | Lance       | Research Faculty III                | Senior Personnel                     | Director's Office  |
| Downer         | Stephanie   | Front Desk Security                 | Support Staff - Secretarial/Clerical | Director's Office  |
| Fielding       | Jazmin      | Administrative Assistant            | Support Staff - Secretarial/Clerical | Director's Office  |
| Gamble         | Kevin       | Industrial Safety & Health Engineer | Other Professional                   | Director's Office  |

| Last Name  | First Name | Position Title                       | Position Category                    | Division          |
|------------|------------|--------------------------------------|--------------------------------------|-------------------|
| Garye      | Jenn       | AVP, Rsch Business Strat & Ops       | Senior Personnel                     | Director's Office |
| Henry      | Ryan       | Momentum Scholar Intern              | Undergraduate Student                | Director's Office |
| Hughes     | Roxanne    | Associate Professor                  | Senior Personnel                     | Director's Office |
| Jacob      | Jonathan   | Director of NHMFL Financial Services | Senior Personnel                     | Director's Office |
| Johnson    | Kawana     | Research Faculty II                  | Senior Personnel                     | Director's Office |
| Ly         | Dillan     | Fire Safety Technician               | Support Staff - Technical/Managerial | Director's Office |
| Martin     | Nancy      | Consultant                           | Other Professional                   | Director's Office |
| McNiel     | Caroline   | Program Manager                      | Other Professional                   | Director's Office |
| Meeks      | Dale       | Consultant                           | Support Staff - Secretarial/Clerical | Director's Office |
| Murphy     | Timothy    | Research Faculty III                 | Senior Personnel                     | Director's Office |
| Nixon      | Dorien     | Momentum Scholar Intern              | Undergraduate Student                | Director's Office |
| Ochat      | Colleen    | Special Assistant to MagLab Director | Other Professional                   | Director's Office |
| Palm       | Eric       | Research Faculty III                 | Senior Personnel                     | Director's Office |
| Pichard    | Hannah     | Administrative Assistant             | Support Staff - Secretarial/Clerical | Director's Office |
| Roberts    | Kristin    | Director, Strategic Initiatives      | Senior Personnel                     | Director's Office |
| Schultz    | Edan       | Editor                               | Other Professional                   | Director's Office |
| Sitzabee   | William    | Special Assistant to Kyle Clark      | Senior Personnel                     | Director's Office |
| Tabtimtong | Nilubon    | Application Developer Designer       | Other Professional                   | Director's Office |
| Toth       | Anke       | Program Manager                      | Other Professional                   | Director's Office |
| Villa      | Carlos     | Outreach Coordinator                 | Other Professional                   | Director's Office |
| Owens      | Jeremy     | Assistant Professor                  | Senior Personnel                     | Geochemistry      |
| Salters    | Vincent    | Professor                            | Senior Personnel                     | Geochemistry      |
| Wang       | Yang       | Professor                            | Senior Personnel                     | Geochemistry      |
| White      | Gary       | Scientific Research Specialist       | Other Professional                   | Geochemistry      |
| Wolff      | Burt       | Assistant In Research                | Senior Personnel                     | Geochemistry      |
| Yazdi      | Parinaz    | Graduate Research Assistant          | Graduate Student                     | Geochemistry      |
| Young      | Seth       | Associate Professor                  | Senior Personnel                     | Geochemistry      |
| Brungi     | Pranathi   | Graduate Research Assistant          | Graduate Student                     | Gypsum/Rare Earth |
| Carlstedt  | Nicholas   | Research Assistant                   | Undergraduate Student                | Gypsum/Rare Earth |
| Collins    | Raiona     | Laboratory Assistant / Technician    | Support Staff - Technical/Managerial | Gypsum/Rare Earth |
| Galvin     | Cameron    | Research Assistant                   | Undergraduate Student                | Gypsum/Rare Earth |
| Garba      | Muhammad   | Graduate Research Assistant          | Graduate Student                     | Gypsum/Rare Earth |
| Hendrix    | Donald     | Postdoctoral Associate               | Postdoc                              | Gypsum/Rare Earth |

| Last Name      | First Name  | Position Title                         | Position Category                    | Division                    |
|----------------|-------------|----------------------------------------|--------------------------------------|-----------------------------|
| Humayun        | Munir       | Professor                              | Senior Personnel                     | Gypsum/Rare Earth           |
| Igboanugo      | Anthony     | Graduate Research Assistant            | Support Staff - Technical/Managerial | Gypsum/Rare Earth           |
| Jarrar         | Leena       | Research Assistant                     | Support Staff - Technical/Managerial | Gypsum/Rare Earth           |
| Kalathil       | Sidhanth    | Clerk                                  | Support Staff - Secretarial/Clerical | Gypsum/Rare Earth           |
| Khan           | Mohd        | Postdoctoral Associate                 | Postdoc                              | Gypsum/Rare Earth           |
| Kimball        | Jonathan    | Research Assistant                     | Support Staff - Technical/Managerial | Gypsum/Rare Earth           |
| Kornegay       | Jacqueline  | Program Manager                        | Other Professional                   | Gypsum/Rare Earth           |
| Lake           | Bailey      | Graduate Research Assistant            | Graduate Student                     | Gypsum/Rare Earth           |
| Lowery         | Aidan       | Graduate Research Assistant            | Graduate Student                     | Gypsum/Rare Earth           |
| Luallen        | Renee       | Program Manager, Science & Research    | Other Professional                   | Gypsum/Rare Earth           |
| Nwachukwu      | Alwell      | Graduate Research Assistant            | Graduate Student                     | Gypsum/Rare Earth           |
| Okonkwo        | Chukwuebuka | Research Assistant                     | Undergraduate Student                | Gypsum/Rare Earth           |
| Park           | June Hee    | Postdoctoral Associate                 | Postdoc                              | Gypsum/Rare Earth           |
| Patterson      | Abigail     | Research Assistant                     | Undergraduate Student                | Gypsum/Rare Earth           |
| Pugh           | Frank       | Program Director, Science and Research | Other Professional                   | Gypsum/Rare Earth           |
| Rassolov       | Peter       | Postdoctoral Associate                 | Postdoc                              | Gypsum/Rare Earth           |
| Rogers         | David       | Graduate Research Assistant            | Graduate Student                     | Gypsum/Rare Earth           |
| Sharma         | Shivani     | Visiting Scientist/Researcher          | Postdoc                              | Gypsum/Rare Earth           |
| Sharma         | Srishti     | Graduate Research Assistant            | Graduate Student                     | Gypsum/Rare Earth           |
| Sherif         | Mahmoud     | Visiting Research Faculty I            | Senior Personnel                     | Gypsum/Rare Earth           |
| Sillitoe-Kukas | Steffanie   | Graduate Research Assistant            | Graduate Student                     | Gypsum/Rare Earth           |
| Suresh Krishna | Malavika    | Graduate Research Assistant            | Undergraduate Student                | Gypsum/Rare Earth           |
| Wadhams        | Jane        | Scientific Research Specialist         | Support Staff - Technical/Managerial | Gypsum/Rare Earth           |
| Yang           | Shuying     | Postdoctoral Associate                 | Postdoc                              | Gypsum/Rare Earth           |
| Zhang          | Phoebe      | Research Assistant                     | Undergraduate Student                | Gypsum/Rare Earth           |
| Adkins         | Todd        | Research Engineer                      | Other Professional                   | Magnet Science & Technology |



| Last Name      | First Name  | Position Title                   | Position Category                    | Division                    |
|----------------|-------------|----------------------------------|--------------------------------------|-----------------------------|
| Arroyo         | Erick       | Scientific Research Specialist   | Other Professional                   | Magnet Science & Technology |
| Bai            | Hongyu      | Research Faculty III             | Senior Personnel                     | Magnet Science & Technology |
| Belton         | Matthew     | Research Engineer                | Other Professional                   | Magnet Science & Technology |
| Bole           | Scott       | Visiting Scientist/Researcher    | Other Professional                   | Magnet Science & Technology |
| Bonaventura    | Nash        | Research Engineer II             | Other Professional                   | Magnet Science & Technology |
| Cantrell       | Kurtis      | Research Engineer                | Other Professional                   | Magnet Science & Technology |
| Chin           | Ava         | Engineer                         | Undergraduate Student                | Magnet Science & Technology |
| Cone           | Raymond     | Scientific Research Specialist   | Support Staff - Technical/Managerial | Magnet Science & Technology |
| Deterding      | Justin      | Scientific Research Specialist   | Support Staff - Technical/Managerial | Magnet Science & Technology |
| Dixon          | Iain        | Research Faculty III             | Senior Personnel                     | Magnet Science & Technology |
| Gavin          | Noah        | Undergraduate Research Assistant | Undergraduate Student                | Magnet Science & Technology |
| Gavrilin       | Andrey      | Research Faculty III             | Senior Personnel                     | Magnet Science & Technology |
| Griffin        | Shannon     | Postdoctoral Associate           | Postdoc                              | Magnet Science & Technology |
| Han            | Ke          | Research Faculty III             | Senior Personnel                     | Magnet Science & Technology |
| Hillberry      | Christopher | Senior Administrative Specialist | Support Staff - Secretarial/Clerical | Magnet Science & Technology |
| Ingrole        | Aniket      | Assistant In Research            | Senior Personnel                     | Magnet Science & Technology |
| Jackson        | Akeeme      | Engineer                         | Undergraduate Student                | Magnet Science & Technology |
| Jarvis         | Jeffrey     | Scientific Research Specialist   | Other Professional                   | Magnet Science & Technology |
| Kim            | Kwangmin    | Research Faculty II              | Senior Personnel                     | Magnet Science & Technology |
| Levitan        | Jeremy      | Research Engineer                | Support Staff - Technical/Managerial | Magnet Science & Technology |
| Lu             | Jun         | Research Faculty III             | Senior Personnel                     | Magnet Science & Technology |
| Lucia          | Joseph      | Scientific Research Specialist   | Support Staff - Technical/Managerial | Magnet Science & Technology |
| Marks          | Emsley      | Scientific Research Specialist   | Other Professional                   | Magnet Science & Technology |
| Marshall       | William     | Sr. Research Associate           | Senior Personnel                     | Magnet Science & Technology |
| Matos Pimentel | Hannah      | Assistant In Research            | Senior Personnel                     | Magnet Science & Technology |
| Nguyen         | Joshua      | Scientific Research Specialist   | Support Staff - Technical/Managerial | Magnet Science & Technology |

| Last Name | First Name        | Position Title                    | Position Category                    | Division                      |
|-----------|-------------------|-----------------------------------|--------------------------------------|-------------------------------|
| Niu       | Rongmei           | Sr. Research Associate            | Senior Personnel                     | Magnet Science & Technology   |
| Nuzum     | Parker            | Undergraduate Research Assistant  | Undergraduate Student                | Magnet Science & Technology   |
| O'Reilly  | James             | Scientific Research Specialist    | Other Professional                   | Magnet Science & Technology   |
| Painter   | Thomas            | Research Faculty III              | Senior Personnel                     | Magnet Science & Technology   |
| Ray       | Christopher       | Scientific Research Specialist    | Support Staff - Technical/Managerial | Magnet Science & Technology   |
| Richards  | Brogan            | Laboratory Assistant / Technician | Undergraduate Student                | Magnet Science & Technology   |
| Rogers    | John              | Postdoctoral Associate            | Postdoc                              | Magnet Science & Technology   |
| Rowney    | Alexander         | Program Manager                   | Other Professional                   | Magnet Science & Technology   |
| Shukla    | Dharmendra Prasad | Assistant In Research             | Senior Personnel                     | Magnet Science & Technology   |
| Stanton   | Robert            | Scientific Research Specialist    | Other Professional                   | Magnet Science & Technology   |
| Suetomi   | Yu                | Research Faculty I                | Senior Personnel                     | Magnet Science & Technology   |
| Toplosky  | Vince             | Research Engineer                 | Other Professional                   | Magnet Science & Technology   |
| Toth      | Jack              | Research Faculty III              | Senior Personnel                     | Magnet Science & Technology   |
| White     | James             | Scientific Research Specialist    | Other Professional                   | Magnet Science & Technology   |
| Xin       | Yan               | Research Faculty III              | Senior Personnel                     | Magnet Science & Technology   |
| Zakin     | Connor            | Laboratory Assistant / Technician | Undergraduate Student                | Magnet Science & Technology   |
| Alford    | Kellie            | Accounting Specialist             | Other Professional                   | Management and Administration |
| Barker    | William           | Campus Service Assistant          | Support Staff - Secretarial/Clerical | Management and Administration |
| Bell      | Simone            | Accounting Specialist             | Other Professional                   | Management and Administration |
| Berhalter | James             | Assistant Director, Technology    | Senior Personnel                     | Management and Administration |
| Blake     | Melissa           | Accounting Assistant              | Support Staff - Secretarial/Clerical | Management and Administration |
| Booth     | Scott             | Clerk                             | Support Staff - Secretarial/Clerical | Management and Administration |

| Last Name  | First Name    | Position Title                          | Position Category                    | Division                      |
|------------|---------------|-----------------------------------------|--------------------------------------|-------------------------------|
| Braman III | Robert Steven | Accounting Associate                    | Support Staff - Secretarial/Clerical | Management and Administration |
| Braverman  | Kenneth       | Scientific Research Specialist          | Support Staff - Technical/Managerial | Management and Administration |
| Childs     | John          | Media Specialist (Graphic Artist)       | Support Staff - Technical/Managerial | Management and Administration |
| Clark      | Eric          | Assistant Director, Technology Services | Senior Personnel                     | Management and Administration |
| Cunningham | Winston       | Budget & Financial Analyst              | Senior Personnel                     | Management and Administration |
| Daugherty  | John          | Accounting Specialist                   | Other Professional                   | Management and Administration |
| English    | Larry         | Scientific Research Specialist          | Support Staff - Technical/Managerial | Management and Administration |
| Felder     | Courtney      | Business Operations Administrator       | Other Professional                   | Management and Administration |
| Fields     | Sarah         | Administrative Assistant                | Support Staff - Secretarial/Clerical | Management and Administration |
| Finn       | Sarita        | Technology Specialist                   | Support Staff - Technical/Managerial | Management and Administration |
| Greene     | Laura         | Professor                               | Senior Personnel                     | Management and Administration |
| Hahn       | David         | Web Application Developer               | Support Staff - Technical/Managerial | Management and Administration |
| Hermance   | Scott         | Campus Service Assistant                | Support Staff - Secretarial/Clerical | Management and Administration |
| Hunter     | Tra           | Research Engineer                       | Other Professional                   | Management and Administration |
| John       | Kevin         | Media Specialist (Graphic Artist)       | Support Staff - Technical/Managerial | Management and Administration |
| Kalnin     | James         | Scientific Research Specialist          | Support Staff - Technical/Managerial | Management and Administration |
| Kent       | Grayson       | Linux System Admin                      | Support Staff - Technical/Managerial | Management and Administration |

| Last Name    | First Name  | Position Title                                 | Position Category                    | Division                      |
|--------------|-------------|------------------------------------------------|--------------------------------------|-------------------------------|
| Kynoch       | John        | Assistant Director                             | Senior Personnel                     | Management and Administration |
| Liko         | Ermal       | Scientific Research Specialist                 | Support Staff - Technical/Managerial | Management and Administration |
| Ludlow       | Richard     | Media Specialist (Graphic Artist)              | Support Staff - Technical/Managerial | Management and Administration |
| Maringanti   | Srinidhi    | Web Designer/Programmer                        | Support Staff - Technical/Managerial | Management and Administration |
| Marks        | Jade        | Assistant Director, Budget & Financial Service | Other Professional                   | Management and Administration |
| McKenzie     | Ronald      | Scientific Research Specialist                 | Support Staff - Technical/Managerial | Management and Administration |
| Miller       | Josh        | Business Manager                               | Other Professional                   | Management and Administration |
| O'Steen-Mann | Gabriel     | Technical Support Analyst                      | Support Staff - Technical/Managerial | Management and Administration |
| Oxendine     | Christopher | Scientific Research Specialist                 | Support Staff - Technical/Managerial | Management and Administration |
| Peltz        | Deann       | Administrative Associate                       | Support Staff - Secretarial/Clerical | Management and Administration |
| Preston      | Daniel      | Scientific Research Specialist                 | Support Staff - Technical/Managerial | Management and Administration |
| Rettig       | Andrew      | Windows System Admin.                          | Support Staff - Technical/Managerial | Management and Administration |
| Rosser       | Hugh        | IT Security Specialist                         | Support Staff - Technical/Managerial | Management and Administration |
| Sapronetti   | Andrew      | Administrative Specialist                      | Other Professional                   | Management and Administration |
| Shreve       | Rodney      | Scientific Research Specialist                 | Support Staff - Technical/Managerial | Management and Administration |
| Spike        | Stephanie   | Asset Management Specialist                    | Other Professional                   | Management and Administration |
| Stafford     | Holly       | Administrative Specialist                      | Other Professional                   | Management and Administration |

| Last Name         | First Name | Position Title                            | Position Category                    | Division                      |
|-------------------|------------|-------------------------------------------|--------------------------------------|-------------------------------|
| Stevens           | Dustin     | Scientific Research Specialist            | Support Staff - Technical/Managerial | Management and Administration |
| Szelong           | Dustin     | Technology Specialist                     | Other Professional                   | Management and Administration |
| Tabtimtong        | Melisa     | Application Developer                     | Other Professional                   | Management and Administration |
| Verma             | Manjari    | Travel Coordinator                        | Other Professional                   | Management and Administration |
| Wackes            | Christina  | Office Assistant                          | Support Staff - Secretarial/Clerical | Management and Administration |
| Waddell-Hillberry | Jennifer   | NHMFL Learning & Development Specialist   | Other Professional                   | Management and Administration |
| West              | Kayla      | Program Director, Administrative Services | Other Professional                   | Management and Administration |
| White             | Moses      | Campus Services Specialist                | Support Staff - Technical/Managerial | Management and Administration |
| Wood              | Marshall   | Research Engineer                         | Other Professional                   | Management and Administration |
| Young             | Aaron      | Scientific Research Specialist            | Support Staff - Technical/Managerial | Management and Administration |

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| Last Name        | First Name | Position Title           | Position Category                    | Division              |
|------------------|------------|--------------------------|--------------------------------------|-----------------------|
| Ayala Valenzuela | Oscar      | Research Technologist    | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Balakirev        | Fedor      | Research Faculty III     | Senior Personnel                     | Pulsed Field Facility |
| Betts            | Scott      | Research Technologist    | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Bhardwaj         | Ashish     | R+D Electrical Engineer  | Senior Personnel                     | Pulsed Field Facility |
| Blawat           | Joanna     | Postdoctoral Researcher  | Postdoc                              | Pulsed Field Facility |
| Chan             | Mun Keat   | Research Faculty II      | Senior Personnel                     | Pulsed Field Facility |
| Chavez           | Melody     | Administrative Assistant | Support Staff - Secretarial/Clerical | Administration        |
| Crooker          | Scott      | Research Faculty III     | Senior Personnel                     | Pulsed Field Facility |
| Espinoza         | Susan      | Research Technologist    | Support Staff - Technical/Managerial | Pulsed Field Facility |



| Last Name        | First Name  | Position Title               | Position Category                    | Division              |
|------------------|-------------|------------------------------|--------------------------------------|-----------------------|
| Gonzales         | Leonard     | Research Technologist        | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Guvvala          | Nagaraju    | R&D Engineer                 | Senior Personnel                     | Pulsed Field Facility |
| Harrison         | Neil        | Research Faculty III         | Senior Personnel                     | Pulsed Field Facility |
| Kaufmann Ribeiro | Caue        | Postdoctoral Associate       | Postdoc                              | Pulsed Field Facility |
| Lee              | Minseong    | Research Faculty I           | Senior Personnel                     | Pulsed Field Facility |
| Lovell           | Shalese     | Research Technician          | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Lucero           | Jason       | Research Technologist        | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Maiorov          | Boris       | Research Faculty III         | Senior Personnel                     | Pulsed Field Facility |
| Marinkovic       | Stefan      | Postdoctoral Associate       | Postdoc                              | Pulsed Field Facility |
| McDonald         | Ross        | Research Faculty III         | Senior Personnel                     | Pulsed Field Facility |
| Michel           | James       | Research Technologist        | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Mizzi            | Christopher | Research Faculty I           | Senior Personnel                     | Pulsed Field Facility |
| Munroe           | Tannor      | Research Technologist        | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Nguyen           | Doan        | Research Faculty III         | Senior Personnel                     | Pulsed Field Facility |
| Noe              | Tim         | Research Technologist        | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Noerper          | Jonathan    | Research Technologist        | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Rubi             | Km          | Research Faculty I           | Senior Personnel                     | Pulsed Field Facility |
| Shehter          | Arkady      | Research Faculty I           | Senior Personnel                     | Pulsed Field Facility |
| Silva Freitas    | Gabriel     | Postdoctoral Associate       | Postdoc                              | Pulsed Field Facility |
| Singleton        | John        | Research Faculty III         | Senior Personnel                     | Pulsed Field Facility |
| Srock            | Josiah      | R&D Engineer                 | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Teshima          | Hazuki      | Research Technologist        | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Valdez           | Abran       | Research Technologist        | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Velasquez        | Sofia       | Professional Staff Assistant | Support Staff - Secretarial/Clerical | Administration        |
| Villa            | Danielle    | Post Bacc Research Student   | Other Professional                   | Pulsed Field Facility |
| Winter           | Laurel      | Research Faculty III         | Senior Personnel                     | Pulsed Field Facility |

| Last Name | First Name | Position Title        | Position Category                    | Division              |
|-----------|------------|-----------------------|--------------------------------------|-----------------------|
| Wirth     | Daniel     | Research Technologist | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Yoakam    | Roxanne    | Research Technologist | Support Staff - Technical/Managerial | Pulsed Field Facility |
| Zapf      | Vivien     | Research Faculty III  | Senior Personnel                     | Pulsed Field Facility |

**MAGLAB AT UF (52)**

| Last Name       | First Name  | Position Title                 | Position Category                    | Division                             |
|-----------------|-------------|--------------------------------|--------------------------------------|--------------------------------------|
| Angerhofer      | Alexander   | Professor                      | Senior Personnel                     | Chemistry Affiliated Faculty & Staff |
| Blake           | Christopher | MRI Technologist               | Support Staff - Technical/Managerial | AMRIS Affiliated Faculty & Staff     |
| Bowers          | Clifford    | Professor                      | Senior Personnel                     | Chemistry Affiliated Faculty & Staff |
| Butcher         | Rebecca     | Associate Professor            | Senior Personnel                     | Chemistry Affiliated Faculty & Staff |
| Caldas Nogueira | Maria Luiza | Core Research Facility Manager | Support Staff - Technical/Managerial | AMRIS Affiliated Faculty & Staff     |
| Collins         | James       | Core Research Facility Manager | Support Staff - Technical/Managerial | AMRIS Affiliated Faculty & Staff     |
| Donald          | Alexander   | Graduate Research Assistant    | Graduate Student                     | Physics Affiliated Faculty & Staff   |
| Dowling         | Gregory     | Engineer                       | Other Professional                   | AMRIS Affiliated Faculty & Staff     |
| Eddy            | Matthew     | Assistant Professor            | Senior Personnel                     | Chemistry Affiliated Faculty & Staff |
| Evans           | Austin      | Assistant Professor            | Senior Personnel                     | Chemistry Affiliated Faculty & Staff |
| Fanucci         | Gail        | Professor                      | Senior Personnel                     | Chemistry Affiliated Faculty & Staff |
| Febo            | Marcelo     | Associate Professor            | Senior Personnel                     | AMRIS Affiliated Faculty & Staff     |
| Forbes          | Sean        | Associate Professor            | Senior Personnel                     | AMRIS Affiliated Faculty & Staff     |
| Gazizulin       | Rasul       | Assistant In Research          | Senior Personnel                     | High B/T Affiliated Faculty & Staff  |
| Hamlin          | James       | Associate Professor            | Senior Personnel                     | Physics Affiliated Faculty & Staff   |
| Hebard          | Arthur      | Professor                      | Senior Personnel                     | Physics Affiliated Faculty & Staff   |
| Hershfield      | Selman      | Professor                      | Senior Personnel                     | Physics Affiliated Faculty & Staff   |

| Last Name  | First Name  | Position Title                                                                            | Position Category                    | Division                            |
|------------|-------------|-------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------|
| Hirschfeld | Peter       | Professor                                                                                 | Senior Personnel                     | Physics Affiliated Faculty & Staff  |
| Huan       | Chao        | Research Faculty I                                                                        | Senior Personnel                     | High B/T Affiliated Faculty & Staff |
| Ingersent  | Kevin       | Professor                                                                                 | Senior Personnel                     | Physics Affiliated Faculty & Staff  |
| Jia        | Chunjing    | Assistant Professor                                                                       | Senior Personnel                     | Physics Affiliated Faculty & Staff  |
| Khemtong   | Chalermchai | Associate Professor                                                                       | Senior Personnel                     | AMRIS Affiliated Faculty & Staff    |
| Laroche    | Dominique   | Assistant Professor                                                                       | Senior Personnel                     | High B/T Affiliated Faculty & Staff |
| Lee        | Sangyun     | Research Faculty I                                                                        | Senior Personnel                     | High B/T Affiliated Faculty & Staff |
| Lee        | Yoonseok    | Professor                                                                                 | Senior Personnel                     | High B/T Affiliated Faculty & Staff |
| Li         | Ying        | Core Research Facility Manager                                                            | Support Staff - Technical/Managerial | AMRIS Affiliated Faculty & Staff    |
| Long       | Joanna      | Professor                                                                                 | Senior Personnel                     | AMRIS Affiliated Faculty & Staff    |
| Luesch     | Hendrik     | Professor                                                                                 | Senior Personnel                     | AMRIS Affiliated Faculty & Staff    |
| Mareci     | Thomas      | Professor                                                                                 | Senior Personnel                     | AMRIS Affiliated Faculty & Staff    |
| Maslov     | Dmitrii     | Professor                                                                                 | Senior Personnel                     | Physics Affiliated Faculty & Staff  |
| Meisel     | Mark        | Professor                                                                                 | Senior Personnel                     | High B/T Affiliated Faculty & Staff |
| Merritt    | Matthew     | Professor                                                                                 | Senior Personnel                     | AMRIS Affiliated Faculty & Staff    |
| Nicholson  | Tammy       | Certified Radiology Technology Mgr. (3T Imaging Applications)                             | Other Professional                   | AMRIS Affiliated Faculty & Staff    |
| Ollmann    | Chris       | Engineer II                                                                               | Support Staff - Technical/Managerial | High B/T Affiliated Faculty & Staff |
| Rosenberg  | Jens        | Core Research Facility Manager / AMRIS facilities manager of Clinical MRI instrumentation | Other Professional                   | AMRIS Affiliated Faculty & Staff    |
| Silva      | Nicolas     | Postdoctoral Associate                                                                    | Postdoc                              | High B/T Affiliated Faculty & Staff |
| Slade      | Joshua      | Engineering Technician                                                                    | Support Staff - Technical/Managerial | AMRIS Affiliated Faculty & Staff    |

| Last Name    | First Name  | Position Title                 | Position Category                    | Division                             |
|--------------|-------------|--------------------------------|--------------------------------------|--------------------------------------|
| Stanton      | Christopher | Professor                      | Senior Personnel                     | Physics Affiliated Faculty & Staff   |
| Steadman     | Judith      | MRI Technologist               | Support Staff - Technical/Managerial | AMRIS Affiliated Faculty & Staff     |
| Stewart      | Gregory     | Professor                      | Senior Personnel                     | Physics Affiliated Faculty & Staff   |
| Sullivan     | Neil        | Professor                      | Senior Personnel                     | High B/T Affiliated Faculty & Staff  |
| Takano       | Yasumasa    | Professor                      | Senior Personnel                     | High B/T Affiliated Faculty & Staff  |
| Talham       | Daniel      | Professor                      | Senior Personnel                     | Chemistry Affiliated Faculty & Staff |
| Tanner       | David       | Professor                      | Senior Personnel                     | Physics Affiliated Faculty & Staff   |
| Vaillancourt | David       | Professor                      | Senior Personnel                     | AMRIS Affiliated Faculty & Staff     |
| Vandenborne  | Krista      | Professor                      | Senior Personnel                     | AMRIS Affiliated Faculty & Staff     |
| Vasenkov     | Sergey      | Professor                      | Senior Personnel                     | AMRIS Affiliated Faculty & Staff     |
| Vaughan      | Sherry      | Administrative Specialist II   | Support Staff - Secretarial/Clerical | AMRIS Affiliated Faculty & Staff     |
| Walter       | Glenn       | Professor                      | Senior Personnel                     | AMRIS Affiliated Faculty & Staff     |
| Wolf         | Eli         | Research Coordinator           | Support Staff - Technical/Managerial | AMRIS Affiliated Faculty & Staff     |
| Zeng         | Huadong     | Core Research Facility Manager | Senior Personnel                     | AMRIS Affiliated Faculty & Staff     |
| Zhang        | Xiao-Xiao   | Assistant Professor            | Senior Personnel                     | Physics Affiliated Faculty & Staff   |

## APPENDIX 2 – USER FACILITY STATISTICS

### OVERVIEW

Seven user facilities — AMRIS (NMR-MRI@UF), DC Field, EMR, High B/T, ICR, NMR-MRI @FSU, and Pulsed Field — each with exceptional instrumentation and highly qualified staff scientists and staff, comprise the magnet lab's user program. In this appendix, each facility presents detailed information about its user demographics, operations statistics and requests for magnet time. A user is an individual or a member of a research group that is allocated magnet time. The user does not have to be "on site" for the experiment. A researcher who sends samples for analysis; a scientist who uses new lab technologies to conduct experiments remotely; or a PI who sends students to the magnet lab, are all considered users. All user numbers reflect distinct individuals, i.e., if a user has multiple proposals (different scientific thrusts) or is allocated magnet time more than once during the year, he/she is counted only once.

### AMRIS FACILITY

**Table 1a. Users by Participation – NSF-Funded**

|                            | Users      | Users Present | User Present Virtually | Users Operating Remotely | Users Sending Sample | Off-Site Users |
|----------------------------|------------|---------------|------------------------|--------------------------|----------------------|----------------|
| Senior Personnel, U.S.     | 49         | 45            | 0                      | 0                        | 0                    | 4              |
| Senior Personnel, non-U.S. | 5          | 2             | 0                      | 0                        | 0                    | 3              |
| Postdocs, U.S.             | 11         | 10            | 0                      | 0                        | 1                    | 0              |
| Postdocs, non-U.S.         | 0          | 0             | 0                      | 0                        | 0                    | 0              |
| Students, U.S.             | 40         | 39            | 0                      | 0                        | 0                    | 1              |
| Students, non-U.S.         | 1          | 0             | 0                      | 0                        | 0                    | 1              |
| Technician, U.S.           | 6          | 6             | 0                      | 0                        | 0                    | 0              |
| Technician, non-U.S.       | 0          | 0             | 0                      | 0                        | 0                    | 0              |
| <b>Total</b>               | <b>112</b> | <b>102</b>    | <b>0</b>               | <b>0</b>                 | <b>1</b>             | <b>9</b>       |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.

<sup>3</sup> "Users Sending Sample" refers to users who send the sample to the facility and/or research group and the experiment is conducted by other collaborators on the experiment. Users at UF, FSU, and LANL cannot be "sample senders" for facilities located on their campuses.

<sup>4</sup> "Off-Site Users" are scientific or technical participants on the experiment; who will not be present, sending sample, or operating the magnet system remotely; and who are not located on the campus of that facility (i.e., they are off-site).

**Table 1b. Users by Participation – Non-NHMFL Funded**

|                            | Users      | Users Present | User Present Virtually | Users Operating Remotely | Users Sending Sample | Off-Site Users |
|----------------------------|------------|---------------|------------------------|--------------------------|----------------------|----------------|
| Senior Personnel, U.S.     | 51         | 34            | 0                      | 0                        | 0                    | 17             |
| Senior Personnel, non-U.S. | 0          | 0             | 0                      | 0                        | 0                    | 0              |
| Postdocs, U.S.             | 15         | 15            | 0                      | 0                        | 0                    | 0              |
| Postdocs, non-U.S.         | 0          | 0             | 0                      | 0                        | 0                    | 0              |
| Students, U.S.             | 82         | 63            | 0                      | 0                        | 0                    | 19             |
| Students, non-U.S.         | 1          | 1             | 0                      | 0                        | 0                    | 0              |
| Technician, U.S.           | 7          | 7             | 0                      | 0                        | 0                    | 0              |
| Technician, non-U.S.       | 0          | 0             | 0                      | 0                        | 0                    | 0              |
| <b>Total</b>               | <b>156</b> | <b>120</b>    | <b>0</b>               | <b>0</b>                 | <b>0</b>             | <b>36</b>      |

**Table 1c. Users by Participation – Summary**

|                  | Users      | Users Present | User Present Virtually | Users Operating Remotely | Users Sending Sample | Off-Site Users |
|------------------|------------|---------------|------------------------|--------------------------|----------------------|----------------|
| NSF Funded       | 112        | 102           | 0                      | 0                        | 1                    | 9              |
| Non-NHMFL Funded | 156        | 120           | 0                      | 0                        | 0                    | 36             |
| <b>TOTAL</b>     | <b>268</b> | <b>222</b>    | <b>0</b>               | <b>0</b>                 | <b>1</b>             | <b>45</b>      |

**Table 2a. Users by Organization – NSF-Funded**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 49                 | 19             | 17                       | 13                                      | 0                         | 48                        | 1                     |
| Senior Personnel, non-U.S. | 5                  | 5              | 0                        | 0                                       | 1                         | 4                         | 0                     |
| Postdocs, U.S.             | 11                 | 5              | 6                        | 0                                       | 0                         | 11                        | 0                     |
| Postdocs, non-U.S.         | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| Students, U.S.             | 40                 | 15             | 25                       | 0                                       | 0                         | 40                        | 0                     |
| Students, non-U.S.         | 1                  | 1              | 0                        | 0                                       | 0                         | 1                         | 0                     |
| Technician, U.S.           | 6                  | 0              | 5                        | 1                                       | 0                         | 6                         | 0                     |
| Technician, non-U.S.       | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |



|              | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|--------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| <b>Total</b> | <b>112</b>         | <b>45</b>      | <b>53</b>                | <b>14</b>                               | <b>1</b>                  | <b>110</b>                | <b>1</b>              |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> NHMFL-Affiliated users are defined as anyone in the lab's personnel system (i.e., on our website/directory), even if they travel to another site. Local users are defined as any non-NHMFL-Affiliated researchers originating at any of the institutions in proximity to the MagLab sites (i.e., researchers at FSU, UF, FAMU, or LANL), even if they travel to another site.

<sup>3</sup> Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

<sup>4</sup> Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.

<sup>5</sup> The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

**Table 2b. Users by Organization – Non-NHMFL Funded**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 57                 | 9              | 39                       | 9                                       | 0                         | 55                        | 2                     |
| Senior Personnel, non-U.S. | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| Postdocs, U.S.             | 15                 | 2              | 12                       | 1                                       | 0                         | 14                        | 1                     |
| Postdocs, non-U.S.         | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| Students, U.S.             | 73                 | 2              | 71                       | 0                                       | 0                         | 73                        | 0                     |
| Students, non-U.S.         | 1                  | 1              | 0                        | 0                                       | 0                         | 1                         | 0                     |
| Technician, U.S.           | 5                  | 1              | 3                        | 1                                       | 0                         | 5                         | 0                     |
| Technician, non-U.S.       | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| <b>Total</b>               | <b>156</b>         | <b>14</b>      | <b>131</b>               | <b>11</b>                               | <b>0</b>                  | <b>152</b>                | <b>4</b>              |

**Table 2c. Users by Organization – Summary**

|                  | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| NSF Funded       | 112                | 45             | 53                       | 14                                      | 1                         | 110                       | 1                     |
| Non-NHMFL Funded | 156                | 14             | 131                      | 11                                      | 0                         | 152                       | 4                     |
| <b>TOTAL</b>     | <b>268</b>         | <b>59</b>      | <b>184</b>               | <b>25</b>                               | <b>1</b>                  | <b>262</b>                | <b>5</b>              |

**Table 3a. Users by Discipline – NSF-Funded**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 49                 | 0                        | 18        | 9           | 1                                | 21                                | 0                |
| Senior Personnel, non-U.S. | 5                  | 1                        | 0         | 1           | 0                                | 3                                 | 0                |
| Postdocs, U.S.             | 11                 | 0                        | 6         | 1           | 0                                | 4                                 | 0                |
| Postdocs, non-U.S.         | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| Students, U.S.             | 40                 | 0                        | 18        | 8           | 0                                | 14                                | 0                |
| Students, non-U.S.         | 1                  | 0                        | 0         | 0           | 0                                | 1                                 | 0                |
| Technician, U.S.           | 6                  | 0                        | 0         | 2           | 0                                | 4                                 | 0                |
| Technician, non-U.S.       | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| <b>Total</b>               | <b>112</b>         | <b>1</b>                 | <b>42</b> | <b>21</b>   | <b>1</b>                         | <b>47</b>                         | <b>0</b>         |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

**Table 3b. Users by Discipline – Non-NHMFL Funded**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 51                 | 0                        | 9         | 7           | 0                                | 35                                | 0                |
| Senior Personnel, non-U.S. | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| Postdocs, U.S.             | 15                 | 0                        | 2         | 0           | 0                                | 13                                | 0                |
| Postdocs, non-U.S.         | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| Students, U.S.             | 82                 | 0                        | 9         | 12          | 3                                | 58                                | 0                |
| Students, non-U.S.         | 1                  | 0                        | 1         | 0           | 0                                | 0                                 | 0                |
| Technician, U.S.           | 7                  | 0                        | 0         | 0           | 0                                | 7                                 | 0                |
| Technician, non-U.S.       | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| <b>Total</b>               | <b>156</b>         | <b>0</b>                 | <b>21</b> | <b>19</b>   | <b>3</b>                         | <b>113</b>                        | <b>0</b>         |

**Table 3c. Users by Discipline – Summary**

|                  | Users <sup>1</sup> | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|------------------|--------------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------------|------------------|
| NSF Funded       | 112                | 1                        | 42        | 21          | 1                                | 47                                | 0                |
| Non-NHMFL Funded | 156                | 0                        | 21        | 19          | 3                                | 113                               | 0                |
| <b>TOTAL</b>     | <b>268</b>         | <b>1</b>                 | <b>63</b> | <b>40</b>   | <b>4</b>                         | <b>160</b>                        | <b>0</b>         |

**Table 4. Subscription Rate - Summary**

|                  | Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments w/ Usage | Experiments w/ Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiments Subscription Percentage |
|------------------|--------------------------------------|--------------------------------------------------|----------------------|---------------------------------|----------------------|---------------------------------|----------------------|-------------------------------------|
| NSF Funded       | 30                                   | 7                                                | 34                   | 91.9 %                          | 3                    | 8.1 %                           | 37                   | 108.8 %                             |
| Non-NHMFL Funded | 24                                   | 5                                                | 28                   | 96.6 %                          | 1                    | 3.4 %                           | 29                   | 103.6 %                             |
| <b>TOTAL</b>     | <b>54</b>                            | <b>12</b>                                        | <b>62</b>            |                                 | <b>4</b>             |                                 | <b>66</b>            |                                     |

**Table 5. Research Proposals Profile (Discipline) with Magnet Time**

|                  | TOTAL Proposals | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|------------------|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| NSF Funded       | 33              | 0                        | 8         | 5           | 5                                | 15                          | 0                |
| Non-NHMFL Funded | 26              | 0                        | 0         | 0           | 0                                | 26                          | 0                |
| <b>TOTAL</b>     | <b>59</b>       | <b>0</b>                 | <b>8</b>  | <b>5</b>    | <b>5</b>                         | <b>41</b>                   | <b>0</b>         |

Find the list of user proposals in **Appendix 5** and on our [website](#)

**Table 6a. Operations by Magnet System Group – NSF-Funded**

|                              | Total Days Used | Percentage of Total Days Used | 600MHz NMR Spectrometer with Cryo-probe | 600MHz NMR Spectrometer Hyper-sense | 600MHz Wide Bore Spectrometer | 750MHz Wide Bore Spectrometer | 800MHz, 63mm bore NMR Spectrometer | 800MHz NMR Spectrometer with Cryoprobe | 11T/40 MRI System |
|------------------------------|-----------------|-------------------------------|-----------------------------------------|-------------------------------------|-------------------------------|-------------------------------|------------------------------------|----------------------------------------|-------------------|
| NHMFL-Affiliated             | 7.3             | 0.7 %                         | 0                                       | 0                                   | 7.3                           | 0                             | 0                                  | 0                                      | 0                 |
| Local                        | 169.7           | 15.8 %                        | 23.5                                    | 0                                   | 89.8                          | 14.3                          | 8.5                                | 32.5                                   | 1                 |
| University, U.S.             | 288.9           | 26.9 %                        | 20.1                                    | 121.8                               | 0                             | 32                            | 104                                | 11                                     | 0                 |
| University, non-U.S.         | 23.5            | 2.2 %                         | 20.5                                    | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 3                 |
| Government Lab, U.S.         | 0               | 0 %                           | 0                                       | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Government Lab, non-U.S.     | 0               | 0 %                           | 0                                       | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Industry, U.S.               | 0               | 0 %                           | 0                                       | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Industry, non-U.S.           | 0               | 0 %                           | 0                                       | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Test/Calibration/Maintenance | 355.5           | 33.1 %                        | 30.9                                    | 77.7                                | 48.4                          | 86.8                          | 16.5                               | 26.7                                   | 68.5              |
| Method Development           | 14.5            | 1.4 %                         | 9                                       | 0                                   | 0                             | 0                             | 0                                  | 5.5                                    | 0                 |
| Analytical Chemistry         | 0               | 0 %                           | 0                                       | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Upgrade Cell Design/Hardware | 41.8            | 3.9 %                         | 5                                       | 3.5                                 | 6.3                           | 6                             | 17                                 | 3                                      | 1                 |
| Setup                        | 172.8           | 16.1 %                        | 18                                      | 16                                  | 33.1                          | 12.8                          | 58                                 | 20.3                                   | 14.5              |
| Repair                       | 0               | 0 %                           | 0                                       | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| <b>Total</b>                 | <b>1,074</b>    |                               | <b>127</b>                              | <b>219</b>                          | <b>185</b>                    | <b>152</b>                    | <b>204</b>                         | <b>99</b>                              | <b>88</b>         |

**Table 6b. Operations by Magnet System Group – Non-NHMFL Funded**

|                              | Total Days Used | Percentage of Total Days Used | 600MHz NMR Spectrometer with Cryoprobe | 600MHz NMR Spectrometer Hyper-sense | 600MHz Wide Bore Spectrometer | 750MHz Wide Bore Spectrometer | 800MHz, 63mm bore NMR Spectrometer | 800MHz NMR Spectrometer with Cryoprobe | 11T/40 MRI System |
|------------------------------|-----------------|-------------------------------|----------------------------------------|-------------------------------------|-------------------------------|-------------------------------|------------------------------------|----------------------------------------|-------------------|
| NHMFL-Affiliated             | 242.7           | 34.8 %                        | 33.5                                   | 65.7                                | 52                            | 1.5                           | 0                                  | 22.5                                   | 67.5              |
| Local                        | 346.8           | 49.8 %                        | 39.5                                   | 44.3                                | 17                            | 40                            | 41                                 | 103.5                                  | 61.5              |
| University, U.S.             | 89.5            | 12.8 %                        | 0                                      | 0                                   | 0                             | 89.5                          | 0                                  | 0                                      | 0                 |
| University, non-U.S.         | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Government Lab, U.S.         | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Government Lab, non-U.S.     | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Industry, U.S.               | 18              | 2.6 %                         | 0                                      | 0                                   | 0                             | 8                             | 0                                  | 10                                     | 0                 |
| Industry, non-U.S.           | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Test/Calibration/Maintenance | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Method Development           | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Analytical Chemistry         | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Upgrade Cell Design/Hardware | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Setup                        | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| Repair                       | 0               | 0 %                           | 0                                      | 0                                   | 0                             | 0                             | 0                                  | 0                                      | 0                 |
| <b>TOTAL</b>                 | <b>697</b>      |                               | <b>73</b>                              | <b>110</b>                          | <b>69</b>                     | <b>139</b>                    | <b>41</b>                          | <b>136</b>                             | <b>129</b>        |

**Table 6c. Operations by Magnet System Group – Summary**

|                  | Total Days Used | 600MHz NMR Spectrometer with Cryoprobe | 600MHz NMR Spectrometer Hypersense | 600MHz Wide Bore Spectrometer | 750MHz Wide Bore Spectrometer | 800MHz, 63mm bore NMR Spectrometer | 800MHz NMR Spectrometer with Cryoprobe | 11T/40 MRI System |
|------------------|-----------------|----------------------------------------|------------------------------------|-------------------------------|-------------------------------|------------------------------------|----------------------------------------|-------------------|
| NSF Funded       | 1,074           | 127                                    | 219                                | 185                           | 152                           | 204                                | 99                                     | 88                |
| Non-NHMFL Funded | 697             | 73                                     | 110                                | 69                            | 139                           | 41                                 | 136                                    | 129               |
| <b>TOTAL</b>     | <b>1,771</b>    | <b>200</b>                             | <b>329</b>                         | <b>254</b>                    | <b>291</b>                    | <b>241</b>                         | <b>235</b>                             | <b>217</b>        |

**Table 7a. Operations by Discipline – NSF-Funded**

|                              | Total Days Used | Condensed Matter Physics | Chemistry    | Engineering  | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|------------------------------|-----------------|--------------------------|--------------|--------------|----------------------------------|-----------------------------|------------------|
| NHMFL-Affiliated             | 7.3             | 0                        | 7.3          | 0            | 0                                | 0                           | 0                |
| Local                        | 169.7           | 0                        | 99.3         | 0            | 4                                | 66.3                        | 0                |
| University, U.S.             | 288.9           | 0                        | 17.3         | 125.8        | 0                                | 145.8                       | 0                |
| University, non-U.S.         | 23.5            | 0                        | 0            | 0            | 0                                | 23.5                        | 0                |
| Government Lab, U.S.         | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| Government Lab, non-U.S.     | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| Industry, U.S.               | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| Industry, non-U.S.           | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| Test/Calibration/Maintenance | 355.5           | 0                        | 0            | 0            | 355.5                            | 0                           | 0                |
| Method Development           | 14.5            | 0                        | 0            | 0            | 14.5                             | 0                           | 0                |
| Analytical Chemistry         | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| Upgrade Cell Design/Hardware | 41.8            | 0                        | 0            | 0            | 41.8                             | 0                           | 0                |
| Setup                        | 172.8           | 0                        | 0            | 0            | 172.8                            | 0                           | 0                |
| Repair                       | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| <b>Total</b>                 | <b>1,074</b>    | <b>0</b>                 | <b>123.9</b> | <b>125.8</b> | <b>588.6</b>                     | <b>235.7</b>                | <b>0</b>         |

**Table 7b. Operations by Discipline – Non-NHMFL Funded**

|                              | Total Days Used | Condensed Matter Physics | Chemistry   | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|------------------------------|-----------------|--------------------------|-------------|-------------|----------------------------------|-----------------------------|------------------|
| NHMFL-Affiliated             | 242.7           | 0                        | 0           | 0           | 0                                | 242.7                       | 0                |
| Local                        | 346.8           | 0                        | 11.5        | 44.3        | 111                              | 180                         | 0                |
| University, U.S.             | 89.5            | 0                        | 0           | 0           | 0                                | 89.5                        | 0                |
| University, non-U.S.         | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Government Lab, U.S.         | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Government Lab, non-U.S.     | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Industry, U.S.               | 18              | 0                        | 18          | 0           | 0                                | 0                           | 0                |
| Industry, non-U.S.           | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Test/Calibration/Maintenance | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Method Development           | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Analytical Chemistry         | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Upgrade Cell Design/Hardware | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Setup                        | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| Repair                       | 0               | 0                        | 0           | 0           | 0                                | 0                           | 0                |
| <b>Total</b>                 | <b>697</b>      | <b>0</b>                 | <b>29.5</b> | <b>44.3</b> | <b>111</b>                       | <b>512.2</b>                | <b>0</b>         |

**Table 7c. Operations by Discipline – Summary**

|                  | Total Days Used | Condensed Matter Physics | Chemistry    | Engineering  | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|------------------|-----------------|--------------------------|--------------|--------------|----------------------------------|-----------------------------|------------------|
| NSF Funded       | 1,074           | 0                        | 123.9        | 125.8        | 588.6                            | 235.7                       | 0                |
| Non-NHMFL Funded | 697             | 0                        | 29.5         | 44.3         | 111                              | 512.2                       | 0                |
| <b>TOTAL</b>     | <b>1,771</b>    | <b>0</b>                 | <b>153.4</b> | <b>170.1</b> | <b>699.6</b>                     | <b>747.9</b>                | <b>0</b>         |

**Table 8a. New PIs<sup>1</sup> and New Users – NSF-Funded**

|                            | All PIs | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------------|---------|-----------------------|---------------------|---------------------------|-----------|-------------------------|-----------------------|-----------------------------|
| Senior Personnel, U.S.     | 28      | 5                     | 7                   | 21                        | 49        | 3                       | 4                     | 45                          |
| Senior Personnel, non-U.S. | 2       | 0                     | 0                   | 2                         | 5         | 1                       | 1                     | 4                           |
| Postdocs, U.S.             | 0       | 0                     | 0                   | 0                         | 11        | 6                       | 6                     | 5                           |
| Postdocs, non-U.S.         | 0       | 0                     | 0                   | 0                         | 0         | 0                       | 0                     | 0                           |

|                      | All PIs   | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users  | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------|-----------|-----------------------|---------------------|---------------------------|------------|-------------------------|-----------------------|-----------------------------|
| Students, U.S.       | 0         | 0                     | 0                   | 0                         | 40         | 9                       | 9                     | 31                          |
| Students, non-U.S.   | 0         | 0                     | 0                   | 0                         | 1          | 0                       | 0                     | 1                           |
| Technician, U.S.     | 0         | 0                     | 0                   | 0                         | 6          | 3                       | 3                     | 3                           |
| Technician, non-U.S. | 0         | 0                     | 0                   | 0                         | 0          | 0                       | 0                     | 0                           |
| <b>Total</b>         | <b>30</b> | <b>5</b>              | <b>7</b>            | <b>23</b>                 | <b>112</b> | <b>22</b>               | <b>23</b>             | <b>89</b>                   |

<sup>1</sup> PIs who received magnet time for the first time.

**Table 8b. New PIs<sup>1</sup> and New Users – Non-NHMFL Funded**

|                            | All PIs   | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users  | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------------|-----------|-----------------------|---------------------|---------------------------|------------|-------------------------|-----------------------|-----------------------------|
| Senior Personnel, U.S.     | 27        | 4                     | 4                   | 23                        | 51         | 1                       | 2                     | 49                          |
| Senior Personnel, non-U.S. | 0         | 0                     | 0                   | 0                         | 0          | 0                       | 0                     | 0                           |
| Postdocs, U.S.             | 1         | 0                     | 0                   | 1                         | 15         | 5                       | 5                     | 10                          |
| Postdocs, non-U.S.         | 0         | 0                     | 0                   | 0                         | 0          | 0                       | 0                     | 0                           |
| Students, U.S.             | 0         | 0                     | 0                   | 0                         | 82         | 21                      | 21                    | 61                          |
| Students, non-U.S.         | 0         | 0                     | 0                   | 0                         | 1          | 0                       | 0                     | 1                           |
| Technician, U.S.           | 0         | 0                     | 0                   | 0                         | 7          | 2                       | 2                     | 5                           |
| Technician, non-U.S.       | 0         | 0                     | 0                   | 0                         | 0          | 0                       | 0                     | 0                           |
| <b>Total</b>               | <b>28</b> | <b>4</b>              | <b>4</b>            | <b>24</b>                 | <b>156</b> | <b>29</b>               | <b>30</b>             | <b>126</b>                  |

**Table 8c. New PIs<sup>1</sup> and New Users – Summary**

|                  | All PIs   | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users  | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|------------------|-----------|-----------------------|---------------------|---------------------------|------------|-------------------------|-----------------------|-----------------------------|
| NSF Funded       | 30        | 5                     | 7                   | 23                        | 112        | 22                      | 23                    | 89                          |
| Non-NHMFL Funded | 28        | 4                     | 4                   | 24                        | 156        | 29                      | 30                    | 126                         |
| <b>TOTAL</b>     | <b>58</b> | <b>9</b>              | <b>11</b>           | <b>47</b>                 | <b>268</b> | <b>51</b>               | <b>53</b>             | <b>215</b>                  |

**Table 9a. New<sup>1</sup> User PIs – NSF-Funded**

| Name           | Organization                                        | Proposal | Year of Magnet Time | Is New to MagLab |
|----------------|-----------------------------------------------------|----------|---------------------|------------------|
| Jianfeng Cai   | University of South Florida                         | P20943   | Received 2025       | No               |
| Bingren Hu     | University of California, San Diego                 | P21093   | Received 2025       | Yes              |
| William R. Kem | University of Florida                               | P20924   | Received 2025       | No               |
| Linfei Li      | Florida International University                    | P21009   | Received 2025       | Yes              |
| Xingui Liu     | University of Florida                               | P20952   | Received 2025       | Yes              |
| Emily Mevers   | Virginia Polytechnic Institute and State University | P20804   | Received 2025       | Yes              |
| Keith Searles  | University of Florida                               | P20761   | Received 2025       | Yes              |

<sup>1</sup> PIs who received magnet time for the first time.

**Table 9b. New<sup>1</sup> User PIs – Non-NHMFL Funded**

| Name           | Organization          | Proposal | Year of Magnet Time | Is New to MagLab |
|----------------|-----------------------|----------|---------------------|------------------|
| John Ligon     | University of Florida | P20569   | Received 2025       | Yes              |
| Xingui Liu     | University of Florida | P20937   | Received 2025       | Yes              |
| Joshua Moon    | University of Florida | P20936   | Received 2025       | Yes              |
| Bradley Wilkes | University of Florida | P21099   | Received 2025       | Yes              |

<sup>1</sup> PIs who received magnet time for the first time.

## DC FIELD FACILITY

**Table 1. Users by Participation**

|                            | Users <sup>1</sup> | Users Present | User Present Virtually | Users Operating Remotely <sup>2</sup> | Users Sending Sample <sup>3</sup> | Off-Site User <sup>4</sup> |
|----------------------------|--------------------|---------------|------------------------|---------------------------------------|-----------------------------------|----------------------------|
| Senior Personnel, U.S.     | 170                | 75            | 8                      | 0                                     | 9                                 | 78                         |
| Senior Personnel, non-U.S. | 69                 | 16            | 6                      | 0                                     | 9                                 | 38                         |
| Postdocs, U.S.             | 69                 | 43            | 1                      | 0                                     | 2                                 | 23                         |
| Postdocs, non-U.S.         | 17                 | 6             | 2                      | 0                                     | 2                                 | 7                          |
| Students, U.S.             | 173                | 143           | 1                      | 0                                     | 1                                 | 28                         |
| Students, non-U.S.         | 36                 | 18            | 1                      | 0                                     | 5                                 | 12                         |
| Technician, U.S.           | 10                 | 7             | 0                      | 0                                     | 0                                 | 3                          |
| Technician, non-U.S.       | 0                  | 0             | 0                      | 0                                     | 0                                 | 0                          |
| <b>TOTAL</b>               | <b>544</b>         | <b>308</b>    | <b>19</b>              | <b>0</b>                              | <b>28</b>                         | <b>189</b>                 |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.

<sup>3</sup> "Users Sending Sample" refers to users who send the sample to the facility and/or research group and the experiment is conducted by other collaborators on the experiment. Users at UF, FSU, and LANL cannot be "sample senders" for facilities located on their campuses.

<sup>4</sup> "Off-Site Users" are scientific or technical participants on the experiment; who will not be present, sending sample, or operating the magnet system remotely; and who are not located on the campus of that facility (i.e., they are off-site).

**Table 2. Users by Organization**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 170                | 107            | 10                       | 53                                      | 18                        | 136                       | 16                    |
| Senior Personnel, non-U.S. | 69                 | 69             | 0                        | 0                                       | 25                        | 44                        | 0                     |
| Postdocs, U.S.             | 69                 | 55             | 5                        | 9                                       | 9                         | 59                        | 1                     |
| Postdocs, non-U.S.         | 17                 | 17             | 0                        | 0                                       | 2                         | 15                        | 0                     |
| Students, U.S.             | 173                | 152            | 11                       | 10                                      | 2                         | 170                       | 1                     |
| Students, non-U.S.         | 36                 | 36             | 0                        | 0                                       | 0                         | 36                        | 0                     |
| Technician, U.S.           | 10                 | 3              | 1                        | 6                                       | 0                         | 8                         | 2                     |
| Technician, non-U.S.       | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| <b>TOTAL</b>               | <b>544</b>         | <b>439</b>     | <b>27</b>                | <b>78</b>                               | <b>56</b>                 | <b>468</b>                | <b>20</b>             |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> NHMFL-Affiliated users are defined as anyone in the lab's personnel system (i.e., on our web site/directory), even if they travel to another site. Local users are defined as any non-NHMFL-Affiliated researchers originating at any of the institutions in proximity to the MagLab sites (i.e., researchers at FSU, UF, FAMU, or LANL), even if they travel to another site.

<sup>3</sup> Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

<sup>4</sup> Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.

<sup>5</sup> The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

**Table 3. Users by Discipline**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 170                | 116                      | 18        | 6           | 15                               | 1                                 | 14               |
| Senior Personnel, non-U.S. | 69                 | 49                       | 4         | 1           | 4                                | 1                                 | 10               |
| Postdocs, U.S.             | 69                 | 51                       | 9         | 2           | 1                                | 0                                 | 6                |
| Postdocs, non-U.S.         | 17                 | 17                       | 0         | 0           | 0                                | 0                                 | 0                |
| Students, U.S.             | 173                | 130                      | 29        | 6           | 1                                | 0                                 | 7                |
| Students, non-U.S.         | 36                 | 34                       | 0         | 0           | 1                                | 0                                 | 1                |
| Technician, U.S.           | 10                 | 0                        | 2         | 3           | 4                                | 0                                 | 1                |
| Technician, non-U.S.       | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| <b>TOTAL</b>               | <b>544</b>         | <b>397</b>               | <b>62</b> | <b>18</b>   | <b>26</b>                        | <b>2</b>                          | <b>39</b>        |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

**Table 4a. Subscription Rate (Experiments)**

| Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments w/ Usage | Experiments w/ Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiment Subscription Rate | Experiments Subscription Percentage |
|--------------------------------------|--------------------------------------------------|----------------------|---------------------------------|----------------------|---------------------------------|----------------------|------------------------------|-------------------------------------|
| 305                                  | 40                                               | 265                  | 76.8 %                          | 80                   | 23.2 %                          | 345                  | 1.3                          | 130.2 %                             |



**Table 4b. Subscription Rate (Magnet Days)**

| Days Submitted | Days Used by External User | Days Used by Local User | Days Used by NHMFL-Affiliated User | Days Used for Inst., Dev., Test and Maintenance <sup>1</sup> | Total Days Used | Days Subscription Rate | Days Subscription Percentage |
|----------------|----------------------------|-------------------------|------------------------------------|--------------------------------------------------------------|-----------------|------------------------|------------------------------|
| <b>2,438</b>   | 1,272.2                    | 62.3                    | 444.2                              | 132.2                                                        | 1,910.8         | 1.3                    | 127.6 %                      |

<sup>1</sup> Test/Calibration/ Maintenance, Method Development, Analytical Chemistry, Upgrade Cell Design/Hardware Setup, Repair

**Table 5 Research Proposals Profile (Discipline) with Magnet Time**

| TOTAL Proposals | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| <b>155</b>      | 119                      | 12        | 2           | 10                               | 2                           | 10               |

Find the list of user proposals in **Appendix 5** and on our [website](#)

**Table 6. Operations by Magnet System Group**

|                              | Total Days Used <sup>1</sup> | % of Total Days Used | 45T       | Resistive    | Superconducting |
|------------------------------|------------------------------|----------------------|-----------|--------------|-----------------|
| NHMFL-Affiliated             | 444.2                        | 23.2 %               | 7         | 221.2        | 216             |
| Local                        | 62.3                         | 3.3 %                | 8         | 6.3          | 48              |
| University, U.S.             | 886.5                        | 46.4 %               | 10        | 212.5        | 664             |
| University, non-U.S.         | 205.2                        | 10.7 %               | 14        | 93.2         | 98              |
| Government Lab, U.S.         | 65.2                         | 3.4 %                | 0         | 9.2          | 56              |
| Government Lab, non-U.S.     | 53.3                         | 2.8 %                | 0         | 18.3         | 35              |
| Industry, U.S.               | 61.9                         | 3.2 %                | 0         | 41.9         | 20              |
| Industry, non-U.S.           | 0                            | 0 %                  | 0         | 0            | 0               |
| Test/Calibration/Maintenance | 111.2                        | 5.8 %                | 0         | 23.2         | 88              |
| Method Development           | 21                           | 1.1 %                | 0         | 0            | 21              |
| Analytical Chemistry         | 0                            | 0 %                  | 0         | 0            | 0               |
| Upgrade Cell Design/Hardware | 0                            | 0 %                  | 0         | 0            | 0               |
| Setup                        | 0                            | 0 %                  | 0         | 0            | 0               |
| Repair                       | 0                            | 0 %                  | 0         | 0            | 0               |
| <b>TOTAL</b>                 | <b>1,910.8</b>               |                      | <b>39</b> | <b>625.8</b> | <b>1,246</b>    |

<sup>1</sup> Each 20MW resistive magnet requires two power supplies to run, the 45T hybrid magnet requires three power supplies, and the 36T Series Connected Hybrid requires one power supply. Thus, there can be four resistive magnets + three superconducting magnets operating or the 45T hybrid, series connected hybrid, two resistive magnets and three superconducting magnets. User Units are defined as magnet days. Users of water-cooled resistive or hybrid magnets can typically expect to receive enough energy for 7 hours a day of magnet usage, so a magnet day is defined as 7 hours. Superconducting magnets are scheduled typically 24 hours a day.

**Table 7. Operations by Discipline**

|                                       | Total Days Used | Condensed Matter Physics | Chemistry  | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|---------------------------------------|-----------------|--------------------------|------------|-------------|----------------------------------|-----------------------------|------------------|
| <b>NHMFL-Affiliated</b>               | 444.2           | 267.2                    | 32.4       | 0           | 133.8                            | 0                           | 10.7             |
| <b>Local</b>                          | 62.3            | 36                       | 6.3        | 7           | 0                                | 0                           | 13               |
| <b>University, U.S.</b>               | 886.5           | 699.4                    | 106.3      | 7           | 9.2                              | 0                           | 64.6             |
| <b>University, non-U.S.</b>           | 205.2           | 167.2                    | 28         | 0           | 5                                | 0                           | 5                |
| <b>Government Lab, U.S.</b>           | 65.2            | 65.2                     | 0          | 0           | 0                                | 0                           | 0                |
| <b>Government Lab, non-U.S.</b>       | 53.3            | 44                       | 0          | 0           | 0                                | 0                           | 9.3              |
| <b>Industry, U.S.</b>                 | 61.9            | 26.6                     | 0          | 0           | 29.6                             | 0                           | 5.8              |
| <b>Industry, non-U.S.</b>             | 0               | 0                        | 0          | 0           | 0                                | 0                           | 0                |
| <b>Test/ Calibration/ Maintenance</b> | 111.2           | 111.2                    | 0          | 0           | 0                                | 0                           | 0                |
| <b>Method Development</b>             | 21              | 21                       | 0          | 0           | 0                                | 0                           | 0                |
| <b>Analytical Chemistry</b>           | 0               | 0                        | 0          | 0           | 0                                | 0                           | 0                |
| <b>Upgrade Cell Design/Hardware</b>   | 0               | 0                        | 0          | 0           | 0                                | 0                           | 0                |
| <b>Setup</b>                          | 0               | 0                        | 0          | 0           | 0                                | 0                           | 0                |
| <b>Repair</b>                         | 0               | 0                        | 0          | 0           | 0                                | 0                           | 0                |
| <b>TOTAL</b>                          | <b>1,910.8</b>  | <b>1,437.8</b>           | <b>173</b> | <b>14</b>   | <b>177.5</b>                     | <b>0</b>                    | <b>108.5</b>     |

**Table 8. New Pls<sup>1</sup> and New Users**

|                                   | All Pls | New Pls at the MagLab | New Pls at Facility | Returning Pls at Facility | All Users | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|-----------------------------------|---------|-----------------------|---------------------|---------------------------|-----------|-------------------------|-----------------------|-----------------------------|
| <b>Senior Personnel, U.S.</b>     | 100     | 13                    | 17                  | 83                        | 170       | 7                       | 10                    | 160                         |
| <b>Senior Personnel, non-U.S.</b> | 30      | 6                     | 9                   | 21                        | 69        | 18                      | 18                    | 51                          |
| <b>Postdocs, U.S.</b>             | 2       | 1                     | 2                   | 0                         | 69        | 15                      | 20                    | 49                          |

|                      | All PIs    | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users  | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------|------------|-----------------------|---------------------|---------------------------|------------|-------------------------|-----------------------|-----------------------------|
| Postdocs, non-U.S.   | 1          | 1                     | 1                   | 0                         | 17         | 5                       | 9                     | 8                           |
| Students, U.S.       | 0          | 0                     | 0                   | 0                         | 173        | 65                      | 71                    | 102                         |
| Students, non-U.S.   | 0          | 0                     | 0                   | 0                         | 36         | 9                       | 11                    | 25                          |
| Technician, U.S.     | 0          | 0                     | 0                   | 0                         | 10         | 2                       | 3                     | 7                           |
| Technician, non-U.S. | 0          | 0                     | 0                   | 0                         | 0          | 0                       | 0                     | 0                           |
| <b>TOTAL</b>         | <b>133</b> | <b>21</b>             | <b>29</b>           | <b>104</b>                | <b>544</b> | <b>121</b>              | <b>142</b>            | <b>402</b>                  |

<sup>1</sup> PIs who received magnet time for the first time.

**Table 9 New PIs<sup>1</sup>**

| Name                      | Organization                                                       | Proposal | Year of Magnet Time | Is New to MagLab |
|---------------------------|--------------------------------------------------------------------|----------|---------------------|------------------|
| Ariando Ariando           | National University of Singapore                                   | P20723   | Received 2025       | No               |
| Tomoya Asaba              | University of Virginia                                             | P20901   | Received 2025       | No               |
| Joanna Blawat             | National High Magnetic Field Laboratory                            | P20538   | Received 2025       | No               |
| Shouvik Chatterjee        | Tata Institute of Fundamental Research                             | P20768   | Received 2025       | Yes              |
| Alexandra Dickinson-Lomas | UK Atomic Energy Authority                                         | P20962   | Received 2025       | Yes              |
| Ashleigh Francis          | Commonwealth Fusion Systems                                        | P20984   | Received 2025       | Yes              |
| Natia Frank               | University of Nevada Reno                                          | P20070   | Received 2025       | No               |
| Hanwei Geo                | Florida State University                                           | P20966   | Received 2025       | Yes              |
| Rosario Gerhardt          | Georgia Institute of Technology                                    | P20897   | Received 2025       | Yes              |
| Samaresh Guchhait         | Howard University                                                  | P20930   | Received 2025       | No               |
| Chunyu Guo                | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | P20757   | Received 2025       | Yes              |
| Alannah Hallas            | University of British Columbia                                     | P20753   | Received 2025       | Yes              |
| Mirta Herak               | Institute of Physics (Croatia)                                     | P20762   | Received 2025       | Yes              |
| Michihiro Hirata          | Los Alamos National Laboratory                                     | P20536   | Received 2025       | Yes              |
| Md Shafayat Hossain       | University of California, Los Angeles                              | P20997   | Received 2025       | Yes              |
| William Iliffe            | CCFE STEP                                                          | P20698   | Received 2025       | Yes              |
| Amar Karki                | Scientific Instruments                                             | P20881   | Received 2025       | Yes              |
| Benjamin Lawson           | Taylor University                                                  | P20861   | Received 2025       | Yes              |
| Aaron Lindenberg          | Stanford University                                                | P20875   | Received 2025       | Yes              |
| Christopher Mizzi         | National High Magnetic Field Laboratory                            | P20401   | Received 2025       | No               |
| Pawel Peczkowski          | Cardinal Stefan Wyszyński University                               | P20883   | Received 2025       | Yes              |
| Gang Qiu                  | University of Minnesota, Twin Cities                               | P20879   | Received 2025       | Yes              |
| Darrell Schlom            | Cornell University                                                 | P20725   | Received 2025       | Yes              |
| Maheswaran Shanmugam      | Indian Institute of Technology, Bombay                             | P20860   | Received 2025       | No               |
| Yinming Shao              | Pennsylvania State University                                      | P20785   | Received 2025       | Yes              |
| Shivani Sharma            | National High Magnetic Field Laboratory                            | P20796   | Received 2025       | Yes              |
| Gabriel Silva Freitas     | Los Alamos National Laboratory                                     | P20863   | Received 2025       | Yes              |
| Felix Trier               | Technical University of Denmark                                    | P20620   | Received 2025       | No               |
| Yifei Zhang               | SuperPower, Inc.                                                   | P20777   | Received 2025       | Yes              |

<sup>1</sup> PIs who received magnet time for the first time.

## EMR FACILITY

**Table 1. Users by Participation**

|                            | Users <sup>1</sup> | Users Present | User Present Virtually | Users Operating Remotely <sup>2</sup> | Users Sending Sample <sup>3</sup> | Off-Site User <sup>4</sup> |
|----------------------------|--------------------|---------------|------------------------|---------------------------------------|-----------------------------------|----------------------------|
| Senior Personnel, U.S.     | 58                 | 12            | 0                      | 0                                     | 13                                | 33                         |
| Senior Personnel, non-U.S. | 19                 | 1             | 0                      | 0                                     | 5                                 | 13                         |
| Postdocs, U.S.             | 25                 | 9             | 0                      | 0                                     | 4                                 | 12                         |
| Postdocs, non-U.S.         | 2                  | 0             | 0                      | 0                                     | 0                                 | 2                          |
| Students, U.S.             | 45                 | 20            | 0                      | 0                                     | 11                                | 14                         |
| Students, non-U.S.         | 5                  | 0             | 0                      | 0                                     | 4                                 | 1                          |
| Technician, U.S.           | 1                  | 0             | 0                      | 0                                     | 0                                 | 1                          |
| Technician, non-U.S.       | 0                  | 0             | 0                      | 0                                     | 0                                 | 0                          |
| <b>TOTAL</b>               | <b>155</b>         | <b>42</b>     | <b>0</b>               | <b>0</b>                              | <b>37</b>                         | <b>76</b>                  |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.

<sup>3</sup> "Users Sending Sample" refers to users who send the sample to the facility and/or research group and the experiment is conducted by other collaborators on the experiment. Users at UF, FSU, and LANL cannot be "sample senders" for facilities located on their campuses.

<sup>4</sup> "Off-Site Users" are scientific or technical participants on the experiment; who will not be present, sending sample, or operating the magnet system remotely; and who are not located on the campus of that facility (i.e., they are off-site).

**Table 2. Users by Organization**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 58                 | 33             | 6                        | 19                                      | 4                         | 54                        | 0                     |
| Senior Personnel, non-U.S. | 19                 | 19             | 0                        | 0                                       | 0                         | 19                        | 0                     |
| Postdocs, U.S.             | 25                 | 16             | 3                        | 6                                       | 3                         | 22                        | 0                     |
| Postdocs, non-U.S.         | 2                  | 2              | 0                        | 0                                       | 0                         | 2                         | 0                     |
| Students, U.S.             | 45                 | 26             | 9                        | 10                                      | 0                         | 45                        | 0                     |
| Students, non-U.S.         | 5                  | 5              | 0                        | 0                                       | 0                         | 5                         | 0                     |
| Technician, U.S.           | 1                  | 1              | 0                        | 0                                       | 0                         | 1                         | 0                     |
| Technician, non-U.S.       | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| <b>TOTAL</b>               | <b>155</b>         | <b>102</b>     | <b>18</b>                | <b>35</b>                               | <b>7</b>                  | <b>148</b>                | <b>0</b>              |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> NHMFL-Affiliated users are defined as anyone in the lab's personnel system (i.e., on our web site/directory), even if they travel to another site. Local users are defined as any non-NHMFL-Affiliated researchers originating at any of the institutions in proximity to the MagLab sites (i.e., researchers at FSU, UF, FAMU, or LANL), even if they travel to another site.

<sup>3</sup> Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

<sup>4</sup> Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.

<sup>5</sup> The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

**Table 3. Users by Discipline**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry  | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|------------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 58                 | 12                       | 29         | 4           | 1                                | 10                                | 2                |
| Senior Personnel, non-U.S. | 19                 | 2                        | 14         | 0           | 0                                | 2                                 | 1                |
| Postdocs, U.S.             | 25                 | 6                        | 15         | 1           | 0                                | 0                                 | 3                |
| Postdocs, non-U.S.         | 2                  | 0                        | 2          | 0           | 0                                | 0                                 | 0                |
| Students, U.S.             | 45                 | 4                        | 34         | 0           | 1                                | 4                                 | 2                |
| Students, non-U.S.         | 5                  | 0                        | 5          | 0           | 0                                | 0                                 | 0                |
| Technician, U.S.           | 1                  | 0                        | 1          | 0           | 0                                | 0                                 | 0                |
| Technician, non-U.S.       | 0                  | 0                        | 0          | 0           | 0                                | 0                                 | 0                |
| <b>TOTAL</b>               | <b>155</b>         | <b>24</b>                | <b>100</b> | <b>5</b>    | <b>2</b>                         | <b>16</b>                         | <b>8</b>         |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

**Table 4a. Subscription Rate (Experiments)**

| Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments w/ Usage | Experiments w/ Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiment Subscription Rate | Experiments Subscription Percentage |
|--------------------------------------|--------------------------------------------------|----------------------|---------------------------------|----------------------|---------------------------------|----------------------|------------------------------|-------------------------------------|
| 126                                  | 9                                                | 112                  | 83 %                            | 23                   | 17 %                            | 135                  | 1.2                          | 120.5 %                             |

**Table 4b. Subscription Rate (Magnet Days)**

| Days Submitted | Days Used by External User | Days Used by Local User | Days Used by NHMFL-Affiliated User | Days Used for Inst., Dev., Test and Maintenance <sup>1</sup> | Total Days Used | Days Subscription Rate | Days Subscription Percentage |
|----------------|----------------------------|-------------------------|------------------------------------|--------------------------------------------------------------|-----------------|------------------------|------------------------------|
| <b>1,423</b>   | 405.8                      | 57                      | 123.2                              | 180                                                          | 766             | 1.9                    | 185.9 %                      |

<sup>1</sup> Test/Calibration/ Maintenance, Method Development, Analytical Chemistry, Upgrade Cell Design/Hardware Setup, Repair

**Table 5. Research Proposals Profile (Discipline) with Magnet Time**

| TOTAL Proposals | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| <b>52</b>       | 10                       | 27        | 2           | 2                                | 6                           | 5                |

Find the list of user proposals in **Appendix 5** and on our [website](#)

**Table 6. Operations by Magnet System Group**

|                                     | Total Days Used <sup>1</sup> | % of Total Days Used | 12.5T SC, Pulsed EPR | 17T SCM    | Bruker <sup>2</sup> | HiPER      |
|-------------------------------------|------------------------------|----------------------|----------------------|------------|---------------------|------------|
| <b>NHMFL-Affiliated</b>             | 123.2                        | 16.1 %               | 25.5                 | 5          | 61.7                | 31         |
| <b>Local</b>                        | 57                           | 7.4 %                | 0                    | 21.5       | 35.5                | 0          |
| <b>University, U.S.</b>             | 212.5                        | 27.7 %               | 49.5                 | 72.5       | 35.5                | 55         |
| <b>University, non-U.S.</b>         | 173.3                        | 22.6 %               | 28.5                 | 49.5       | 6.3                 | 89         |
| <b>Government Lab, U.S.</b>         | 20                           | 2.6 %                | 0                    | 0          | 0                   | 20         |
| <b>Government Lab, non-U.S.</b>     | 0                            | 0 %                  | 0                    | 0          | 0                   | 0          |
| <b>Industry, U.S.</b>               | 0                            | 0 %                  | 0                    | 0          | 0                   | 0          |
| <b>Industry, non-U.S.</b>           | 0                            | 0 %                  | 0                    | 0          | 0                   | 0          |
| <b>Test/Calibration/Maintenance</b> | 153                          | 20 %                 | 44.5                 | 13.5       | 12                  | 83         |
| <b>Method Development</b>           | 8.5                          | 1.1 %                | 0                    | 0          | 0                   | 8.5        |
| <b>Analytical Chemistry</b>         | 0                            | 0 %                  | 0                    | 0          | 0                   | 0          |
| <b>Upgrade Cell Design/Hardware</b> | 3                            | 0.4 %                | 3                    | 0          | 0                   | 0          |
| <b>Setup</b>                        | 15.5                         | 2 %                  | 0                    | 12         | 0                   | 3.5        |
| <b>Repair</b>                       | 0                            | 0 %                  | 0                    | 0          | 0                   | 0          |
| <b>TOTAL</b>                        | <b>766</b>                   |                      | <b>151</b>           | <b>174</b> | <b>151</b>          | <b>290</b> |

<sup>1</sup> User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

**Table 7. Operations by Discipline**

|                                       | Total Days Used | Condensed Matter Physics | Chemistry    | Engineering  | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|---------------------------------------|-----------------|--------------------------|--------------|--------------|----------------------------------|-----------------------------|------------------|
| <b>NHMFL-Affiliated</b>               | 123.2           | 57.7                     | 49           | 2.5          | 0                                | 0                           | 14               |
| <b>Local</b>                          | 57              | 0                        | 55           | 0            | 0                                | 2                           | 0                |
| <b>University, U.S.</b>               | 212.5           | 40.5                     | 134.5        | 2            | 0                                | 8                           | 27.5             |
| <b>University, non-U.S.</b>           | 173.3           | 70                       | 102.3        | 0            | 0                                | 0                           | 1                |
| <b>Government Lab, U.S.</b>           | 20              | 0                        | 0            | 0            | 0                                | 20                          | 0                |
| <b>Government Lab, non-U.S.</b>       | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| <b>Industry, U.S.</b>                 | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| <b>Industry, non-U.S.</b>             | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| <b>Test/ Calibration/ Maintenance</b> | 153             | 0                        | 0            | 100          | 12                               | 0                           | 41               |
| <b>Method Development</b>             | 8.5             | 0                        | 0            | 8.5          | 0                                | 0                           | 0                |
| <b>Analytical Chemistry</b>           | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| <b>Upgrade Cell Design/Hardware</b>   | 3               | 0                        | 0            | 0            | 0                                | 0                           | 3                |
| <b>Setup</b>                          | 15.5            | 0                        | 0            | 15.5         | 0                                | 0                           | 0                |
| <b>Repair</b>                         | 0               | 0                        | 0            | 0            | 0                                | 0                           | 0                |
| <b>TOTAL</b>                          | <b>766</b>      | <b>168.2</b>             | <b>340.8</b> | <b>128.5</b> | <b>12</b>                        | <b>30</b>                   | <b>86.5</b>      |

**Table 8. New PIs<sup>1</sup> and New Users**

|                                   | All PIs | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|-----------------------------------|---------|-----------------------|---------------------|---------------------------|-----------|-------------------------|-----------------------|-----------------------------|
| <b>Senior Personnel, U.S.</b>     | 34      | 2                     | 3                   | 31                        | 58        | 2                       | 5                     | 53                          |
| <b>Senior Personnel, non-U.S.</b> | 14      | 2                     | 4                   | 10                        | 19        | 1                       | 2                     | 17                          |
| <b>Postdocs, U.S.</b>             | 0       | 0                     | 0                   | 0                         | 25        | 9                       | 12                    | 13                          |
| <b>Postdocs, non-U.S.</b>         | 0       | 0                     | 0                   | 0                         | 2         | 0                       | 0                     | 2                           |
| <b>Students, U.S.</b>             | 0       | 0                     | 0                   | 0                         | 45        | 11                      | 13                    | 32                          |

|                      | All PIs   | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users  | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------|-----------|-----------------------|---------------------|---------------------------|------------|-------------------------|-----------------------|-----------------------------|
| Students, non-U.S.   | 0         | 0                     | 0                   | 0                         | 5          | 1                       | 1                     | 4                           |
| Technician, U.S.     | 0         | 0                     | 0                   | 0                         | 1          | 0                       | 0                     | 1                           |
| Technician, non-U.S. | 0         | 0                     | 0                   | 0                         | 0          | 0                       | 0                     | 0                           |
| <b>TOTAL</b>         | <b>48</b> | <b>4</b>              | <b>7</b>            | <b>41</b>                 | <b>155</b> | <b>24</b>               | <b>33</b>             | <b>122</b>                  |

<sup>1</sup> PIs who received magnet time for the first time.

**Table 9. New PIs<sup>1</sup>**

| Name                    | Organization                                      | Proposal | Year of Magnet Time | Is New to MagLab |
|-------------------------|---------------------------------------------------|----------|---------------------|------------------|
| Piotr Garbacz           | University of Warsaw                              | P20121   | Received 2025       | Yes              |
| Sami Jannin             | Claude Bernard University Lyon 1                  | P21018   | Received 2025       | No               |
| Piotr Kulik             | University of Central Florida                     | P20801   | Received 2025       | Yes              |
| Andreas Pöpl            | Leipzig University                                | P21007   | Received 2025       | Yes              |
| Xavier Roy              | Columbia University                               | P20634   | Received 2025       | No               |
| Muniyandi Sankaralingam | National Institute of Technology Calicut          | P20558   | Received 2025       | No               |
| Andrew Stephen          | Frederick National Laboratory for Cancer Research | P20918   | Received 2025       | Yes              |

<sup>1</sup> PIs who received magnet time for the first time.



## HIGH B/T FACILITY

**Table 1. Users by Participation**

|                            | Users <sup>1</sup> | Users Present | User Present Virtually | Users Operating Remotely <sup>2</sup> | Users Sending Sample <sup>3</sup> | Off-Site User <sup>4</sup> |
|----------------------------|--------------------|---------------|------------------------|---------------------------------------|-----------------------------------|----------------------------|
| Senior Personnel, U.S.     | 11                 | 5             | 0                      | 0                                     | 1                                 | 5                          |
| Senior Personnel, non-U.S. | 2                  | 0             | 0                      | 0                                     | 0                                 | 2                          |
| Postdocs, U.S.             | 1                  | 1             | 0                      | 0                                     | 0                                 | 0                          |
| Postdocs, non-U.S.         | 0                  | 0             | 0                      | 0                                     | 0                                 | 0                          |
| Students, U.S.             | 5                  | 2             | 0                      | 0                                     | 0                                 | 3                          |
| Students, non-U.S.         | 0                  | 0             | 0                      | 0                                     | 0                                 | 0                          |
| Technician, U.S.           | 1                  | 1             | 0                      | 0                                     | 0                                 | 0                          |
| Technician, non-U.S.       | 0                  | 0             | 0                      | 0                                     | 0                                 | 0                          |
| <b>TOTAL</b>               | <b>20</b>          | <b>9</b>      | <b>0</b>               | <b>0</b>                              | <b>1</b>                          | <b>10</b>                  |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.

<sup>3</sup> "Users Sending Sample" refers to users who send the sample to the facility and/or research group and the experiment is conducted by other collaborators on the experiment. Users at UF, FSU, and LANL cannot be "sample senders" for facilities located on their campuses.

<sup>4</sup> "Off-Site Users" are scientific or technical participants on the experiment; who will not be present, sending sample, or operating the magnet system remotely; and who are not located on the campus of that facility (i.e., they are off-site).

**Table 2. Users by Organization**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 11                 | 4              | 0                        | 7                                       | 4                         | 7                         | 0                     |
| Senior Personnel, non-U.S. | 2                  | 2              | 0                        | 0                                       | 0                         | 2                         | 0                     |
| Postdocs, U.S.             | 1                  | 0              | 1                        | 0                                       | 0                         | 1                         | 0                     |
| Postdocs, non-U.S.         | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| Students, U.S.             | 5                  | 3              | 1                        | 1                                       | 0                         | 5                         | 0                     |
| Students, non-U.S.         | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| Technician, U.S.           | 1                  | 0              | 0                        | 1                                       | 0                         | 1                         | 0                     |
| Technician, non-U.S.       | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| <b>TOTAL</b>               | <b>20</b>          | <b>9</b>       | <b>2</b>                 | <b>9</b>                                | <b>4</b>                  | <b>16</b>                 | <b>0</b>              |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> NHMFL-Affiliated users are defined as anyone in the lab's personnel system (i.e., on our web site/directory), even if they travel to another site. Local users are defined as any non-NHMFL-Affiliated researchers originating at any of the institutions in proximity to the MagLab sites (i.e., researchers at FSU, UF, FAMU, or LANL), even if they travel to another site.

<sup>3</sup> Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

<sup>4</sup> Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.

<sup>5</sup> The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

**Table 3. Users by Discipline**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 11                 | 11                       | 0         | 0           | 0                                | 0                                 | 0                |
| Senior Personnel, non-U.S. | 2                  | 2                        | 0         | 0           | 0                                | 0                                 | 0                |
| Postdocs, U.S.             | 1                  | 1                        | 0         | 0           | 0                                | 0                                 | 0                |
| Postdocs, non-U.S.         | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| Students, U.S.             | 5                  | 4                        | 0         | 0           | 0                                | 0                                 | 1                |
| Students, non-U.S.         | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| Technician, U.S.           | 1                  | 0                        | 0         | 1           | 0                                | 0                                 | 0                |
| Technician, non-U.S.       | 0                  | 0                        | 0         | 0           | 0                                | 0                                 | 0                |
| <b>TOTAL</b>               | <b>20</b>          | <b>18</b>                | <b>0</b>  | <b>1</b>    | <b>0</b>                         | <b>0</b>                          | <b>1</b>         |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

**Table 4a. Subscription Rate (Experiments)**

| Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments w/ Usage | Experiments w/ Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiment Subscription Rate | Experiments Subscription Percentage |
|--------------------------------------|--------------------------------------------------|----------------------|---------------------------------|----------------------|---------------------------------|----------------------|------------------------------|-------------------------------------|
| 9                                    | 1                                                | 9                    | 90 %                            | 1                    | 10 %                            | 10                   | 1.1                          | 111.1 %                             |

**Table 4b. Subscription Rate (Magnet Days)**

| Days Submitted | Days Used by External User | Days Used by Local User | Days Used by NHMFL-Affiliated User | Days Used for Inst., Dev., Test and Maintenance <sup>1</sup> | Total Days Used | Days Subscription Rate | Days Subscription Percentage |
|----------------|----------------------------|-------------------------|------------------------------------|--------------------------------------------------------------|-----------------|------------------------|------------------------------|
| 571            | 275                        | 32                      | 170                                | 94                                                           | 571             | 1                      | 100 %                        |

<sup>1</sup> Test/Calibration/ Maintenance, Method Development, Analytical Chemistry, Upgrade Cell Design/Hardware Setup, Repair

**Table 5. Research Proposals Profile (Discipline) with Magnet Time**

| TOTAL Proposals | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| 5               | 4                        | 0         | 0           | 0                                | 1                           | 0                |

Find the list of user proposals in **Appendix 5** and on our [website](#)

**Table 6. Operations by Magnet System Group**

|                               | Total Days Used <sup>1</sup> | % of Total Days Used | Bay 1 (UF Microkelvin Lab) | Bay 2 (UF Microkelvin Lab.): 0.02mK, 8T | NPB-FTA (UF Physics): 20 mK, 10 T (fast cycling) |
|-------------------------------|------------------------------|----------------------|----------------------------|-----------------------------------------|--------------------------------------------------|
| NHMFL-Affiliated              | 170                          | 29.8 %               | 170                        | 0                                       | 0                                                |
| Local                         | 32                           | 5.6 %                | 32                         | 0                                       | 0                                                |
| University, U.S.              | 188                          | 32.9 %               | 75                         | 70                                      | 43                                               |
| University, non-U.S.          | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| Government Lab, U.S.          | 87                           | 15.2 %               | 0                          | 87                                      | 0                                                |
| Government Lab, non-U.S.      | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| Industry, U.S.                | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| Industry, non-U.S.            | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| Test/Calibration/ Maintenance | 94                           | 16.5 %               | 33                         | 61                                      | 0                                                |
| Method Development            | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| Analytical Chemistry          | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| Upgrade Cell Design/Hardware  | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| Setup                         | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| Repair                        | 0                            | 0 %                  | 0                          | 0                                       | 0                                                |
| TOTAL                         | 571                          |                      | 310                        | 218                                     | 43                                               |

<sup>1</sup>User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

**Table 7. Operations by Discipline**

|                                | Total Days Used | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|--------------------------------|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| NHMFL-Affiliated               | 170             | 170                      | 0         | 0           | 0                                | 0                           | 0                |
| Local                          | 32              | 32                       | 0         | 0           | 0                                | 0                           | 0                |
| University, U.S.               | 188             | 188                      | 0         | 0           | 0                                | 0                           | 0                |
| University, non-U.S.           | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Government Lab, U.S.           | 87              | 87                       | 0         | 0           | 0                                | 0                           | 0                |
| Government Lab, non-U.S.       | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Industry, U.S.                 | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Industry, non-U.S.             | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Test/ Calibration/ Maintenance | 94              | 94                       | 0         | 0           | 0                                | 0                           | 0                |
| Method Development             | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Analytical Chemistry           | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Upgrade Cell Design/Hardware   | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Setup                          | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Repair                         | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| TOTAL                          | 571             | 571                      | 0         | 0           | 0                                | 0                           | 0                |

**Table 8. New PIs<sup>1</sup> and New Users**

|                            | All PIs | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------------|---------|-----------------------|---------------------|---------------------------|-----------|-------------------------|-----------------------|-----------------------------|
| Senior Personnel, U.S.     | 5       | 1                     | 2                   | 3                         | 11        | 0                       | 0                     | 11                          |
| Senior Personnel, non-U.S. | 0       | 0                     | 0                   | 0                         | 2         | 0                       | 0                     | 2                           |
| Postdocs, U.S.             | 0       | 0                     | 0                   | 0                         | 1         | 0                       | 0                     | 1                           |
| Postdocs, non-U.S.         | 0       | 0                     | 0                   | 0                         | 0         | 0                       | 0                     | 0                           |

|                      | All PIs  | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------|----------|-----------------------|---------------------|---------------------------|-----------|-------------------------|-----------------------|-----------------------------|
| Students, U.S.       | 0        | 0                     | 0                   | 0                         | 5         | 1                       | 3                     | 2                           |
| Students, non-U.S.   | 0        | 0                     | 0                   | 0                         | 0         | 0                       | 0                     | 0                           |
| Technician, U.S.     | 0        | 0                     | 0                   | 0                         | 1         | 0                       | 0                     | 1                           |
| Technician, non-U.S. | 0        | 0                     | 0                   | 0                         | 0         | 0                       | 0                     | 0                           |
| <b>TOTAL</b>         | <b>5</b> | <b>1</b>              | <b>2</b>            | <b>3</b>                  | <b>20</b> | <b>1</b>                | <b>3</b>              | <b>17</b>                   |

<sup>1</sup> PIs who received magnet time for the first time.

**Table 9. New PIs**

| Name                | Organization                          | Proposal | Year of Magnet Time | Is New to MagLab |
|---------------------|---------------------------------------|----------|---------------------|------------------|
| Md Shafayat Hossain | University of California, Los Angeles | P21021   | Received 2025       | Yes              |
| Rongying Jin        | University of South Carolina          | P20686   | Received 2025       | No               |

<sup>1</sup> PIs who received magnet time for the first time.

## ICR FACILITY

**Table 1. Users by Participation**

|                            | Users <sup>1</sup> | Users Present | User Present Virtually | Users Operating Remotely <sup>2</sup> | Users Sending Sample <sup>3</sup> | Off-Site User <sup>4</sup> |
|----------------------------|--------------------|---------------|------------------------|---------------------------------------|-----------------------------------|----------------------------|
| Senior Personnel, U.S.     | 107                | 18            | 0                      | 1                                     | 0                                 | 88                         |
| Senior Personnel, non-U.S. | 29                 | 3             | 0                      | 1                                     | 0                                 | 25                         |
| Postdocs, U.S.             | 23                 | 8             | 0                      | 0                                     | 1                                 | 14                         |
| Postdocs, non-U.S.         | 11                 | 3             | 0                      | 0                                     | 0                                 | 8                          |
| Students, U.S.             | 55                 | 16            | 0                      | 0                                     | 2                                 | 37                         |
| Students, non-U.S.         | 8                  | 1             | 0                      | 0                                     | 0                                 | 7                          |
| Technician, U.S.           | 9                  | 3             | 0                      | 0                                     | 0                                 | 6                          |
| Technician, non-U.S.       | 1                  | 0             | 0                      | 0                                     | 0                                 | 1                          |
| <b>TOTAL</b>               | <b>243</b>         | <b>52</b>     | <b>0</b>               | <b>2</b>                              | <b>3</b>                          | <b>186</b>                 |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.

<sup>3</sup> "Users Sending Sample" refers to users who send the sample to the facility and/or research group and the experiment is conducted by other collaborators on the experiment. Users at UF, FSU, and LANL cannot be "sample senders" for facilities located on their campuses.

<sup>4</sup> "Off-Site Users" are scientific or technical participants on the experiment; who will not be present, sending sample, or operating the magnet system remotely; and who are not located on the campus of that facility (i.e., they are off-site).

**Table 2. Users by Organization**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 107                | 85             | 9                        | 13                                      | 25                        | 80                        | 2                     |
| Senior Personnel, non-U.S. | 29                 | 29             | 0                        | 0                                       | 4                         | 23                        | 2                     |
| Postdocs, U.S.             | 23                 | 17             | 3                        | 3                                       | 4                         | 19                        | 0                     |
| Postdocs, non-U.S.         | 11                 | 11             | 0                        | 0                                       | 0                         | 11                        | 0                     |
| Students, U.S.             | 55                 | 36             | 12                       | 7                                       | 1                         | 54                        | 0                     |
| Students, non-U.S.         | 8                  | 8              | 0                        | 0                                       | 1                         | 7                         | 0                     |
| Technician, U.S.           | 9                  | 6              | 2                        | 1                                       | 0                         | 6                         | 3                     |
| Technician, non-U.S.       | 1                  | 1              | 0                        | 0                                       | 0                         | 1                         | 0                     |
| <b>TOTAL</b>               | <b>243</b>         | <b>193</b>     | <b>26</b>                | <b>24</b>                               | <b>35</b>                 | <b>201</b>                | <b>7</b>              |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> NHMFL-Affiliated users are defined as anyone in the lab's personnel system (i.e., on our website/directory), even if they travel to another site. Local users are defined as any non-NHMFL-Affiliated researchers originating at any of the institutions in proximity to the MagLab sites (i.e., researchers at FSU, UF, FAMU, or LANL), even if they travel to another site.

<sup>3</sup> Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

<sup>4</sup> Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.

<sup>5</sup> The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

**Table 3. Users by Discipline**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry  | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|------------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 107                | 0                        | 61         | 17          | 0                                | 28                                | 1                |
| Senior Personnel, non-U.S. | 29                 | 0                        | 18         | 3           | 0                                | 8                                 | 0                |
| Postdocs, U.S.             | 23                 | 0                        | 15         | 3           | 1                                | 4                                 | 0                |
| Postdocs, non-U.S.         | 11                 | 0                        | 4          | 0           | 0                                | 6                                 | 1                |
| Students, U.S.             | 55                 | 0                        | 35         | 1           | 0                                | 19                                | 0                |
| Students, non-U.S.         | 8                  | 0                        | 3          | 2           | 0                                | 3                                 | 0                |
| Technician, U.S.           | 9                  | 0                        | 4          | 2           | 0                                | 3                                 | 0                |
| Technician, non-U.S.       | 1                  | 0                        | 1          | 0           | 0                                | 0                                 | 0                |
| <b>TOTAL</b>               | <b>243</b>         | <b>0</b>                 | <b>141</b> | <b>28</b>   | <b>1</b>                         | <b>71</b>                         | <b>2</b>         |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

**Table 4a. Subscription Rate (Experiments)**

| Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments w/ Usage | Experiments w/ Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiment Subscription Rate | Experiments Subscription Percentage |
|--------------------------------------|--------------------------------------------------|----------------------|---------------------------------|----------------------|---------------------------------|----------------------|------------------------------|-------------------------------------|
| <b>102</b>                           | 32                                               | 117                  | 87.3 %                          | 17                   | 12.7 %                          | 134                  | 1.1                          | 114.5 %                             |

**Table 4b. Subscription Rate (Magnet Days)**

| Days Submitted | Days Used by External User | Days Used by Local User | Days Used by NHMFL-Affiliated User | Days Used for Inst., Dev., Test and Maintenance <sup>1</sup> | Total Days Used | Days Subscription Rate | Days Subscription Percentage |
|----------------|----------------------------|-------------------------|------------------------------------|--------------------------------------------------------------|-----------------|------------------------|------------------------------|
| <b>979</b>     | 309.5                      | 71.3                    | 82.3                               | 198.8                                                        | 662             | 1.5                    | 147.9 %                      |

<sup>1</sup> Test/Calibration/ Maintenance, Method Development, Analytical Chemistry, Upgrade Cell Design/Hardware Setup, Repair

**Table 5. Research Proposals Profile (Discipline) with Magnet Time**

| TOTAL Proposals | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| <b>69</b>       | 0                        | 49        | 4           | 0                                | 16                          | 0                |

Find the list of user proposals in **Appendix 5** and on our [website](#)

**Table 6. Operations by Magnet System Group**

|                                     | Total Days Used <sup>1</sup> | % of Total Days Used | 9.4T, 220mm bore FT-ICR MS | 14.5T Hybrid LTQ/FT-ICR MS | 21T Hybrid LTQ/FT-ICR MS |
|-------------------------------------|------------------------------|----------------------|----------------------------|----------------------------|--------------------------|
| <b>NHMFL-Affiliated</b>             | 82.3                         | 12.4 %               | 12                         | 36.3                       | 34                       |
| <b>Local</b>                        | 71.3                         | 10.8 %               | 22                         | 17                         | 32.3                     |
| <b>University, U.S.</b>             | 105.8                        | 16 %                 | 41                         | 0.3                        | 64.5                     |
| <b>University, non-U.S.</b>         | 68.3                         | 10.3 %               | 12                         | 14                         | 42.3                     |
| <b>Government Lab, U.S.</b>         | 9.7                          | 1.5 %                | 0                          | 0                          | 9.7                      |
| <b>Government Lab, non-U.S.</b>     | 33.3                         | 5 %                  | 2.5                        | 0                          | 30.8                     |
| <b>Industry, U.S.</b>               | 89.8                         | 13.6 %               | 0                          | 64.8                       | 25                       |
| <b>Industry, non-U.S.</b>           | 2.5                          | 0.4 %                | 2.5                        | 0                          | 0                        |
| <b>Test/Calibration/Maintenance</b> | 1.5                          | 0.2 %                | 0                          | 1                          | 0.5                      |
| <b>Method Development</b>           | 0                            | 0 %                  | 0                          | 0                          | 0                        |
| <b>Analytical Chemistry</b>         | 197.3                        | 29.8 %               | 89                         | 85.5                       | 22.8                     |
| <b>Upgrade Cell Design/Hardware</b> | 0                            | 0 %                  | 0                          | 0                          | 0                        |
| <b>Setup</b>                        | 0                            | 0 %                  | 0                          | 0                          | 0                        |
| <b>Repair</b>                       | 0                            | 0 %                  | 0                          | 0                          | 0                        |
| <b>TOTAL</b>                        | <b>662</b>                   |                      | <b>181</b>                 | <b>219</b>                 | <b>262</b>               |

<sup>1</sup> User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

<sup>2</sup> The 9.4T active system was retired, and the 9.4T passive suffered a costly turbo pump failure that limited instrument usage.

**Table 7. Operations by Discipline**

|                                       | Total Days Used | Condensed Matter Physics | Chemistry    | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|---------------------------------------|-----------------|--------------------------|--------------|-------------|----------------------------------|-----------------------------|------------------|
| <b>NHMFL-Affiliated</b>               | 82.3            | 0                        | 35           | 0           | 0                                | 47.3                        | 0                |
| <b>Local</b>                          | 71.3            | 0                        | 41.8         | 0           | 0                                | 29.6                        | 0                |
| <b>University, U.S.</b>               | 105.8           | 0                        | 90.6         | 11.3        | 0                                | 4                           | 0                |
| <b>University, non-U.S.</b>           | 68.3            | 0                        | 56.5         | 2.3         | 0                                | 9.5                         | 0                |
| <b>Government Lab, U.S.</b>           | 9.7             | 0                        | 9.7          | 0           | 0                                | 0                           | 0                |
| <b>Government Lab, non-U.S.</b>       | 33.3            | 0                        | 33.3         | 0           | 0                                | 0                           | 0                |
| <b>Industry, U.S.</b>                 | 89.8            | 0                        | 89.8         | 0           | 0                                | 0                           | 0                |
| <b>Industry, non-U.S.</b>             | 2.5             | 0                        | 2.5          | 0           | 0                                | 0                           | 0                |
| <b>Test/ Calibration/ Maintenance</b> | 1.5             | 0                        | 0.5          | 0           | 0                                | 1                           | 0                |
| <b>Method Development</b>             | 0               | 0                        | 0            | 0           | 0                                | 0                           | 0                |
| <b>Analytical Chemistry</b>           | 197.3           | 0                        | 157.5        | 0           | 0                                | 39.8                        | 0                |
| <b>Upgrade Cell Design/Hardware</b>   | 0               | 0                        | 0            | 0           | 0                                | 0                           | 0                |
| <b>Setup</b>                          | 0               | 0                        | 0            | 0           | 0                                | 0                           | 0                |
| <b>Repair</b>                         | 0               | 0                        | 0            | 0           | 0                                | 0                           | 0                |
| <b>TOTAL</b>                          | <b>662</b>      | <b>0</b>                 | <b>517.2</b> | <b>13.6</b> | <b>0</b>                         | <b>131.3</b>                | <b>0</b>         |

<sup>1</sup> User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

**Table 8. New PIs<sup>1</sup> and New Users**

|                                   | All PIs | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|-----------------------------------|---------|-----------------------|---------------------|---------------------------|-----------|-------------------------|-----------------------|-----------------------------|
| <b>Senior Personnel, U.S.</b>     | 36      | 9                     | 9                   | 27                        | 107       | 24                      | 24                    | 83                          |
| <b>Senior Personnel, non-U.S.</b> | 10      | 5                     | 5                   | 5                         | 29        | 9                       | 9                     | 20                          |
| <b>Postdocs, U.S.</b>             | 4       | 3                     | 3                   | 1                         | 23        | 10                      | 10                    | 13                          |



|                      | All Pis   | New Pis at the MagLab | New Pis at Facility | Returning Pis at Facility | All Users  | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------|-----------|-----------------------|---------------------|---------------------------|------------|-------------------------|-----------------------|-----------------------------|
| Postdocs, non-U.S.   | 3         | 3                     | 3                   | 0                         | 11         | 9                       | 9                     | 2                           |
| Students, U.S.       | 1         | 1                     | 1                   | 0                         | 55         | 28                      | 29                    | 26                          |
| Students, non-U.S.   | 1         | 1                     | 1                   | 0                         | 8          | 3                       | 3                     | 5                           |
| Technician, U.S.     | 0         | 0                     | 0                   | 0                         | 9          | 4                       | 4                     | 5                           |
| Technician, non-U.S. | 0         | 0                     | 0                   | 0                         | 1          | 0                       | 0                     | 1                           |
| <b>TOTAL</b>         | <b>55</b> | <b>22</b>             | <b>22</b>           | <b>33</b>                 | <b>243</b> | <b>87</b>               | <b>88</b>             | <b>155</b>                  |

<sup>1</sup> Pis who received magnet time for the first time.

**Table 9. New <sup>1</sup> User Pis**

| Name                | Organization                              | Proposal | Year of Magnet Time | Is New to MagLab |
|---------------------|-------------------------------------------|----------|---------------------|------------------|
| Mirabel Akongwi     | University of Buea                        | P20610   | Received 2025       | Yes              |
| Lihini Aluwihare    | University of California, San Diego       | P20471   | Received 2025       | Yes              |
| Sharon Bone         | SLAC National Accelerator Laboratory      | P20659   | Received 2025       | Yes              |
| Lauren Burrows      | National Energy Technology Laboratory     | P20845   | Received 2025       | Yes              |
| Helen Cooper        | University of Birmingham                  | P20995   | Received 2025       | Yes              |
| Maya Engel          | Hebrew University of Jerusalem            | P20668   | Received 2025       | Yes              |
| Blazenka Gasparovic | Institut Ruder Boškovic                   | P20670   | Received 2025       | Yes              |
| Boniek Gontijo Vaz  | Federal University of Goias               | P20794   | Received 2025       | Yes              |
| Luis González López | University of Antioquia                   | P20792   | Received 2025       | Yes              |
| Trinity Hamilton    | University of Minnesota, Twin Cities      | P20586   | Received 2025       | Yes              |
| Geert Hensgens      | Vrije Universiteit                        | P20601   | Received 2025       | Yes              |
| Ever Herrera Rios   | National University of Colombia, Medellin | P20920   | Received 2025       | Yes              |
| Amy Holt            | Florida State University                  | P20991   | Received 2025       | Yes              |
| Samuel Katz         | University of Delaware                    | P21026   | Received 2025       | Yes              |
| Ellen Lalk          | U.S. Geological Survey (Headquarter)      | P20489   | Received 2025       | Yes              |
| Kim Lewis           | Northeastern University                   | P20922   | Received 2025       | Yes              |
| Xuefeng Peng        | University of South Carolina              | P20470   | Received 2025       | Yes              |
| Marek Polák         | National High Magnetic Field Laboratory   | P20818   | Received 2025       | Yes              |
| Jagos Radovic       | University of Houston                     | P20793   | Received 2025       | Yes              |
| Kathleen Ruttenberg | University of Hawaii                      | P20473   | Received 2025       | Yes              |
| Sommer Starr        | Trent University                          | P20813   | Received 2025       | Yes              |
| Jackson Webster     | California State University, Chico        | P20699   | Received 2025       | Yes              |

<sup>1</sup> Pis who received magnet time for the first time.

## NMR FACILITY

**Table 1. Users by Participation**

|                            | Users <sup>1</sup> | Users Present | User Present Virtually | Users Operating Remotely <sup>2</sup> | Users Sending Sample <sup>3</sup> | Off-Site User <sup>4</sup> |
|----------------------------|--------------------|---------------|------------------------|---------------------------------------|-----------------------------------|----------------------------|
| Senior Personnel, U.S.     | 74                 | 18            | 0                      | 13                                    | 10                                | 33                         |
| Senior Personnel, non-U.S. | 20                 | 1             | 0                      | 0                                     | 6                                 | 13                         |
| Postdocs, U.S.             | 23                 | 11            | 0                      | 3                                     | 2                                 | 7                          |
| Postdocs, non-U.S.         | 3                  | 1             | 0                      | 0                                     | 0                                 | 2                          |
| Students, U.S.             | 78                 | 44            | 0                      | 8                                     | 10                                | 16                         |
| Students, non-U.S.         | 23                 | 8             | 0                      | 0                                     | 9                                 | 6                          |
| Technician, U.S.           | 4                  | 2             | 0                      | 0                                     | 0                                 | 2                          |
| Technician, non-U.S.       | 0                  | 0             | 0                      | 0                                     | 0                                 | 0                          |
| <b>TOTAL</b>               | <b>225</b>         | <b>85</b>     | <b>0</b>               | <b>24</b>                             | <b>37</b>                         | <b>79</b>                  |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.

<sup>3</sup> "Users Sending Sample" refers to users who send the sample to the facility and/or research group and the experiment is conducted by other collaborators on the experiment. Users at UF, FSU, and LANL cannot be "sample senders" for facilities located on their campuses.

<sup>4</sup> "Off-Site Users" are scientific or technical participants on the experiment; who will not be present, sending sample, or operating the magnet system remotely; and who are not located on the campus of that facility (i.e., they are off-site).

**Table 2. Users by Organization**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 74                 | 47             | 12                       | 15                                      | 7                         | 67                        | 0                     |
| Senior Personnel, non-U.S. | 20                 | 20             | 0                        | 0                                       | 4                         | 16                        | 0                     |
| Postdocs, U.S.             | 23                 | 12             | 5                        | 6                                       | 2                         | 21                        | 0                     |
| Postdocs, non-U.S.         | 3                  | 3              | 0                        | 0                                       | 0                         | 3                         | 0                     |
| Students, U.S.             | 78                 | 38             | 17                       | 23                                      | 0                         | 78                        | 0                     |
| Students, non-U.S.         | 23                 | 23             | 0                        | 0                                       | 3                         | 20                        | 0                     |
| Technician, U.S.           | 4                  | 3              | 1                        | 0                                       | 0                         | 4                         | 0                     |
| Technician, non-U.S.       | 0                  | 0              | 0                        | 0                                       | 0                         | 0                         | 0                     |
| <b>TOTAL</b>               | <b>225</b>         | <b>146</b>     | <b>35</b>                | <b>44</b>                               | <b>16</b>                 | <b>209</b>                | <b>0</b>              |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> NHMFL-Affiliated users are defined as anyone in the lab's personnel system (i.e., on our web site/directory), even if they travel to another site. Local users are defined as any non-NHMFL-Affiliated researchers originating at any of the institutions in proximity to the MagLab sites (i.e., researchers at FSU, UF, FAMU, or LANL), even if they travel to another site.

<sup>3</sup> Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

<sup>4</sup> Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.

<sup>5</sup> The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

**Table 3. Users by Discipline**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry  | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|------------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 74                 | 3                        | 26         | 10          | 0                                | 25                                | 10               |
| Senior Personnel, non-U.S. | 20                 | 0                        | 14         | 0           | 1                                | 4                                 | 1                |
| Postdocs, U.S.             | 23                 | 1                        | 9          | 1           | 0                                | 9                                 | 3                |
| Postdocs, non-U.S.         | 3                  | 0                        | 0          | 1           | 0                                | 1                                 | 1                |
| Students, U.S.             | 78                 | 0                        | 36         | 20          | 0                                | 18                                | 4                |
| Students, non-U.S.         | 23                 | 1                        | 14         | 2           | 0                                | 5                                 | 1                |
| Technician, U.S.           | 4                  | 0                        | 1          | 1           | 0                                | 2                                 | 0                |
| Technician, non-U.S.       | 0                  | 0                        | 0          | 0           | 0                                | 0                                 | 0                |
| <b>TOTAL</b>               | <b>225</b>         | <b>5</b>                 | <b>100</b> | <b>35</b>   | <b>1</b>                         | <b>64</b>                         | <b>20</b>        |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

**Table 4a. Subscription Rate (Experiments)**

| Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments w/ Usage | Experiment s w/ Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiment Subscription Rate | Experiments Subscription Percentage |
|--------------------------------------|--------------------------------------------------|----------------------|----------------------------------|----------------------|---------------------------------|----------------------|------------------------------|-------------------------------------|
| 642                                  | 14                                               | 629                  | 95.9 %                           | 27                   | 4.1 %                           | 656                  | 1                            | 104.3 %                             |

**Table 4b. Subscription Rate (Magnet Days)**

| Days Submitted | Days Used by External User | Days Used by Local User | Days Used by NHMFL-Affiliated User | Days Used for Inst., Dev., Test and Maintenance <sup>1</sup> | Total Days Used | Days Subscription Rate | Days Subscription Percentage |
|----------------|----------------------------|-------------------------|------------------------------------|--------------------------------------------------------------|-----------------|------------------------|------------------------------|
| <b>3,098</b>   | 1,883                      | 432.5                   | 305                                | 138.5                                                        | 2,759           | 1.1                    | 112.3 %                      |

<sup>1</sup> Test/Calibration/ Maintenance, Method Development, Analytical Chemistry, Upgrade Cell Design/Hardware Setup, Repair

**Table 5. Research Proposals Profile (Discipline) with Magnet Time**

| TOTAL Proposals | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| <b>65</b>       | 0                        | 19        | 6           | 0                                | 32                          | 8                |

Find the list of user proposals in **Appendix 5** and on our [website](#)

**Table 6. Operations by Magnet System Group**

|                               | Total Days Used <sup>1</sup> | % of Total Days Used | 900MHz, 105mm bore, 21.1T | 850MHz, 54mm bore, 20T | 800MHz, 63mm bore, (MB) 18.8T #1 | 800MHz, 63mm bore, (MB) 18.8T #2 | 600MHz, 89mm bore, 14T #1 | 600MHz, 89mm bore, 14T #2 | 600MHz, 89mm bore MAS DNP | 600MHz, 52mm bore, 14T | 500MHz, 89mm bore, 11.7T |
|-------------------------------|------------------------------|----------------------|---------------------------|------------------------|----------------------------------|----------------------------------|---------------------------|---------------------------|---------------------------|------------------------|--------------------------|
| NHMFL-Affiliated              | 305                          | 11.1 %               | 107                       | 7.5                    | 20                               | 46                               | 25                        | 51.5                      | 14                        | 24                     | 10                       |
| Local                         | 432.5                        | 15.7 %               | 109                       | 9                      | 60                               | 46                               | 54                        | 6                         | 30.5                      | 0                      | 118                      |
| University, U.S.              | 1,468.5                      | 53.2 %               | 89                        | 147                    | 211                              | 258                              | 214                       | 307.5                     | 55                        | 0                      | 187                      |
| University, non-U.S.          | 274.5                        | 9.9 %                | 14                        | 154                    | 20                               | 2                                | 0                         | 0                         | 84.5                      | 0                      | 0                        |
| Government Lab, U.S.          | 110                          | 4 %                  | 0                         | 7                      | 22                               | 0                                | 42                        | 0                         | 0                         | 0                      | 39                       |
| Government Lab, non-U.S.      | 0                            | 0 %                  | 0                         | 0                      | 0                                | 0                                | 0                         | 0                         | 0                         | 0                      | 0                        |
| Industry, U.S.                | 30                           | 1.1 %                | 30                        | 0                      | 0                                | 0                                | 0                         | 0                         | 0                         | 0                      | 0                        |
| Industry, non-U.S.            | 0                            | 0 %                  | 0                         | 0                      | 0                                | 0                                | 0                         | 0                         | 0                         | 0                      | 0                        |
| Test/Calibration/ Maintenance | 72.5                         | 2.6 %                | 0                         | 0.5                    | 5                                | 0                                | 0                         | 0                         | 34                        | 33                     | 0                        |
| Method Development            | 31                           | 1.1 %                | 0                         | 14                     | 9                                | 0                                | 0                         | 0                         | 8                         | 0                      | 0                        |
| Analytical Chemistry          | 0                            | 0 %                  | 0                         | 0                      | 0                                | 0                                | 0                         | 0                         | 0                         | 0                      | 0                        |
| Upgrade Cell Design/Hardware  | 30                           | 1.1 %                | 0                         | 0                      | 0                                | 0                                | 0                         | 0                         | 30                        | 0                      | 0                        |
| Setup                         | 5                            | 0.2 %                | 0                         | 0                      | 0                                | 0                                | 0                         | 0                         | 5                         | 0                      | 0                        |
| Repair                        | 0                            | 0 %                  | 0                         | 0                      | 0                                | 0                                | 0                         | 0                         | 0                         | 0                      | 0                        |
| <b>TOTAL</b>                  | <b>2,759</b>                 |                      | <b>349</b>                | <b>339</b>             | <b>347</b>                       | <b>352</b>                       | <b>335</b>                | <b>365</b>                | <b>261</b>                | <b>57</b>              | <b>354</b>               |

<sup>1</sup> User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

**Table 7. Operations by Discipline**

|                                | Total Days Used | Condensed Matter Physics | Chemistry      | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|--------------------------------|-----------------|--------------------------|----------------|-------------|----------------------------------|-----------------------------|------------------|
| NHMFL-Affiliated               | 305             | 0                        | 149            | 23          | 0                                | 133                         | 0                |
| Local                          | 432.5           | 0                        | 186            | 223         | 0                                | 23.5                        | 0                |
| University, U.S.               | 1,468.5         | 0                        | 559            | 22          | 0                                | 776                         | 111.5            |
| University, non-U.S.           | 274.5           | 0                        | 181            | 0           | 0                                | 43                          | 50.5             |
| Government Lab, U.S.           | 110             | 0                        | 110            | 0           | 0                                | 0                           | 0                |
| Government Lab, non-U.S.       | 0               | 0                        | 0              | 0           | 0                                | 0                           | 0                |
| Industry, U.S.                 | 30              | 0                        | 0              | 0           | 0                                | 30                          | 0                |
| Industry, non-U.S.             | 0               | 0                        | 0              | 0           | 0                                | 0                           | 0                |
| Test/ Calibration/ Maintenance | 72.5            | 0                        | 5.5            | 32          | 0                                | 35                          | 0                |
| Method Development             | 31              | 0                        | 23             | 0           | 0                                | 8                           | 0                |
| Analytical Chemistry           | 0               | 0                        | 0              | 0           | 0                                | 0                           | 0                |
| Upgrade Cell Design/Hardware   | 30              | 0                        | 0              | 0           | 0                                | 30                          | 0                |
| Setup                          | 5               | 0                        | 0              | 0           | 0                                | 5                           | 0                |
| Repair                         | 0               | 0                        | 0              | 0           | 0                                | 0                           | 0                |
| <b>TOTAL</b>                   | <b>2,759</b>    | <b>0</b>                 | <b>1,213.5</b> | <b>300</b>  | <b>0</b>                         | <b>1,083.5</b>              | <b>162</b>       |

<sup>1</sup> User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

**Table 8. New PIs<sup>1</sup> and New Users**

|                            | All PIs   | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users  | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------------|-----------|-----------------------|---------------------|---------------------------|------------|-------------------------|-----------------------|-----------------------------|
| Senior Personnel, U.S.     | 41        | 6                     | 6                   | 35                        | 74         | 9                       | 12                    | 62                          |
| Senior Personnel, non-U.S. | 9         | 2                     | 2                   | 7                         | 20         | 4                       | 4                     | 16                          |
| Postdocs, U.S.             | 0         | 0                     | 0                   | 0                         | 23         | 9                       | 10                    | 13                          |
| Postdocs, non-U.S.         | 0         | 0                     | 0                   | 0                         | 3          | 2                       | 2                     | 1                           |
| Students, U.S.             | 0         | 0                     | 0                   | 0                         | 78         | 31                      | 32                    | 46                          |
| Students, non-U.S.         | 1         | 0                     | 0                   | 1                         | 23         | 9                       | 9                     | 14                          |
| Technician, U.S.           | 0         | 0                     | 0                   | 0                         | 4          | 2                       | 2                     | 2                           |
| Technician, non-U.S.       | 0         | 0                     | 0                   | 0                         | 0          | 0                       | 0                     | 0                           |
| <b>TOTAL</b>               | <b>51</b> | <b>8</b>              | <b>8</b>            | <b>43</b>                 | <b>225</b> | <b>66</b>               | <b>71</b>             | <b>154</b>                  |

<sup>1</sup> PIs who received magnet time for the first time.**Table 9. New<sup>1</sup> User PIs**

| Name                   | Organization                                   | Proposal | Year of Magnet Time | Is New to MagLab |
|------------------------|------------------------------------------------|----------|---------------------|------------------|
| Asif Equbal            | New York University                            | P20853   | Received 2025       | Yes              |
| Gaurav Giri            | University of Virginia                         | P20764   | Received 2025       | Yes              |
| Kisuk Kang             | Seoul National University                      | P21029   | Received 2025       | Yes              |
| Anne Lesage            | French National Center for Scientific Research | P20950   | Received 2025       | Yes              |
| Xiaolin Li             | Pacific Northwest National Laboratory          | P20484   | Received 2025       | Yes              |
| John McCloy            | Washington State University                    | P21033   | Received 2025       | Yes              |
| Tatyana Polenova       | University of Delaware                         | P20856   | Received 2025       | Yes              |
| Jayakanth Ravichandran | University of Southern California              | P20806   | Received 2025       | Yes              |

<sup>1</sup> PIs who received magnet time for the first time.

## PULSED FIELD FACILITY

**Table 1. Users by Participation**

|                            | Users <sup>1</sup> | Users Present | User Present Virtually | Users Operating Remotely <sup>2</sup> | Users Sending Sample <sup>3</sup> | Off-Site User <sup>4</sup> |
|----------------------------|--------------------|---------------|------------------------|---------------------------------------|-----------------------------------|----------------------------|
| Senior Personnel, U.S.     | 57                 | 28            | 0                      | 0                                     | 6                                 | 23                         |
| Senior Personnel, non-U.S. | 35                 | 11            | 0                      | 0                                     | 3                                 | 21                         |
| Postdocs, U.S.             | 23                 | 15            | 0                      | 0                                     | 3                                 | 5                          |
| Postdocs, non-U.S.         | 17                 | 3             | 0                      | 0                                     | 2                                 | 12                         |
| Students, U.S.             | 35                 | 24            | 0                      | 0                                     | 1                                 | 10                         |
| Students, non-U.S.         | 13                 | 6             | 0                      | 0                                     | 0                                 | 7                          |
| Technician, U.S.           | 1                  | 1             | 0                      | 0                                     | 0                                 | 0                          |
| Technician, non-U.S.       | 1                  | 1             | 0                      | 0                                     | 0                                 | 0                          |
| <b>TOTAL</b>               | <b>182</b>         | <b>89</b>     | <b>0</b>               | <b>0</b>                              | <b>15</b>                         | <b>78</b>                  |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.

<sup>3</sup> "Users Sending Sample" refers to users who send the sample to the facility and/or research group and the experiment is conducted by other collaborators on the experiment. Users at UF, FSU, and LANL cannot be "sample senders" for facilities located on their campuses.

<sup>4</sup> "Off-Site Users" are scientific or technical participants on the experiment; who will not be present, sending sample, or operating the magnet system remotely; and who are not located on the campus of that facility (i.e., they are off-site).

**Table 2. Users by Organization**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 57                 | 35             | 2                        | 20                                      | 22                        | 34                        | 1                     |
| Senior Personnel, non-U.S. | 35                 | 35             | 0                        | 0                                       | 13                        | 22                        | 0                     |
| Postdocs, U.S.             | 23                 | 17             | 3                        | 3                                       | 9                         | 14                        | 0                     |
| Postdocs, non-U.S.         | 17                 | 17             | 0                        | 0                                       | 6                         | 11                        | 0                     |
| Students, U.S.             | 35                 | 35             | 0                        | 0                                       | 0                         | 35                        | 0                     |
| Students, non-U.S.         | 13                 | 13             | 0                        | 0                                       | 3                         | 10                        | 0                     |
| Technician, U.S.           | 1                  | 0              | 0                        | 1                                       | 1                         | 0                         | 0                     |
| Technician, non-U.S.       | 1                  | 1              | 0                        | 0                                       | 1                         | 0                         | 0                     |
| <b>TOTAL</b>               | <b>182</b>         | <b>153</b>     | <b>5</b>                 | <b>24</b>                               | <b>55</b>                 | <b>126</b>                | <b>1</b>              |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> NHMFL-Affiliated users are defined as anyone in the lab's personnel system (i.e., on our web site/directory), even if they travel to another site. Local users are defined as any non-NHMFL-Affiliated researchers originating at any of the institutions in proximity to the MagLab sites (i.e., researchers at FSU, UF, FAMU, or LANL), even if they travel to another site.

<sup>3</sup> Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

<sup>4</sup> Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.

<sup>5</sup> The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

**Table 3. Users by Discipline**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 57                 | 47                       | 2         | 1           | 3                                | 0                                 | 4                |
| Senior Personnel, non-U.S. | 35                 | 24                       | 1         | 0           | 4                                | 0                                 | 6                |
| Postdocs, U.S.             | 23                 | 18                       | 1         | 1           | 0                                | 0                                 | 3                |
| Postdocs, non-U.S.         | 17                 | 14                       | 0         | 0           | 0                                | 0                                 | 3                |
| Students, U.S.             | 35                 | 28                       | 2         | 1           | 0                                | 0                                 | 4                |
| Students, non-U.S.         | 13                 | 11                       | 0         | 0           | 1                                | 0                                 | 1                |
| Technician, U.S.           | 1                  | 1                        | 0         | 0           | 0                                | 0                                 | 0                |
| Technician, non-U.S.       | 1                  | 1                        | 0         | 0           | 0                                | 0                                 | 0                |
| <b>TOTAL</b>               | <b>182</b>         | <b>144</b>               | <b>6</b>  | <b>3</b>    | <b>8</b>                         | <b>0</b>                          | <b>21</b>        |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

**Table 4a. Subscription Rate (Experiments)**

| Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments w/ Usage | Experiments w/ Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiment Subscription Rate | Experiments Subscription Percentage |
|--------------------------------------|--------------------------------------------------|----------------------|---------------------------------|----------------------|---------------------------------|----------------------|------------------------------|-------------------------------------|
| 92                                   | 15                                               | 74                   | 69.2 %                          | 33                   | 30.8 %                          | 107                  | 1.4                          | 144.6 %                             |



**Table 4b. Subscription Rate (Magnet Days)**

| Days Submitted | Days Used by External User | Days Used by Local User | Days Used by NHMFL-Affiliated User | Days Used for Inst., Dev., Test and Maintenance <sup>1</sup> | Total Days Used | Days Subscription Rate | Days Subscription Percentage |
|----------------|----------------------------|-------------------------|------------------------------------|--------------------------------------------------------------|-----------------|------------------------|------------------------------|
| 816            | 386                        | 0                       | 110                                | 45                                                           | 541             | 1.5                    | 150.8 %                      |

<sup>1</sup> Test/Calibration/ Maintenance, Method Development, Analytical Chemistry, Upgrade Cell Design/Hardware Setup, Repair

**Table 5. Research Proposals Profile (Discipline) with Magnet Time**

| TOTAL Proposals | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| 48              | 42                       | 2         | 0           | 2                                | 1                           | 1                |

Find the list of user proposals in **Appendix 5** and on our [website](#)

**Table 6. Operations by Magnet System Group**

|                              | Total Days Used <sup>1</sup> | % of Total Days Used | 55 T | 65 T Multi shot 25 mS (Short Pulse) | 73 T Multi shot (Duplex) | 85 T Multi shot 15 mm bore (100 T) |
|------------------------------|------------------------------|----------------------|------|-------------------------------------|--------------------------|------------------------------------|
| NHMFL-Affiliated             | 110                          | 20.3 %               | 20   | 80                                  | 10                       | 0                                  |
| Local                        | 0                            | 0 %                  | 0    | 0                                   | 0                        | 0                                  |
| University, U.S.             | 149                          | 27.5 %               | 40   | 99                                  | 10                       | 0                                  |
| University, non-U.S.         | 113                          | 20.9 %               | 39   | 74                                  | 0                        | 0                                  |
| Government Lab, U.S.         | 76                           | 14 %                 | 0    | 76                                  | 0                        | 0                                  |
| Government Lab, non-U.S.     | 48                           | 8.9 %                | 10   | 33                                  | 5                        | 0                                  |
| Industry, U.S.               | 0                            | 0 %                  | 0    | 0                                   | 0                        | 0                                  |
| Industry, non-U.S.           | 0                            | 0 %                  | 0    | 0                                   | 0                        | 0                                  |
| Test/Calibration/Maintenance | 35                           | 6.5 %                | 0    | 12                                  | 0                        | 23                                 |
| Method Development           | 10                           | 1.8 %                | 0    | 10                                  | 0                        | 0                                  |
| Analytical Chemistry         | 0                            | 0 %                  | 0    | 0                                   | 0                        | 0                                  |
| Upgrade Cell Design/Hardware | 0                            | 0 %                  | 0    | 0                                   | 0                        | 0                                  |
| Setup                        | 0                            | 0 %                  | 0    | 0                                   | 0                        | 0                                  |
| Repair                       | 0                            | 0 %                  | 0    | 0                                   | 0                        | 0                                  |
| TOTAL                        | 541                          |                      | 109  | 384                                 | 25                       | 23                                 |

**Table 7. Operations by Discipline**

|                                | Total Days Used | Condensed Matter Physics | Chemistry | Engineering | Development of Magnet Technology | Biology, Biochem., Biophys. | Material Science |
|--------------------------------|-----------------|--------------------------|-----------|-------------|----------------------------------|-----------------------------|------------------|
| NHMFL-Affiliated               | 110             | 110                      | 0         | 0           | 0                                | 0                           | 0                |
| Local                          | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| University, U.S.               | 149             | 129                      | 10        | 0           | 10                               | 0                           | 0                |
| University, non-U.S.           | 113             | 103                      | 0         | 0           | 0                                | 0                           | 10               |
| Government Lab, U.S.           | 76              | 76                       | 0         | 0           | 0                                | 0                           | 0                |
| Government Lab, non-U.S.       | 48              | 48                       | 0         | 0           | 0                                | 0                           | 0                |
| Industry, U.S.                 | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Industry, non-U.S.             | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Test/ Calibration/ Maintenance | 35              | 35                       | 0         | 0           | 0                                | 0                           | 0                |
| Method Development             | 10              | 10                       | 0         | 0           | 0                                | 0                           | 0                |
| Analytical Chemistry           | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Upgrade Cell Design/Hardware   | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Setup                          | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| Repair                         | 0               | 0                        | 0         | 0           | 0                                | 0                           | 0                |
| TOTAL                          | 541             | 511                      | 10        | 0           | 10                               | 0                           | 10               |

**Table 8. New Pls<sup>1</sup> and New Users**

|                            | All Pls | New Pls at the MagLab | New Pls at Facility | Returning Pls at Facility | All Users | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------------|---------|-----------------------|---------------------|---------------------------|-----------|-------------------------|-----------------------|-----------------------------|
| Senior Personnel, U.S.     | 27      | 2                     | 5                   | 22                        | 57        | 2                       | 5                     | 52                          |
| Senior Personnel, non-U.S. | 15      | 2                     | 6                   | 9                         | 35        | 11                      | 12                    | 23                          |
| Postdocs, U.S.             | 4       | 2                     | 2                   | 2                         | 23        | 7                       | 13                    | 10                          |
| Postdocs, non-U.S.         | 0       | 0                     | 0                   | 0                         | 17        | 5                       | 7                     | 10                          |
| Students, U.S.             | 0       | 0                     | 0                   | 0                         | 35        | 14                      | 21                    | 14                          |

|                      | All PIs   | New PIs at the MagLab | New PIs at Facility | Returning PIs at Facility | All Users  | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------|-----------|-----------------------|---------------------|---------------------------|------------|-------------------------|-----------------------|-----------------------------|
| Students, non-U.S.   | 0         | 0                     | 0                   | 0                         | 13         | 5                       | 8                     | 5                           |
| Technician, U.S.     | 0         | 0                     | 0                   | 0                         | 1          | 0                       | 0                     | 1                           |
| Technician, non-U.S. | 0         | 0                     | 0                   | 0                         | 1          | 1                       | 1                     | 0                           |
| <b>TOTAL</b>         | <b>46</b> | <b>6</b>              | <b>13</b>           | <b>33</b>                 | <b>182</b> | <b>45</b>               | <b>67</b>             | <b>115</b>                  |

<sup>1</sup> PIs who received magnet time for the first time.

**Table 9. New<sup>1</sup> User PIs**

| Name                  | Organization                         | Proposal | Year of Magnet Time | Is New to MagLab |
|-----------------------|--------------------------------------|----------|---------------------|------------------|
| Junho Choi            | Kyung Hee University                 | P20770   | Received 2025       | Yes              |
| Paula Giraldo-Gallo   | University of Los Andes              | P20260   | Received 2025       | No               |
| William Iliffe        | CCFE STEP                            | P20698   | Received 2025       | Yes              |
| Bharat Jalan          | University of Minnesota, Twin Cities | P20894   | Received 2025       | Yes              |
| Lin Jiao              | Zhejiang University                  | P20707   | Received 2025       | No               |
| Ho Nyung Lee          | Oak Ridge National Laboratory        | P20703   | Received 2025       | No               |
| Seunghun Lee          | University of Virginia               | P20929   | Received 2025       | Yes              |
| Madalynn Marshall     | Kennesaw State University            | P20827   | Received 2025       | No               |
| Andreas Rydh          | Stockholm University                 | P20990   | Received 2025       | No               |
| Vikas Saini           | Los Alamos National Laboratory       | P20888   | Received 2025       | Yes              |
| Gabriel Silva Freitas | Los Alamos National Laboratory       | P20863   | Received 2025       | Yes              |
| Jian Wang             | Peking University                    | P20256   | Received 2025       | No               |
| Suyang Xu             | Harvard University                   | P20287   | Received 2025       | No               |

<sup>1</sup> PIs who received magnet time for the first time.

## APPENDIX 3 – USER FACILITY OVERVIEW

**Table 1a. Users by Participation of All Facilities**

|                            | Users <sup>1</sup> | Users Present <sup>2</sup> | Users Present Virtually <sup>3</sup> | Users Operating Remotely <sup>4</sup> | Users Sending Sample <sup>5</sup> | Off-Site Users <sup>6</sup> |
|----------------------------|--------------------|----------------------------|--------------------------------------|---------------------------------------|-----------------------------------|-----------------------------|
| Senior Personnel, U.S.     | 577                | 235                        | 8                                    | 14                                    | 39                                | 281                         |
| Senior Personnel, non-U.S. | 179                | 34                         | 6                                    | 1                                     | 23                                | 115                         |
| Postdocs, U.S.             | 190                | 112                        | 1                                    | 3                                     | 13                                | 61                          |
| Postdocs, non-U.S.         | 50                 | 13                         | 2                                    | 0                                     | 4                                 | 31                          |
| Students, U.S.             | 513                | 351                        | 1                                    | 8                                     | 25                                | 128                         |
| Students, non-U.S.         | 87                 | 34                         | 1                                    | 0                                     | 18                                | 34                          |
| Technician, U.S.           | 39                 | 27                         | 0                                    | 0                                     | 0                                 | 12                          |
| Technician, non-U.S.       | 2                  | 1                          | 0                                    | 0                                     | 0                                 | 1                           |
| <b>TOTAL</b>               | <b>1,637</b>       | <b>807</b>                 | <b>19</b>                            | <b>26</b>                             | <b>122</b>                        | <b>663</b>                  |

<sup>1</sup> Users using multiple facilities are counted in each facility listed. If a user has multiple participations within the facility, it does not double count, instead reports the first occurrence in the following order: *User Present* takes precedence over *User Present Virtually*, next *User Operating Remotely*, and *User Sending Sample* and *Off-Site User* has the least precedence.

<sup>2</sup> *User Present*: This person will be physically present in the MagLab user facility during the experiment.

<sup>3</sup> *User Present Virtually*: This person will participate virtually in the data acquisition process under the control of present MagLab user support personnel. Users at FSU, LANL, and UF cannot be "User Present Virtually" for facilities located at their campuses.

<sup>4</sup> *User Operating Remotely*: This person will be operating the magnet system from a remote location. Remote operations are not currently available in all facilities.

<sup>5</sup> *User Sending Sample*: This person will be sending the sample and the experiment will be conducted by in-house user support personnel. Users at FSU (except ICR), LANL, and UF cannot be "sample senders" for facilities located at their campuses.

<sup>6</sup> *Off-Site User*: This person is a scientific or technical participant on the experiment, but will not be present, sending samples, operating the magnet system remotely nor be present virtually.

**Table 1b. Users by Participation by Facilities**

|                          | Users        | Users Present | Users Present Virtually | Users Operating Remotely | Users Sending Sample | Off-Site Users |
|--------------------------|--------------|---------------|-------------------------|--------------------------|----------------------|----------------|
| AMRIS – NSF-Funded       | 112          | 102           | 0                       | 0                        | 1                    | 9              |
| AMRIS – Non-NHMFL Funded | 156          | 120           | 0                       | 0                        | 0                    | 36             |
| DC Field                 | 544          | 308           | 19                      | 0                        | 28                   | 189            |
| EMR                      | 155          | 42            | 0                       | 0                        | 37                   | 76             |
| High B/T                 | 20           | 9             | 0                       | 0                        | 1                    | 10             |
| ICR                      | 243          | 52            | 0                       | 2                        | 3                    | 186            |
| NMR                      | 225          | 85            | 0                       | 24                       | 37                   | 79             |
| Pulsed Field             | 182          | 89            | 0                       | 0                        | 15                   | 78             |
| <b>TOTAL</b>             | <b>1,637</b> | <b>807</b>    | <b>19</b>               | <b>26</b>                | <b>122</b>           | <b>663</b>     |

**Table 2a. Users by Organization of All Facilities**

|                            | Users <sup>1</sup> | External Users | Local Users <sup>2</sup> | NHMFL-Affiliated Users <sup>2,3,4</sup> | Laboratory <sup>3,5</sup> | University <sup>4,5</sup> | Industry <sup>5</sup> |
|----------------------------|--------------------|----------------|--------------------------|-----------------------------------------|---------------------------|---------------------------|-----------------------|
| Senior Personnel, U.S.     | 577                | 338            | 90                       | 149                                     | 80                        | 475                       | 22                    |
| Senior Personnel, non-U.S. | 179                | 179            | 0                        | 0                                       | 47                        | 130                       | 2                     |
| Postdocs, U.S.             | 190                | 124            | 38                       | 28                                      | 27                        | 161                       | 2                     |
| Postdocs, non-U.S.         | 50                 | 50             | 0                        | 0                                       | 8                         | 42                        | 0                     |
| Students, U.S.             | 513                | 306            | 156                      | 51                                      | 3                         | 508                       | 2                     |
| Students, non-U.S.         | 87                 | 87             | 0                        | 0                                       | 7                         | 80                        | 0                     |
| Technician, U.S.           | 39                 | 15             | 13                       | 11                                      | 1                         | 33                        | 5                     |
| Technician, non-U.S.       | 2                  | 2              | 0                        | 0                                       | 1                         | 1                         | 0                     |
| <b>TOTAL</b>               | <b>1,637</b>       | <b>1,101</b>   | <b>297</b>               | <b>239</b>                              | <b>174</b>                | <b>1,430</b>              | <b>33</b>             |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

<sup>2</sup> NHMFL-Affiliated users are defined as anyone in the lab's personnel system (i.e., on our website/directory), even if they travel to another site. Local users are defined as any non-NHMFL-Affiliated researchers originating at any of the institutions in proximity to the MagLab sites (i.e., researchers at FSU, UF, FAMU, or LANL), even if they travel to another site.

<sup>3</sup> Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

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<sup>4</sup> Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.

<sup>5</sup> The total of university, industry, and national lab users will equal the total number of users.

**Table 2b. Users by Organization by Facilities**

|                          | Users        | External Users | Local Users | NHMFL-Affiliated Users | Laboratory | University   | Industry  |
|--------------------------|--------------|----------------|-------------|------------------------|------------|--------------|-----------|
| AMRIS – NSF-Funded       | 112          | 45             | 53          | 14                     | 1          | 110          | 1         |
| AMRIS – Non-NHMFL Funded | 156          | 14             | 131         | 11                     | 0          | 152          | 4         |
| DC Field                 | 544          | 439            | 27          | 78                     | 56         | 468          | 20        |
| EMR                      | 155          | 102            | 18          | 35                     | 7          | 148          | 0         |
| High B/T                 | 20           | 9              | 2           | 9                      | 4          | 16           | 0         |
| ICR                      | 243          | 193            | 26          | 24                     | 35         | 201          | 7         |
| NMR                      | 225          | 146            | 35          | 44                     | 16         | 209          | 0         |
| Pulsed Field             | 182          | 153            | 5           | 24                     | 55         | 126          | 1         |
| <b>TOTAL</b>             | <b>1,637</b> | <b>1,101</b>   | <b>297</b>  | <b>239</b>             | <b>174</b> | <b>1,430</b> | <b>33</b> |

**Table 3a. Users by Discipline of All Facilities**

|                            | Users <sup>1</sup> | Condensed Matter Physics | Chemistry  | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|----------------------------|--------------------|--------------------------|------------|-------------|----------------------------------|-----------------------------------|------------------|
| Senior Personnel, U.S.     | 577                | 189                      | 163        | 54          | 20                               | 120                               | 31               |
| Senior Personnel, non-U.S. | 179                | 78                       | 51         | 5           | 9                                | 18                                | 18               |
| Postdocs, U.S.             | 190                | 77                       | 57         | 9           | 2                                | 30                                | 15               |
| Postdocs, non-U.S.         | 50                 | 31                       | 6          | 1           | 0                                | 7                                 | 5                |
| Students, U.S.             | 513                | 166                      | 163        | 48          | 5                                | 113                               | 18               |
| Students, non-U.S.         | 87                 | 46                       | 23         | 4           | 2                                | 9                                 | 3                |
| Technician, U.S.           | 39                 | 1                        | 8          | 9           | 4                                | 16                                | 1                |
| Technician, non-U.S.       | 2                  | 1                        | 1          | 0           | 0                                | 0                                 | 0                |
| <b>TOTAL</b>               | <b>1,637</b>       | <b>589</b>               | <b>472</b> | <b>130</b>  | <b>42</b>                        | <b>313</b>                        | <b>91</b>        |

<sup>1</sup> Users using multiple facilities are counted in each facility listed.

**Table 3b. Users by Discipline by Facilities**

|                          | Users        | Condensed Matter Physics | Chemistry  | Engineering | Development of Magnet Technology | Biology, Biochemistry, Biophysics | Material Science |
|--------------------------|--------------|--------------------------|------------|-------------|----------------------------------|-----------------------------------|------------------|
| AMRIS – NSF-Funded       | 112          | 1                        | 42         | 21          | 1                                | 47                                | 0                |
| AMRIS – Non-NHMFL Funded | 156          | 0                        | 21         | 19          | 3                                | 113                               | 0                |
| DC Field                 | 544          | 397                      | 62         | 18          | 26                               | 2                                 | 39               |
| EMR                      | 155          | 24                       | 100        | 5           | 2                                | 16                                | 8                |
| High B/T                 | 20           | 18                       | 0          | 1           | 0                                | 0                                 | 1                |
| ICR                      | 243          | 0                        | 141        | 28          | 1                                | 71                                | 2                |
| NMR                      | 225          | 5                        | 100        | 35          | 1                                | 64                                | 20               |
| Pulsed Field             | 182          | 144                      | 6          | 3           | 8                                | 0                                 | 21               |
| <b>TOTAL</b>             | <b>1,637</b> | <b>589</b>               | <b>472</b> | <b>130</b>  | <b>42</b>                        | <b>313</b>                        | <b>91</b>        |

**Table 4a. Subscription Rate (Experiments) by Facilities**

|                          | Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments With Usage | Experiments With Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiment Subscription Rate | Experiments Subscription Percentage |
|--------------------------|--------------------------------------|--------------------------------------------------|------------------------|-----------------------------------|----------------------|---------------------------------|----------------------|------------------------------|-------------------------------------|
| AMRIS – NSF-Funded       | 30                                   | 7                                                | 34                     | 91.9 %                            | 3                    | 8.1 %                           | 37                   | 1.1                          | 108.8 %                             |
| AMRIS – Non-NHMFL Funded | 24                                   | 5                                                | 28                     | 96.6 %                            | 1                    | 3.4 %                           | 29                   | 1                            | 103.6 %                             |
| DC Field                 | 305                                  | 40                                               | 265                    | 76.8 %                            | 80                   | 23.2 %                          | 345                  | 1.3                          | 130.2 %                             |
| EMR                      | 126                                  | 9                                                | 112                    | 83 %                              | 23                   | 17 %                            | 135                  | 1.2                          | 120.5 %                             |

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|              | Experiments Submitted (Current Year) | Experiments Submitted (Deferred from prev. year) | Experiments With Usage | Experiments With Usage Percentage | Experiments Declined | Experiments Declined Percentage | Experiments Reviewed | Experiment Subscription Rate | Experiments Subscription Percentage |
|--------------|--------------------------------------|--------------------------------------------------|------------------------|-----------------------------------|----------------------|---------------------------------|----------------------|------------------------------|-------------------------------------|
| High B/T     | 9                                    | 1                                                | 9                      | 90 %                              | 1                    | 10 %                            | 10                   | 1.1                          | 111.1 %                             |
| ICR          | 102                                  | 32                                               | 117                    | 87.3 %                            | 17                   | 12.7 %                          | 134                  | 1.1                          | 114.5 %                             |
| NMR          | 642                                  | 14                                               | 629                    | 95.9 %                            | 27                   | 4.1 %                           | 656                  | 1                            | 104.3 %                             |
| Pulsed Field | 92                                   | 15                                               | 74                     | 69.2 %                            | 33                   | 30.8 %                          | 107                  | 1.4                          | 144.6 %                             |
| <b>TOTAL</b> | <b>1,330</b>                         | <b>123</b>                                       | <b>1,268</b>           |                                   | <b>185</b>           |                                 | <b>1,453</b>         |                              |                                     |

**Table 4b. Subscription Rate (Magnet Days) by Facilities**

|                          | Days Submitted | Days Used by External User | Days Used by Local User | Days Used by NHMFL-Affiliated User | Days Used for Inst., Dev., Test, Maintenance | Total Days Used | Days Subscription Rate | Days Subscription Percentage |
|--------------------------|----------------|----------------------------|-------------------------|------------------------------------|----------------------------------------------|-----------------|------------------------|------------------------------|
| AMRIS – NSF-Funded       | NA             | 312.4                      | 169.7                   | 7.3                                | 584.6                                        | 1,074           | NA                     | NA                           |
| AMRIS – Non-NHMFL Funded | NA             | 107.5                      | 346.8                   | 242.7                              | 0                                            | 697             | NA                     | NA                           |
| DC Field                 | 2,438          | 1,272.2                    | 62.3                    | 444.2                              | 132.2                                        | 1,910.8         | 1.3                    | 127.6 %                      |
| EMR                      | 1,423          | 405.8                      | 57                      | 123.2                              | 180                                          | 766             | 1.9                    | 185.8 %                      |
| High B/T                 | 571            | 275                        | 32                      | 170                                | 94                                           | 571             | 1                      | 100 %                        |
| ICR                      | 979            | 309.5                      | 71.3                    | 82.3                               | 198.8                                        | 662             | 1.5                    | 147.9 %                      |
| NMR                      | 3,098          | 1,883                      | 432.5                   | 305                                | 138.5                                        | 2,759           | 1.1                    | 112.3 %                      |
| Pulsed Field             | 816            | 386                        | 0                       | 110                                | 45                                           | 541             | 1.5                    | 150.8 %                      |
| <b>TOTAL</b>             | <b>9,472</b>   | <b>4,951.4</b>             | <b>1,171.6</b>          | <b>1,484.7</b>                     | <b>1,373.1</b>                               | <b>8,980.8</b>  |                        |                              |

**Table 5. Research Proposals<sup>1</sup> Profile with Magnet Time by Facilities**

|                          | Total Proposals <sup>1</sup> | Condensed Matter Physics | Chemistry  | Engineering | Development of Magnet Technology | Biology Biochem Biophysics | Material Science |
|--------------------------|------------------------------|--------------------------|------------|-------------|----------------------------------|----------------------------|------------------|
| AMRIS – NSF-Funded       | 33                           | 0                        | 8          | 5           | 5                                | 15                         | 0                |
| AMRIS – Non-NHMFL Funded | 26                           | 0                        | 0          | 0           | 0                                | 26                         | 0                |
| DC Field                 | 155                          | 119                      | 12         | 2           | 10                               | 2                          | 10               |
| EMR                      | 52                           | 10                       | 27         | 2           | 2                                | 6                          | 5                |
| High B/T                 | 5                            | 4                        | 0          | 0           | 0                                | 1                          | 0                |
| ICR                      | 69                           | 0                        | 49         | 4           | 0                                | 16                         | 0                |
| NMR                      | 65                           | 0                        | 19         | 6           | 0                                | 32                         | 8                |
| Pulsed Field             | 48                           | 42                       | 2          | 0           | 2                                | 1                          | 1                |
| <b>TOTAL</b>             | <b>453</b>                   | <b>175</b>               | <b>117</b> | <b>19</b>   | <b>19</b>                        | <b>99</b>                  | <b>24</b>        |

<sup>1</sup> A "proposal" may have associated a single experiment or a group of closely related experiments with it. A PI may have more than one proposal.

**Note:** The table refers to proposal disciplines.

Find the list of user proposals in **Appendix 5** and on our [website](#)

**Table 6. Operations by User Type by Facilities**

|                                       | Total Days Used | Days Used by External User <sup>8</sup> | Days Used by Local User <sup>9</sup> | Days Used by NHMFL-Affiliated User <sup>10</sup> | Days of Instrumentation Development and Maintenance <sup>11</sup> |
|---------------------------------------|-----------------|-----------------------------------------|--------------------------------------|--------------------------------------------------|-------------------------------------------------------------------|
| AMRIS – NSF-Funded <sup>1</sup>       | 1,074           | 312.4                                   | 169.7                                | 7.3                                              | 584.6                                                             |
| AMRIS – Non-NHMFL Funded <sup>1</sup> | 697             | 107.5                                   | 346.8                                | 242.7                                            | 0                                                                 |
| DC Field <sup>2</sup>                 | 1,910.8         | 1,272.2                                 | 62.3                                 | 444.2                                            | 132.2                                                             |
| EMR <sup>3</sup>                      | 766             | 405.8                                   | 57                                   | 123.2                                            | 180                                                               |
| High B/T <sup>4</sup>                 | 571             | 275                                     | 32                                   | 170                                              | 94                                                                |
| ICR <sup>5</sup>                      | 662             | 309.5                                   | 71.3                                 | 82.3                                             | 198.8                                                             |
| NMR <sup>6</sup>                      | 2,759           | 1,883                                   | 432.5                                | 305                                              | 138.5                                                             |



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|                           | Total Days Used | Days Used by External User <sup>8</sup> | Days Used by Local User <sup>9</sup> | Days Used by NHMFL-Affiliated User <sup>10</sup> | Days of Instrumentation Development and Maintenance <sup>11</sup> |
|---------------------------|-----------------|-----------------------------------------|--------------------------------------|--------------------------------------------------|-------------------------------------------------------------------|
| Pulsed Field <sup>7</sup> | 541             | 386                                     | 0                                    | 110                                              | 45                                                                |
| <b>TOTAL</b>              | <b>8,980.8</b>  | <b>4,951.4</b>                          | <b>1,171.6</b>                       | <b>1,484.7</b>                                   | <b>1,373.1</b>                                                    |

<sup>1</sup> User Units are defined as magnet days; time utilized is recorded to the nearest 15 minutes. Magnet day definitions for AMRIS instruments: Verticals (500, 600s, & 750MHz), 1 magnet day = 24 hours. Horizontals (4.7 and 11.1T), 1 magnet day = 8 hours. This accounts for the difficulty in running animal or human studies overnight. Magnet days were calculated by adding the total number of real used for each instrument and dividing by 24 (vertical) or 8 (horizontal). Note: Due to the nature of the 4.7T and 11T studies, almost all studies with external users were collaborative with UF investigators.

<sup>2</sup> Each 20MW resistive magnet requires two power supplies to run, the 45T hybrid magnet requires three power supplies, and the 36T Series Connected Hybrid requires one power supply. Thus, there can be four resistive magnets + three superconducting magnets operating or the 45T hybrid, series connected hybrid, two resistive magnets and three superconducting magnets. User Units are defined as magnet days. Users of water-cooled resistive or hybrid magnets can typically expect to receive enough energy for 7 hours a day of magnet usage, so a magnet day is defined as 7 hours. Superconducting magnets are scheduled typically 24 hours a day.

<sup>3, 4, 5, 6</sup> User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

<sup>7</sup> User Units are defined as magnet days. Magnets are scheduled typically 12 hours a day.

<sup>8</sup> Days to external users at facility => all U.S. University, U.S. Govt. Lab., U.S. Industry, Non-U.S. excluding NHMFL Affiliated, Local, Test, Calibration, Set-up, Maintenance, Inst. Dev.

<sup>9</sup> Days to local => local only

<sup>10</sup> Days to NHMFL-Affiliated (in-house) research => NHMFL-Affiliated only

<sup>11</sup> Days to instrument development and maintenance (combined) => Test/Calibration/ Maintenance, Method Development, Analytical Chemistry, Upgrade Cell Design/Hardware Setup, Repair

**Table 7. Operations by Discipline of All Facilities**

|                               | Total Days Used | Condensed Matter Physics | Chemistry      | Engineering  | Development of Magnet Technology | Biology, Biochemistry Biophysics | Material Science |
|-------------------------------|-----------------|--------------------------|----------------|--------------|----------------------------------|----------------------------------|------------------|
| NHMFL-Affiliated              | 1,484.7         | 604.9                    | 272.7          | 25.5         | 133.8                            | 423                              | 24.7             |
| Local                         | 1,171.6         | 68                       | 399.9          | 274.3        | 115                              | 301.4                            | 13               |
| University, U.S.              | 3,388.8         | 1,056.9                  | 917.6          | 168.1        | 19.2                             | 1,023.3                          | 203.6            |
| University, non-U.S.          | 857.9           | 340.2                    | 367.8          | 2.3          | 5                                | 76                               | 66.5             |
| Government Lab, U.S.          | 367.9           | 228.2                    | 119.7          | 0            | 0                                | 20                               | 0                |
| Government Lab, non-U.S.      | 134.6           | 92                       | 33.3           | 0            | 0                                | 0                                | 9.3              |
| Industry, U.S.                | 199.8           | 26.6                     | 107.8          | 0            | 29.6                             | 30                               | 5.8              |
| Industry, non-U.S.            | 2.5             | 0                        | 2.5            | 0            | 0                                | 0                                | 0                |
| Test/Calibration/ Maintenance | 822.7           | 240.2                    | 6              | 132          | 367.5                            | 36                               | 41               |
| Method Development            | 85              | 31                       | 23             | 8.5          | 14.5                             | 8                                | 0                |
| Analytical Chemistry          | 197.3           | 0                        | 157.5          | 0            | 0                                | 39.8                             | 0                |
| Upgrade Cell Design/Hardware  | 74.8            | 0                        | 0              | 0            | 41.8                             | 30                               | 3                |
| Setup                         | 193.3           | 0                        | 0              | 15.5         | 172.8                            | 5                                | 0                |
| Repair                        | 0               | 0                        | 0              | 0            | 0                                | 0                                | 0                |
| <b>TOTAL</b>                  | <b>8,980.8</b>  | <b>2,688</b>             | <b>2,407.9</b> | <b>626.3</b> | <b>899.1</b>                     | <b>1,992.6</b>                   | <b>367</b>       |

**Table 7b. Operations by Discipline of All Facilities**

|                          | Total Days Used | Condensed Matter Physics | Chemistry      | Engineering  | Development of Magnet Technology | Biology Biochemistry Biophysics | Material Science |
|--------------------------|-----------------|--------------------------|----------------|--------------|----------------------------------|---------------------------------|------------------|
| AMRIS – NSF-Funded       | 1,074           | 0                        | 123.9          | 125.8        | 588.6                            | 235.7                           | 0                |
| AMRIS – Non-NHMFL Funded | 697             | 0                        | 29.5           | 44.3         | 111                              | 512.2                           | 0                |
| DC Field                 | 1,910.8         | 1,437.8                  | 173            | 14           | 177.5                            | 0                               | 108.5            |
| EMR                      | 766             | 168.2                    | 340.8          | 128.5        | 12                               | 30                              | 86.5             |
| High B/T                 | 571             | 571                      | 0              | 0            | 0                                | 0                               | 0                |
| ICR                      | 662             | 0                        | 517.2          | 13.6         | 0                                | 131.3                           | 0                |
| NMR                      | 2,759           | 0                        | 1,213.5        | 300          | 0                                | 1,083.5                         | 162              |
| Pulsed Field             | 541             | 511                      | 10             | 0            | 10                               | 0                               | 10               |
| <b>TOTAL</b>             | <b>8,980.8</b>  | <b>2,688</b>             | <b>2,407.9</b> | <b>626.3</b> | <b>899.1</b>                     | <b>1,992.6</b>                  | <b>367</b>       |

**Table 8a. New Pls<sup>1</sup> and New Users of All Facilities**

|                            | All Pls    | New Pls at the MagLab | New Pls at the Facility | Returning Pls at the Facility | All Users    | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|----------------------------|------------|-----------------------|-------------------------|-------------------------------|--------------|-------------------------|-----------------------|-----------------------------|
| Senior Personnel, U.S.     | 298        | 42                    | 53                      | 245                           | 577          | 48                      | 62                    | 515                         |
| Senior Personnel, non-U.S. | 80         | 17                    | 26                      | 54                            | 179          | 44                      | 46                    | 133                         |
| Postdocs, U.S.             | 11         | 6                     | 7                       | 4                             | 190          | 61                      | 76                    | 114                         |
| Postdocs, non-U.S.         | 4          | 4                     | 4                       | 0                             | 50           | 21                      | 27                    | 23                          |
| Students, U.S.             | 1          | 1                     | 1                       | 0                             | 513          | 180                     | 199                   | 314                         |
| Students, non-U.S.         | 2          | 1                     | 1                       | 1                             | 87           | 27                      | 32                    | 55                          |
| Technician, U.S.           | 0          | 0                     | 0                       | 0                             | 39           | 13                      | 14                    | 25                          |
| Technician, non-U.S.       | 0          | 0                     | 0                       | 0                             | 2            | 1                       | 1                     | 1                           |
| <b>TOTAL</b>               | <b>396</b> | <b>71</b>             | <b>92</b>               | <b>304</b>                    | <b>1,637</b> | <b>395</b>              | <b>457</b>            | <b>1,180</b>                |

<sup>1</sup> Pls who received magnet time for the first time.**Table 8b. New Pls and New Users by Facilities**

|                          | All Pls    | New Pls at the MagLab | New Pls at the Facility | Returning Pls at the Facility | All Users    | New Users at the MagLab | New Users at Facility | Returning Users at Facility |
|--------------------------|------------|-----------------------|-------------------------|-------------------------------|--------------|-------------------------|-----------------------|-----------------------------|
| AMRIS – NSF-Funded       | 30         | 5                     | 7                       | 23                            | 112          | 22                      | 23                    | 89                          |
| AMRIS – Non-NHMFL Funded | 28         | 4                     | 4                       | 24                            | 156          | 29                      | 30                    | 126                         |
| DC Field                 | 133        | 21                    | 29                      | 104                           | 544          | 121                     | 142                   | 402                         |
| EMR                      | 48         | 4                     | 7                       | 41                            | 155          | 24                      | 33                    | 122                         |
| High B/T                 | 5          | 1                     | 2                       | 3                             | 20           | 1                       | 3                     | 17                          |
| ICR                      | 55         | 22                    | 22                      | 33                            | 243          | 87                      | 88                    | 155                         |
| NMR                      | 51         | 8                     | 8                       | 43                            | 225          | 66                      | 71                    | 154                         |
| Pulsed Field             | 46         | 6                     | 13                      | 33                            | 182          | 45                      | 67                    | 115                         |
| <b>TOTAL</b>             | <b>396</b> | <b>71</b>             | <b>92</b>               | <b>304</b>                    | <b>1,637</b> | <b>395</b>              | <b>457</b>            | <b>1,180</b>                |

**Table 9a. Funding Source of Users' Research-Day Allotted (Counts) by Facilities**

|                          | Total Days Used | NSF <sup>1</sup> | NIH            | DOE            | DOD <sup>2</sup> | VSP         | FFI      | UF MBI   | EPA      | Inter-national | National     | Industry <sup>3</sup> | Other        |
|--------------------------|-----------------|------------------|----------------|----------------|------------------|-------------|----------|----------|----------|----------------|--------------|-----------------------|--------------|
| AMRIS – NSF-Funded       | 1,074           | 857.8            | 192            | 0              | 0                | 0           | 0        | 0        | 0        | 13.7           | 3.7          | 6.8                   | 0            |
| AMRIS – Non-NHMFL Funded | 697             | 175.7            | 394            | 0              | 36               | 0           | 0        | 0        | 0        | 0              | 70.9         | 20.5                  | 0            |
| DC Field                 | 1,910.8         | 903.4            | 0              | 495.2          | 57.5             | 10.5        | 0        | 0        | 0        | 201.2          | 210          | 26                    | 0            |
| EMR                      | 766             | 419.5            | 34.5           | 182.5          | 0                | 0           | 0        | 0        | 0        | 54.3           | 75.2         | 0                     | 0            |
| High B/T                 | 571             | 353              | 0              | 127            | 0                | 0           | 0        | 0        | 0        | 0              | 91           | 0                     | 0            |
| ICR                      | 662             | 454.9            | 35.7           | 51.5           | 38.1             | 0           | 0        | 0        | 0        | 25.3           | 49           | 4.4                   | 3.1          |
| NMR                      | 2,759           | 510              | 758.7          | 589            | 4.8              | 0           | 0        | 0        | 0        | 262.8          | 347.5        | 23.5                  | 262          |
| Pulsed Field             | 541             | 154              | 0              | 232            | 2                | 0           | 0        | 0        | 0        | 114            | 29           | 10                    | 0            |
| <b>TOTAL</b>             | <b>8,980.8</b>  | <b>3,829</b>     | <b>1,414.8</b> | <b>1,677.2</b> | <b>138.4</b>     | <b>10.5</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>671.4</b>   | <b>876.2</b> | <b>91.2</b>           | <b>265.1</b> |

<sup>1</sup> Includes NSF, UCGP, and 'No other support'.<sup>2</sup> Includes NASA, US Army, US Navy, and US Air Force.<sup>3</sup> Includes US Industry and Non-US Industry.**Table 9b. Funding Source of Users' Research-Day Allotted (Percentage) by Facilities**

|                          | NSF <sup>1</sup> | NIH    | DOE    | DOD <sup>2</sup> | VSP   | FFI | UF MBI | EPA | Inter-national | National | Industry <sup>3</sup> | Other |
|--------------------------|------------------|--------|--------|------------------|-------|-----|--------|-----|----------------|----------|-----------------------|-------|
| AMRIS – NSF-Funded       | 79.9 %           | 17.9 % | 0 %    | 0 %              | 0 %   | 0 % | 0 %    | 0 % | 1.3 %          | 0.3 %    | 0.6 %                 | 0 %   |
| AMRIS – Non-NHMFL Funded | 25.2 %           | 56.5 % | 0 %    | 5.2 %            | 0 %   | 0 % | 0 %    | 0 % | 0 %            | 10.2 %   | 2.9 %                 | 0 %   |
| DC Field                 | 47.3 %           | 0 %    | 25.9 % | 3 %              | 0.5 % | 0 % | 0 %    | 0 % | 10.5 %         | 11 %     | 1.4 %                 | 0 %   |
| EMR                      | 54.8 %           | 4.5 %  | 23.8 % | 0 %              | 0 %   | 0 % | 0 %    | 0 % | 7.1 %          | 9.8 %    | 0 %                   | 0 %   |

# 2025 MagLab Annual Report

|                     | NSF <sup>1</sup> | NIH    | DOE    | DOD <sup>2</sup> | VSP | FFI | UF<br>MBI | EPA | Inter-<br>national | National | Industry<br><sub>3</sub> | Other |
|---------------------|------------------|--------|--------|------------------|-----|-----|-----------|-----|--------------------|----------|--------------------------|-------|
| <b>High B/T</b>     | 61.8 %           | 0 %    | 22.2 % | 0 %              | 0 % | 0 % | 0 %       | 0 % | 0 %                | 15.9 %   | 0 %                      | 0 %   |
| <b>ICR</b>          | 68.7 %           | 5.4 %  | 7.8 %  | 4 %              | 0 % | 0 % | 0 %       | 0 % | 3.8 %              | 7.4 %    | 0.7 %                    | 0.5 % |
| <b>NMR</b>          | 18.5 %           | 27.5 % | 21.3 % | 0.2 %            | 0 % | 0 % | 0 %       | 0 % | 9.5 %              | 12.6 %   | 0.9 %                    | 9.5 % |
| <b>Pulsed Field</b> | 28.5 %           | 0 %    | 42.9 % | 0.4 %            | 0 % | 0 % | 0 %       | 0 % | 21.1 %             | 5.4 %    | 1.8 %                    | 0 %   |

## APPENDIX 4 – USER’S GEOGRAPHIC DISTRIBUTION

### AMRIS NSF FUNDED (6 INTERNATIONAL, 106 NATIONAL USERS)

| Facilities | Name                    | Organization                                              | State | Country |
|------------|-------------------------|-----------------------------------------------------------|-------|---------|
| AMRIS      | Adams, Rashaq           | University of Florida                                     | FL    | USA     |
| AMRIS      | Afoullouss, Sam         | University of South Florida                               | FL    | USA     |
| AMRIS      | Ahmed, Mohammed         | University of Florida                                     | FL    | USA     |
| AMRIS      | Allameh Zadeh, Diba     | University of Florida                                     | FL    | USA     |
| AMRIS      | Atterberry, Benjamin    | University of Florida                                     | FL    | USA     |
| AMRIS      | Baker, Bill             | University of South Florida                               | FL    | USA     |
| AMRIS      | Bannister, Sara         | Indiana University                                        | IN    | USA     |
| AMRIS      | Bara, Jason             | University of Alabama,<br>Tuscaloosa                      | AL    | USA     |
| AMRIS      | Barrick, Thomas         | St George's University of<br>London                       | --    | UK      |
| AMRIS      | Batra, Abhinandan       | University of Florida                                     | FL    | USA     |
| AMRIS      | Batra, Ayush            | Northwestern University<br>Feinberg School of<br>Medicine | IL    | USA     |
| AMRIS      | Bepari, Mousumi         | University of Alabama,<br>Tuscaloosa                      | AL    | USA     |
| AMRIS      | Bivins, Rebecca         | Georgia Institute of<br>Technology                        | GA    | USA     |
| AMRIS      | Boloki, Omar            | University of Florida                                     | FL    | USA     |
| AMRIS      | Bowers, Clifford (Russ) | University of Florida                                     | FL    | USA     |
| AMRIS      | Brady, Jeannine         | University of Florida                                     | FL    | USA     |
| AMRIS      | Bukhryakov, Konstantin  | Florida International<br>University                       | FL    | USA     |
| AMRIS      | Caban-Rivera, Diego     | Northwestern University<br>Feinberg School of<br>Medicine | IL    | USA     |
| AMRIS      | Cai, Jianfeng           | University of South Florida                               | FL    | USA     |
| AMRIS      | Centanni, Tracy         | University of Florida                                     | FL    | USA     |
| AMRIS      | Cooper, Brenton         | Texas Christian University                                | TX    | USA     |
| AMRIS      | Cruz Rosa, Ezequiel     | University of South Florida                               | FL    | USA     |
| AMRIS      | Dowling, Greg           | University of Florida                                     | FL    | USA     |
| AMRIS      | Dyer, Grace             | University of Florida                                     | FL    | USA     |
| AMRIS      | Eddy, Matthew           | University of Florida                                     | FL    | USA     |
| AMRIS      | Fanucci, Gail           | University of Florida                                     | FL    | USA     |
| AMRIS      | Farrokhpey, Faezeh      | University of Florida                                     | FL    | USA     |
| AMRIS      | Febo, Julian            | University of Florida                                     | FL    | USA     |
| AMRIS      | Forbes, Sean            | University of Florida                                     | FL    | USA     |
| AMRIS      | Green, Camille          | University of Florida                                     | FL    | USA     |
| AMRIS      | Green, Sajan            | University of Florida                                     | FL    | USA     |
| AMRIS      | Guo, Zhongwu            | University of Florida                                     | FL    | USA     |
| AMRIS      | Hahnert, Eric           | Massachusetts Institute of<br>Technology                  | MA    | USA     |
| AMRIS      | Hall, Matt              | National Physical<br>Laboratory, Teddington               | --    | UK      |

| Facilities | Name                    | Organization                                           | State | Country  |
|------------|-------------------------|--------------------------------------------------------|-------|----------|
| AMRIS      | Hammers, David          | University of Florida                                  | FL    | USA      |
| AMRIS      | Hart, Cora              | University of Florida                                  | FL    | USA      |
| AMRIS      | Hasabnis, Advait        | University of Toronto<br>(Toronto)                     | --    | Canada   |
| AMRIS      | Hernandez, Shirley      | University of Florida                                  | FL    | USA      |
| AMRIS      | Herr, Jeff              | University of Florida                                  | FL    | USA      |
| AMRIS      | Hu, Bingren             | University of California, San<br>Diego                 | CA    | USA      |
| AMRIS      | Icenhour, Daniel        | University of Florida                                  | FL    | USA      |
| AMRIS      | Ingo, Carson            | Northwestern University                                | IL    | USA      |
| AMRIS      | Jean-Baptiste, Philippe | Massachusetts Institute of<br>Technology               | MA    | USA      |
| AMRIS      | Jenkins, Kelly          | University of Florida                                  | FL    | USA      |
| AMRIS      | Jones, John             | Center for Neurosciences<br>and Cell Biology           | --    | Portugal |
| AMRIS      | Kem, William R.         | University of Florida                                  | FL    | USA      |
| AMRIS      | Kuenzig, Selena         | University of Florida                                  | FL    | USA      |
| AMRIS      | Kundu, Sayan            | University of Florida                                  | FL    | USA      |
| AMRIS      | Laxmi, Sree             | University of Florida                                  | FL    | USA      |
| AMRIS      | Li, Linfei              | Florida International<br>University                    | FL    | USA      |
| AMRIS      | Liu, Heng               | University of South Florida                            | FL    | USA      |
| AMRIS      | Liu, Xingui             | University of Florida                                  | FL    | USA      |
| AMRIS      | Lively, Ryan            | Georgia Institute of<br>Technology                     | GA    | USA      |
| AMRIS      | Loesgen, Sandra         | University of Florida                                  | FL    | USA      |
| AMRIS      | Long, Joanna            | University of Florida                                  | FL    | USA      |
| AMRIS      | Machado Pasin, Thiago   | University of Florida                                  | FL    | USA      |
| AMRIS      | Mangun, Joseph          | University of Florida                                  | FL    | USA      |
| AMRIS      | Mareci, Thomas          | University of Florida                                  | FL    | USA      |
| AMRIS      | Marshall, Erin          | University of Florida                                  | FL    | USA      |
| AMRIS      | Martin, Rachel          | University of California,<br>Irvine                    | CA    | USA      |
| AMRIS      | Mattingly, Mark         | Bruker Biospin                                         | MA    | USA      |
| AMRIS      | McCadden, Caitlin       | University of Florida                                  | FL    | USA      |
| AMRIS      | Mehta, Anil             | University of Florida                                  | FL    | USA      |
| AMRIS      | Merritt, Matthew        | University of Florida                                  | FL    | USA      |
| AMRIS      | Mevers, Emily           | Virginia Polytechnic Institute<br>and State University | VA    | USA      |
| AMRIS      | Moon, Joshua            | University of Florida                                  | FL    | USA      |
| AMRIS      | Mullapudi, Venkanna     | University of Florida                                  | FL    | USA      |
| AMRIS      | Munson, Jennifer        | Virginia Polytechnic Institute<br>and State University | VA    | USA      |
| AMRIS      | Ning, Wenbo             | University of Florida                                  | FL    | USA      |
| AMRIS      | Nogueira , M Luiza      | University of Florida                                  | FL    | USA      |
| AMRIS      | Norton, Chase           | University of Florida                                  | FL    | USA      |



| Facilities | Name                     | Organization                                              | State | Country   |
|------------|--------------------------|-----------------------------------------------------------|-------|-----------|
| AMRIS      | Olsen, Stine Sofie       | University of South Florida                               | FL    | USA       |
| AMRIS      | Onogu, Oziomachi         | Texas Tech University                                     | TX    | USA       |
| AMRIS      | Osei Bobbie, Sylvester   | University of South Florida                               | FL    | USA       |
| AMRIS      | Peng, Qingqing (Emily)   | University of Florida                                     | FL    | USA       |
| AMRIS      | Pesaran Afsharian, Nessa | University of Florida                                     | FL    | USA       |
| AMRIS      | Petit, Bastien           | University of Florida                                     | FL    | USA       |
| AMRIS      | Prosser, Scott           | University of Toronto<br>(Toronto)                        | --    | Canada    |
| AMRIS      | Qu, Tracy                | University of Florida                                     | FL    | USA       |
| AMRIS      | Rivera Santiago, Isabel  | University of Florida                                     | FL    | USA       |
| AMRIS      | Rocca, James             | University of Florida                                     | FL    | USA       |
| AMRIS      | Rohokale, Rajendra       | University of Florida                                     | FL    | USA       |
| AMRIS      | Roitberg, Adrian         | University of Florida                                     | FL    | USA       |
| AMRIS      | Rudolf, Jeffrey          | University of Florida                                     | FL    | USA       |
| AMRIS      | Russ, Jenny              | University of Florida                                     | FL    | USA       |
| AMRIS      | Sampath, Dayalan         | University of California, San<br>Diego                    | CA    | USA       |
| AMRIS      | Sarntinoranont, Malisa   | University of Florida                                     | FL    | USA       |
| AMRIS      | Schmidt, Nathaniel       | University of South Florida                               | FL    | USA       |
| AMRIS      | Searles, Keith           | University of Florida                                     | FL    | USA       |
| AMRIS      | Slade, Joshua            | University of Florida                                     | FL    | USA       |
| AMRIS      | Smith, Benjamin          | University of South Florida                               | FL    | USA       |
| AMRIS      | Smith, Zachary           | Massachusetts Institute of<br>Technology                  | MA    | USA       |
| AMRIS      | Stancic, Diana           | University of Florida                                     | FL    | USA       |
| AMRIS      | Stant, Alexander         | University of Florida                                     | FL    | USA       |
| AMRIS      | Sumerlin, Brent          | University of Florida                                     | FL    | USA       |
| AMRIS      | Sweeney, Lee             | University of Florida                                     | FL    | USA       |
| AMRIS      | Talham, Daniel R.        | University of Florida                                     | FL    | USA       |
| AMRIS      | Tamil Eniyan, Priyan Roy | Florida International<br>University                       | FL    | USA       |
| AMRIS      | Taran, Katie             | Northwestern University<br>Feinberg School of<br>Medicine | IL    | USA       |
| AMRIS      | Thiagarajan, Sandhiya    | University of Alabama,<br>Tuscaloosa                      | AL    | USA       |
| AMRIS      | Toriano, Roxana          | University of Buenos Aires                                | --    | Argentina |
| AMRIS      | Tundidor Camba, Alain    | University of Alabama,<br>Tuscaloosa                      | AL    | USA       |
| AMRIS      | Vasenkov, Sergey         | University of Florida                                     | FL    | USA       |
| AMRIS      | Veige, Adam              | University of Florida                                     | FL    | USA       |
| AMRIS      | Walter, Glenn            | University of Florida                                     | FL    | USA       |
| AMRIS      | Wei, Xiuting             | University of Florida                                     | FL    | USA       |
| AMRIS      | Williams, Jennifer       | University of South Florida                               | FL    | USA       |
| AMRIS      | Wiseman, Robert          | Michigan State University                                 | MI    | USA       |

| Facilities | Name            | Organization                    | State | Country |
|------------|-----------------|---------------------------------|-------|---------|
| AMRIS      | Wylie, Benjamin | Texas Tech University           | TX    | USA     |
| AMRIS      | Yoon, Young Hee | Georgia Institute of Technology | GA    | USA     |
| AMRIS      | Zeng, Huadong   | University of Florida           | FL    | USA     |
| AMRIS      | Zerpa, Eli      | University of Florida           | FL    | USA     |

### AMRIS NON-NHMFL FUNDED (1 INTERNATIONAL, 155 NATIONAL USERS)

| Facilities         | Name                 | Organization                           | State | Country     |
|--------------------|----------------------|----------------------------------------|-------|-------------|
| Non-NHMFL<br>AMRIS | Abisambra, Jose      | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Adury, Rabeya Zinnat | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Alvarez, David       | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Alzamora, Eiko       | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Ande, Sanjana        | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Aplin, Abigail       | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Arpin, David         | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Atasanova, Kalina    | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Athota, Guna Teja    | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Azam, Armina         | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Badar, Arshee        | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Baisden, Jared       | Scripps Research Institute,<br>Florida | FL    | USA         |
| Non-NHMFL<br>AMRIS | Banerjee, Antara     | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Bara, Jason          | University of Alabama,<br>Tuscaloosa   | AL    | USA         |
| Non-NHMFL<br>AMRIS | Batucan , Jeremiah   | University of the Philippines          | --    | Philippines |
| Non-NHMFL<br>AMRIS | Bivins, Rebecca      | Georgia Institute of<br>Technology     | GA    | USA         |
| Non-NHMFL<br>AMRIS | Bizon, Jen           | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Boloki, Omar         | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Brook, Chelsea       | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Buck, Ta-Tyonna      | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Bunnell, Amelia      | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Buraima, Joy         | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Burke, Sara          | University of Florida                  | FL    | USA         |
| Non-NHMFL<br>AMRIS | Burns, Matthew       | University of Florida                  | FL    | USA         |

| Facilities         | Name                      | Organization               | State | Country |
|--------------------|---------------------------|----------------------------|-------|---------|
| Non-NHMFL<br>AMRIS | Butcher, Rebecca          | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Candelario-Jalil, Eduardo | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Carter, Alan              | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Centanni, Tracy           | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Chakrabarty, Paramita     | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Chang Reyes, Mario        | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Chen, Manyun              | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Chen, Qiyin               | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Chen, Robin               | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Choi, Haeyeon (Haley)     | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Christou, Evangelos       | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Cooper, Brenton           | Texas Christian University | TX    | USA     |
| Non-NHMFL<br>AMRIS | Costa de Almeida, Larissa | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Cuestas Torres, Diana     | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Das, Sreyashi             | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Ding, Yousong             | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Duff, Savannah            | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Dyer, Grace               | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Eddy, Matthew             | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Ellis, Emma               | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Espinoza, Freydell        | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Farrer, Matthew           | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Febo, Marcelo             | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Fernandes, Phillippe      | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Foroohar, Camelia         | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Glanz, Max                | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Gopal Pour, Niloofar      | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Green, Sajan              | University of Florida      | FL    | USA     |
| Non-NHMFL<br>AMRIS | Grudny, Matteo            | University of Florida      | FL    | USA     |

| Facilities         | Name                   | Organization                        | State | Country |
|--------------------|------------------------|-------------------------------------|-------|---------|
| Non-NHMFL<br>AMRIS | Hardegree, Hannah      | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Harris, Michael        | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Hayworth, John         | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Jin, Beining (Kim)     | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Johnson, Ryan          | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Jullienne, Amandine    | University of California,<br>Irvine | CA    | USA     |
| Non-NHMFL<br>AMRIS | Kaczorowski, Catherine | Jackson Laboratory                  | ME    | USA     |
| Non-NHMFL<br>AMRIS | Kathe, Mallesh         | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Keller, Owen           | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Khanna, May            | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Khemtong, Chalermchai  | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Kokkaliari, Sofia      | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Koren, John            | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Kothawala, Abbas       | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Kovtun, Valeria        | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Kummathi, Kamalika     | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Laitano, Orlando       | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Laxmi, Sree            | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Lee, Joonhoo           | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Leimkuhler, Allison    | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | León, Jason            | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Li, Hong               | Florida State University            | FL    | USA     |
| Non-NHMFL<br>AMRIS | Li, Wen                | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Li, Yuelan             | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Li, Yuqing             | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Ligon, John            | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Lin, Max               | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Liu, Xingui            | University of Florida               | FL    | USA     |
| Non-NHMFL<br>AMRIS | Lively, Ryan           | Georgia Institute of<br>Technology  | GA    | USA     |

| Facilities         | Name                     | Organization                           | State | Country |
|--------------------|--------------------------|----------------------------------------|-------|---------|
| Non-NHMFL<br>AMRIS | Loesgen, Sandra          | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Long, Joanna             | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Luesch, Hendrik          | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Maczis, Melissa          | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Madheswaran, Manoj       | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Malut, Vinay             | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Mangun, Joseph           | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Maptue, Nesmine          | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Marcinko, Joseph         | Polymer Synergies, LLC                 | FL    | USA     |
| Non-NHMFL<br>AMRIS | Marshall, Erin           | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | McDonald, William        | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | McFarland, Nikolaus      | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Merritt, Matthew         | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Mondal, Amit             | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Moon, Joshua             | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Moor, Rachel             | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Moraes, Michele          | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Naik, Sameer             | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Ngo, Kelsey              | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Noarbe, Brenda Patricia  | University of California,<br>Irvine    | CA    | USA     |
| Non-NHMFL<br>AMRIS | Nogueira , M Luiza       | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Obenaus, Andre           | University of California,<br>Riverside | CA    | USA     |
| Non-NHMFL<br>AMRIS | Okun, Michael            | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Patel, Shrina            | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Peng, Qingqing (Emily)   | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Pesaran Afsharian, Nessa | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Petit, Bastien           | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Pfukwa, Cathrine         | University of Florida                  | FL    | USA     |
| Non-NHMFL<br>AMRIS | Pierre, Geraldine        | University of Florida                  | FL    | USA     |



| Facilities         | Name                         | Organization                             | State | Country |
|--------------------|------------------------------|------------------------------------------|-------|---------|
| Non-NHMFL<br>AMRIS | Pizzi, Michael               | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Raccioppi, Jai               | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Rajaram, Akash               | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Rakshit, Surasree            | Advanced Magnet Lab, Inc.                | FL    | USA     |
| Non-NHMFL<br>AMRIS | Ratnayake, Ranjala           | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Ravi, Sakthivel              | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Ray, Arka Prabha             | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Reznikov, Leah               | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Richardson, Cate             | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Rodriguez Sanchez,<br>Marina | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Ross, Aleyna                 | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Roth, Regan                  | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Rushin, Anna                 | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Saluja, Krish                | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Selimos, Dimitri             | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Setlow, Barry                | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Shah, Neel                   | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Sharma, Gaurav               | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Shen, Qingyang               | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Simon, Zachary               | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Skwarek, Hannah              | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Smith, Ryan                  | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Smith, Zachary               | Massachusetts Institute of<br>Technology | MA    | USA     |
| Non-NHMFL<br>AMRIS | Soundara, Nirvana            | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Sprague, Gabriella           | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Tam Pham, Hoan Dan           | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Tan, Jingru                  | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Tavasoli, Bahareh            | University of Florida                    | FL    | USA     |
| Non-NHMFL<br>AMRIS | Thanh Tri, Nguyen            | University of Florida                    | FL    | USA     |

| Facilities      | Name                 | Organization                        | State | Country |
|-----------------|----------------------|-------------------------------------|-------|---------|
| Non-NHMFL AMRIS | Tobin, Emily         | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Traiger, Allison     | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Tymochko, Diana      | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Upasani, Akhilesh    | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Vaillancourt, David  | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Vasenkov, Sergey     | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Vedula, Kaushal      | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Vu, Ngan             | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Wang, Kevin (Ka)     | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Wijesekara, Anuradha | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Wilkes, Bradley      | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Williams, Lakiesha   | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Yan, JiaMin          | University of California, Riverside | CA    | USA     |
| Non-NHMFL AMRIS | Zelinka, Madeline    | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Zhang, Keen          | University of Florida               | FL    | USA     |
| Non-NHMFL AMRIS | Zhou, Francisco      | University of Florida               | FL    | USA     |

### DC FIELD (122 INTERNATIONAL, 422 NATIONAL USERS)

| Facilities | Name                | Organization                            | State | Country |
|------------|---------------------|-----------------------------------------|-------|---------|
| DC Field   | AbdelMalak, Andrew  | University of Virginia                  | VA    | USA     |
| DC Field   | Abdul Karim, Muhsin | University of Notre Dame                | IN    | USA     |
| DC Field   | Abraimov, Dmytro    | National High Magnetic Field Laboratory | FL    | USA     |
| DC Field   | Acharya, Gokul      | University of Arkansas                  | AR    | USA     |
| DC Field   | Adams, Kirk         | University of Oxford                    | --    | UK      |
| DC Field   | Agollari, Darius    | Florida State University                | FL    | USA     |
| DC Field   | Agosta, Charles     | Clark University                        | MA    | USA     |
| DC Field   | Alanthadka, Anitha  | University of Nevada Reno               | NV    | USA     |
| DC Field   | Alberi, Kirstin     | National Renewable Energy Laboratory    | CO    | USA     |
| DC Field   | Alimenti, Andrea    | Roma Tre University                     | --    | Italy   |
| DC Field   | Alkidim, Sarah      | Brown University                        | RI    | USA     |
| DC Field   | Anagbonu, Prince    | University of Arkansas                  | AR    | USA     |
| DC Field   | Analytis, James     | University of California, Berkeley      | CA    | USA     |
| DC Field   | Anand, Yash         | Massachusetts Institute of Technology   | MA    | USA     |

| Facilities | Name                 | Organization                                    | State | Country   |
|------------|----------------------|-------------------------------------------------|-------|-----------|
| DC Field   | Ariando, Ariando     | National University of Singapore                | --    | Singapore |
| DC Field   | Asaba, Tomoya        | University of Virginia                          | VA    | USA       |
| DC Field   | Assaf, Badih         | University of Notre Dame                        | IN    | USA       |
| DC Field   | Avraham, Shilo       | Tel-Aviv University                             | --    | Israel    |
| DC Field   | Bag, Rabindranath    | Duke University                                 | NC    | USA       |
| DC Field   | Bai, Hongyu          | National High Magnetic Field Laboratory         | FL    | USA       |
| DC Field   | Balakirev, Fedor     | National High Magnetic Field Laboratory         | NM    | USA       |
| DC Field   | Balakrishnan, Geetha | University of Warwick                           | --    | UK        |
| DC Field   | Baldwin, Kirk        | Princeton University                            | NJ    | USA       |
| DC Field   | Balicas, Luis        | National High Magnetic Field Laboratory         | FL    | USA       |
| DC Field   | Banerjee, Arnab      | Purdue University                               | IN    | USA       |
| DC Field   | Bang, Jeseok         | National High Magnetic Field Laboratory         | FL    | USA       |
| DC Field   | Bangura, Alimamy     | National High Magnetic Field Laboratory         | FL    | USA       |
| DC Field   | Barbara, Paola       | Georgetown University                           | DC    | USA       |
| DC Field   | Bartlett, Audrey     | Massachusetts Institute of Technology           | MA    | USA       |
| DC Field   | Basnet, Rabindra     | University of Arkansas at Pine Bluff            | AR    | USA       |
| DC Field   | Basov, Dmitri        | Columbia University                             | NY    | USA       |
| DC Field   | Bautista, Dhan       | University of Washington                        | WA    | USA       |
| DC Field   | Beekman, Christianne | National High Magnetic Field Laboratory         | FL    | USA       |
| DC Field   | Belbase, Bishnu      | Purdue University                               | IN    | USA       |
| DC Field   | Benjamin, Shermane   | National High Magnetic Field Laboratory         | FL    | USA       |
| DC Field   | Benkirane, Yacine    | University of California, Berkeley              | CA    | USA       |
| DC Field   | Bernbeck, Maximilian | Georgia Institute of Technology                 | GA    | USA       |
| DC Field   | Bernot, Kevin        | National Institute for Applied Sciences, Rennes | --    | France    |
| DC Field   | Bey, Sara            | University of Notre Dame                        | IN    | USA       |
| DC Field   | Beyer, Tobias        | Kennesaw State University                       | GA    | USA       |
| DC Field   | Bianconi, Antonio    | National Research Council CNR                   | --    | Italy     |
| DC Field   | Bierman, Brenna      | University of Wisconsin, Madison                | WI    | USA       |
| DC Field   | Biggart, Kaylee      | University of Waterloo                          | --    | Canada    |
| DC Field   | Birkhölzer, Yorick   | Cornell University                              | NY    | USA       |
| DC Field   | Bisht, Shubham       | Florida State University                        | FL    | USA       |
| DC Field   | Blawat, Joanna       | National High Magnetic Field Laboratory         | NM    | USA       |
| DC Field   | Bodin, Rikard        | University of Utah                              | UT    | USA       |
| DC Field   | Bowden, David        | UK Atomic Energy Authority                      | --    | UK        |

| Facilities | Name                      | Organization                                                                    | State | Country     |
|------------|---------------------------|---------------------------------------------------------------------------------|-------|-------------|
| DC Field   | Brassington, Alexander    | University of Tennessee, Knoxville                                              | TN    | USA         |
| DC Field   | Brown, Isaac              | University of Utah                                                              | UT    | USA         |
| DC Field   | Brumback, Thomas          | Florida State University                                                        | FL    | USA         |
| DC Field   | Brumm, Troy               | National High Magnetic Field Laboratory                                         | FL    | USA         |
| DC Field   | Buechner, Bernd           | Technical University of Dresden                                                 | --    | Germany     |
| DC Field   | Butch, Nicholas           | National Institute of Standards and Technology MD                               | MD    | USA         |
| DC Field   | Cai, Jiaqi                | University of Washington                                                        | WA    | USA         |
| DC Field   | Calhoun, Casey            | Princeton University                                                            | NJ    | USA         |
| DC Field   | Campbell, Marshall        | University of California, Irvine                                                | CA    | USA         |
| DC Field   | Caniglia, Caravaggio      | Stanford University                                                             | CA    | USA         |
| DC Field   | Cenker, John              | Columbia University                                                             | NY    | USA         |
| DC Field   | Chajewski, Grzegorz       | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | --    | Poland      |
| DC Field   | Chakhalian, Jak           | Rutgers University                                                              | NJ    | USA         |
| DC Field   | Chakraborti, Himadri      | Cornell University                                                              | NY    | USA         |
| DC Field   | Champ, Anna               | Columbia University                                                             | NY    | USA         |
| DC Field   | Chanda, Amit              | Technical University of Denmark                                                 | --    | Denmark     |
| DC Field   | Chapman, Jessica          | University of Cambridge                                                         | --    | UK          |
| DC Field   | Chatterjee, Shouvik       | Tata Institute of Fundamental Research                                          | --    | India       |
| DC Field   | Chaturvedi, Raghav        | Cornell University                                                              | NY    | USA         |
| DC Field   | Checkelsky, Joseph        | Massachusetts Institute of Technology                                           | MA    | USA         |
| DC Field   | Chen, Alan                | Massachusetts Institute of Technology                                           | MA    | USA         |
| DC Field   | Chen, Hanyi               | University of Cambridge                                                         | --    | UK          |
| DC Field   | Chen, Kuan-Wen            | University of Michigan                                                          | MI    | USA         |
| DC Field   | Chen, Yingtai             | Commonwealth Fusion Systems                                                     | MA    | USA         |
| DC Field   | Cheng, JL (Jie Lee-Ling)  | Commonwealth Fusion Systems                                                     | MA    | USA         |
| DC Field   | Chhetri, Santosh          | University of Arkansas                                                          | AR    | USA         |
| DC Field   | Chin, Jui-Lin             | University of Virginia                                                          | VA    | USA         |
| DC Field   | Choi, Eun Sang            | National High Magnetic Field Laboratory                                         | FL    | USA         |
| DC Field   | Choi, Joonyoung           | Kyungpook National University                                                   | --    | South Korea |
| DC Field   | Choi, Min Hyuk            | Pohang University of Science and Technology                                     | --    | South Korea |
| DC Field   | Chow, Lin Er              | National University of Singapore                                                | --    | Singapore   |
| DC Field   | Christiansen, Rasmus Tang | Georgia Institute of Technology                                                 | GA    | USA         |

| Facilities | Name                       | Organization                                                          | State | Country |
|------------|----------------------------|-----------------------------------------------------------------------|-------|---------|
| DC Field   | Clark, Rachel              | Florida State University                                              | FL    | USA     |
| DC Field   | Colacio, Enrique           | University of Granada                                                 | --    | Spain   |
| DC Field   | Collyer, Wesley            | Duke University                                                       | NC    | USA     |
| DC Field   | Cong, Rong                 | National High Magnetic Field Laboratory                               | FL    | USA     |
| DC Field   | Corbae, Paul               | University of California, Santa Barbara                               | CA    | USA     |
| DC Field   | Culo, Matija               | Institute of Physics (Croatia)                                        | --    | Croatia |
| DC Field   | Dadiani, Tsotne            | University of L'Aquila                                                | --    | Italy   |
| DC Field   | Dagan, Yoram               | Tel-Aviv University                                                   | --    | Israel  |
| DC Field   | Dahal, Sagar               | University of Arkansas                                                | AR    | USA     |
| DC Field   | Dahlberg, E. Dan           | University of Minnesota, Twin Cities                                  | MN    | USA     |
| DC Field   | Dai, Pengcheng             | Rice University                                                       | TX    | USA     |
| DC Field   | Das, Somnath               | Florida State University                                              | FL    | USA     |
| DC Field   | de Silva, Shehan           | Georgetown University                                                 | DC    | USA     |
| DC Field   | Dean, Cory                 | Columbia University                                                   | NY    | USA     |
| DC Field   | Debbas, Maximilien         | Massachusetts Institute of Technology                                 | MA    | USA     |
| DC Field   | Dery, Roei                 | Massachusetts Institute of Technology                                 | MA    | USA     |
| DC Field   | Desai, Adit                | California Institute of Technology                                    | CA    | USA     |
| DC Field   | Dhital, Chetan             | Kennesaw State University                                             | GA    | USA     |
| DC Field   | Dickinson-Lomas, Alexandra | UK Atomic Energy Authority                                            | --    | UK      |
| DC Field   | Dieudonne, Yannik          | UK Atomic Energy Authority                                            | --    | UK      |
| DC Field   | Dissanayake, Charuni       | National High Magnetic Field Laboratory                               | FL    | USA     |
| DC Field   | Dominko, Damir             | Institute of Physics (Croatia)                                        | --    | Croatia |
| DC Field   | Donald, Alexander          | University of Florida                                                 | FL    | USA     |
| DC Field   | Dressel, Martin            | University of Stuttgart                                               | --    | Germany |
| DC Field   | Drichko, Irina             | Ioffe Physical-Technical Institute of the Russian Academy of Sciences | --    | Russia  |
| DC Field   | Du, Yuhan                  | East China Normal University                                          | --    | China   |
| DC Field   | Dubroca, Thierry           | National High Magnetic Field Laboratory                               | FL    | USA     |
| DC Field   | Duong, Daniel              | University of South Carolina                                          | SC    | USA     |
| DC Field   | Eaton, Alex                | University of Cambridge                                               | --    | UK      |
| DC Field   | Elango, Thenmozhi          | University of Cambridge                                               | --    | UK      |
| DC Field   | Elias Bernabe, Edgar       | University of California, Los Angeles                                 | CA    | USA     |
| DC Field   | Fakolujo, Adiat            | University of Tennessee, Knoxville                                    | TN    | USA     |
| DC Field   | Falorio, Iole              | SuperPower, Inc.                                                      | NY    | USA     |
| DC Field   | Feng, Zili                 | California Institute of Technology                                    | CA    | USA     |



| Facilities | Name                   | Organization                                                       | State | Country  |
|------------|------------------------|--------------------------------------------------------------------|-------|----------|
| DC Field   | Fisher, Ian            | Stanford University                                                | CA    | USA      |
| DC Field   | Fix, Alexander         | University of Colorado, Boulder                                    | CO    | USA      |
| DC Field   | Foa Torres, Luis       | University of Chile                                                | --    | Chile    |
| DC Field   | Fortune, Nathanael     | Smith College                                                      | MA    | USA      |
| DC Field   | Foss, Gabriel          | Taylor University                                                  | IN    | USA      |
| DC Field   | Fournier, Patrick      | University of Sherbrooke                                           | --    | Canada   |
| DC Field   | Franchini, Ruben       | University of Notre Dame                                           | IN    | USA      |
| DC Field   | Francis, Ashleigh      | Commonwealth Fusion Systems                                        | MA    | USA      |
| DC Field   | Frank, Natia           | University of Nevada Reno                                          | NV    | USA      |
| DC Field   | Gakiya, Miguel         | Florida State University                                           | FL    | USA      |
| DC Field   | Galach, Hanna          | Stockholm University                                               | --    | Sweden   |
| DC Field   | Galvis Echeverri, Jose | University of Rosario                                              | --    | Colombia |
| DC Field   | Gandy, Amy             | UK Atomic Energy Authority                                         | --    | UK       |
| DC Field   | Gapud, Albert          | University of South Alabama                                        | AL    | USA      |
| DC Field   | Geo, Hanwei            | Florida State University                                           | FL    | USA      |
| DC Field   | Gerhardt, Rosario      | Georgia Institute of Technology                                    | GA    | USA      |
| DC Field   | Ghiotto, Augusto       | University of California, Berkeley                                 | CA    | USA      |
| DC Field   | Ghosh, Sayak           | Stanford University                                                | CA    | USA      |
| DC Field   | Ghosh, Subrata         | University of Nevada Reno                                          | NV    | USA      |
| DC Field   | Giraldo-Gallo, Paula   | University of Los Andes                                            | --    | Colombia |
| DC Field   | Gonzalez, Benito       | Stanford University                                                | CA    | USA      |
| DC Field   | Gourgout, Adrien       | University of Sherbrooke                                           | --    | Canada   |
| DC Field   | Graf, David            | National High Magnetic Field Laboratory                            | FL    | USA      |
| DC Field   | Grimm, Brittany        | Florida State University                                           | FL    | USA      |
| DC Field   | Grissonnanche, Gael    | Institute Polytechnic De Paris                                     | --    | France   |
| DC Field   | Grockowiak, Audrey     | Leibniz Institute for Solid State and Materials Research Dresden   | --    | Germany  |
| DC Field   | Gu, Yanhong            | University of Tennessee, Knoxville                                 | TN    | USA      |
| DC Field   | Guan, Yingdong         | Pennsylvania State University                                      | PA    | USA      |
| DC Field   | Guchhait, Samaresh     | Howard University                                                  | DC    | USA      |
| DC Field   | Guillamon, Isabel      | University of Bristol                                              | --    | UK       |
| DC Field   | Guo, Chunyu            | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | --    | Germany  |
| DC Field   | Guo, Yimiao            | University of Illinois at Urbana-Champaign                         | IL    | USA      |
| DC Field   | Guo, Yinjie            | Columbia University                                                | NY    | USA      |
| DC Field   | Gupta, Adbhut          | Princeton University                                               | NJ    | USA      |

| Facilities | Name                       | Organization                                      | State | Country |
|------------|----------------------------|---------------------------------------------------|-------|---------|
| DC Field   | Gupta, Anshu               | Technical University of Denmark                   | --    | Denmark |
| DC Field   | Haley, Jack                | UK Atomic Energy Authority                        | --    | UK      |
| DC Field   | Hallas, Alannah            | University of British Columbia                    | --    | Canada  |
| DC Field   | Halloran, Thomas           | National Institute of Standards and Technology MD | MD    | USA     |
| DC Field   | Han, Zhongdong             | Cornell University                                | NY    | USA     |
| DC Field   | Hannahs, Scott             | National High Magnetic Field Laboratory           | FL    | USA     |
| DC Field   | Haravifard, Sara           | Duke University                                   | NC    | USA     |
| DC Field   | Harris, David              | University of California, Berkeley                | CA    | USA     |
| DC Field   | Harrison, Neil             | National High Magnetic Field Laboratory           | FL    | USA     |
| DC Field   | Hasan, Zahid               | Princeton University                              | NJ    | USA     |
| DC Field   | Hattori, Yuya              | National Institute for Materials Science          | --    | Japan   |
| DC Field   | He, Yangchen               | University of Wisconsin, Madison                  | WI    | USA     |
| DC Field   | Heintzelman, Daniel        | Pennsylvania State University                     | PA    | USA     |
| DC Field   | Heinz, Tony                | Stanford University                               | CA    | USA     |
| DC Field   | Held, Leander              | University of California, Berkeley                | CA    | USA     |
| DC Field   | Herak, Mirta               | Institute of Physics (Croatia)                    | --    | Croatia |
| DC Field   | Hernandez Requejo, Eduardo | Florida State University                          | FL    | USA     |
| DC Field   | Herrera Vasco, Edwin       | Autonomous University of Madrid                   | --    | Spain   |
| DC Field   | Hewa Walpitage, Heshan     | University of Utah                                | UT    | USA     |
| DC Field   | Hill, Robert               | University of Waterloo                            | --    | Canada  |
| DC Field   | Hill, Stephen              | National High Magnetic Field Laboratory           | FL    | USA     |
| DC Field   | Hilton, David              | University of Alabama, Birmingham                 | AL    | USA     |
| DC Field   | Hinson, Jezreel            | Florida State University                          | FL    | USA     |
| DC Field   | Hirata, Michihiro          | Los Alamos National Laboratory                    | NM    | USA     |
| DC Field   | Hirschberger, Maximilian   | University of Tokyo                               | --    | Japan   |
| DC Field   | Holmes, Stephen            | University of Missouri, St Louis                  | MO    | USA     |
| DC Field   | Horn, Jarryd               | University of Maryland, College Park              | MD    | USA     |
| DC Field   | Hosoi, Suguru              | Los Alamos National Laboratory                    | NM    | USA     |
| DC Field   | Hossain, Md Shafayat       | University of California, Los Angeles             | CA    | USA     |
| DC Field   | Hruby, Jakub               | National High Magnetic Field Laboratory           | FL    | USA     |
| DC Field   | Hu, Chaowei                | University of California, Los Angeles             | CA    | USA     |
| DC Field   | Hu, Jin                    | University of Arkansas                            | AR    | USA     |

| Facilities | Name                              | Organization                                                                    | State | Country     |
|------------|-----------------------------------|---------------------------------------------------------------------------------|-------|-------------|
| DC Field   | Hu, Yining                        | Max Planck Institute for Structure and Dynamics of Matter, Hamburg              | --    | Germany     |
| DC Field   | Hua, Zhenqi                       | Florida State University                                                        | FL    | USA         |
| DC Field   | Huai, Xudong                      | Clemson University                                                              | SC    | USA         |
| DC Field   | Huynh, Uyen                       | University of Utah                                                              | UT    | USA         |
| DC Field   | Hvid-Olsen, Thor                  | Technical University of Denmark                                                 | --    | Denmark     |
| DC Field   | Iliffe, William                   | CCFE STEP                                                                       | --    | UK          |
| DC Field   | Iloro-Duval, Charles              | University of Sherbrooke                                                        | --    | Canada      |
| DC Field   | Ip, Chi Ian                       | Massachusetts Institute of Technology                                           | MA    | USA         |
| DC Field   | Islam, Md Sazedul                 | Florida State University                                                        | FL    | USA         |
| DC Field   | Ito, Emi                          | University of California, Berkeley                                              | CA    | USA         |
| DC Field   | Ivek, Tomislav                    | Institute of Physics (Croatia)                                                  | --    | Croatia     |
| DC Field   | Jain, Rohit                       | High Temperature Superconductors Inc.                                           | CA    | USA         |
| DC Field   | Jaroszynski, Jan                  | National High Magnetic Field Laboratory                                         | FL    | USA         |
| DC Field   | Jauregui, Luis                    | University of California, Irvine                                                | CA    | USA         |
| DC Field   | Jayarathna, Kavishka              | University of Tennessee, Knoxville                                              | TN    | USA         |
| DC Field   | Jenkins, Kaila                    | University of Michigan                                                          | MI    | USA         |
| DC Field   | Jenkins, Michael                  | University of Tennessee, Knoxville                                              | TN    | USA         |
| DC Field   | Jiang, Qianni                     | Stanford University                                                             | CA    | USA         |
| DC Field   | Jiang, Xiangyu                    | East China Normal University                                                    | --    | China       |
| DC Field   | Jiang, Zhigang                    | Georgia Institute of Technology                                                 | GA    | USA         |
| DC Field   | Jin, Rongying                     | University of South Carolina                                                    | SC    | USA         |
| DC Field   | Jo, YounJung                      | Kyungpook National University                                                   | --    | South Korea |
| DC Field   | John, Caolan                      | Massachusetts Institute of Technology                                           | MA    | USA         |
| DC Field   | Joynt, Robert                     | University of Wisconsin, Madison                                                | WI    | USA         |
| DC Field   | Ju, Long                          | Massachusetts Institute of Technology                                           | MA    | USA         |
| DC Field   | Kaczorowski, Dariusz              | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | --    | Poland      |
| DC Field   | Kalugin, Nikolai                  | New Mexico Institute of Mining and Technology                                   | NM    | USA         |
| DC Field   | Kametani, Fumitake                | Florida State University                                                        | FL    | USA         |
| DC Field   | Kang, Woun                        | Ewha Womans University                                                          | --    | South Korea |
| DC Field   | Kaniyankandy Meethal, Ashfakh Ali | Pennsylvania State University                                                   | PA    | USA         |
| DC Field   | Karaiskaj, Denis                  | University of South Florida                                                     | FL    | USA         |
| DC Field   | Karki, Amar                       | Scientific Instruments                                                          | FL    | USA         |

| Facilities | Name                    | Organization                                  | State | Country     |
|------------|-------------------------|-----------------------------------------------|-------|-------------|
| DC Field   | Karunadasa, Hemamala    | Stanford University                           | CA    | USA         |
| DC Field   | Kato, Reizo             | RIKEN                                         | --    | Japan       |
| DC Field   | Khan, Mohd              | National High Magnetic Field Laboratory       | FL    | USA         |
| DC Field   | Kim, Dasol              | Massachusetts Institute of Technology         | MA    | USA         |
| DC Field   | Kim, Hansol             | University of Illinois at Urbana-Champaign    | IL    | USA         |
| DC Field   | Kim, Hoil               | Pohang University of Science and Technology   | --    | South Korea |
| DC Field   | Kim, Juhyeon            | Kyungpook National University                 | --    | South Korea |
| DC Field   | Kim, Jun Sung           | Pohang University of Science and Technology   | --    | South Korea |
| DC Field   | Kirkman-Davis, Mak      | Massachusetts Institute of Technology         | MA    | USA         |
| DC Field   | Knapp, Sean             | University of South Florida                   | FL    | USA         |
| DC Field   | Knappenberger, Kenneth  | Pennsylvania State University University Park | PA    | USA         |
| DC Field   | Kobyashi, Akiko         | University of Tokyo                           | --    | Japan       |
| DC Field   | Koo, Junghyun           | University of Minnesota, Twin Cities          | MN    | USA         |
| DC Field   | Krzystek, Jurek         | National High Magnetic Field Laboratory       | FL    | USA         |
| DC Field   | Kudisch, Bryan          | Florida State University                      | FL    | USA         |
| DC Field   | Kulichenko, Vadym       | National High Magnetic Field Laboratory       | FL    | USA         |
| DC Field   | Kurumaji, Takashi       | California Institute of Technology            | CA    | USA         |
| DC Field   | Kwon, Hyunchul          | University of California, Berkeley            | CA    | USA         |
| DC Field   | La Pierre, Henry        | Georgia Institute of Technology               | GA    | USA         |
| DC Field   | Lake, Alysia Bella      | Helmholtz Zentrum-Berlin                      | --    | Germany     |
| DC Field   | Larbalestier, David     | National High Magnetic Field Laboratory       | FL    | USA         |
| DC Field   | Lau, Chun Ning (Jeanie) | Ohio State University                         | OH    | USA         |
| DC Field   | Lawson, Benjamin        | Taylor University                             | IN    | USA         |
| DC Field   | Leahy, Ian              | National Renewable Energy Laboratory          | CO    | USA         |
| DC Field   | Lee, Jonathan           | National High Magnetic Field Laboratory       | FL    | USA         |
| DC Field   | Lee, Jun seong          | Pohang University of Science and Technology   | --    | South Korea |
| DC Field   | Lee, Mark               | Taylor University                             | IN    | USA         |
| DC Field   | Lee, Minhyea            | University of Colorado, Boulder               | CO    | USA         |
| DC Field   | Lee, Minseong           | National High Magnetic Field Laboratory       | NM    | USA         |
| DC Field   | Lee, Peter              | Florida State University                      | FL    | USA         |
| DC Field   | Lee, Sangyun            | National High Magnetic Field Laboratory       | FL    | USA         |
| DC Field   | Lee, Seng Huat          | Pennsylvania State University                 | PA    | USA         |

| Facilities | Name                | Organization                                             | State | Country |
|------------|---------------------|----------------------------------------------------------|-------|---------|
| DC Field   | Leighton, Chris     | University of Minnesota, Twin Cities                     | MN    | USA     |
| DC Field   | Levitan, Jeremy     | National High Magnetic Field Laboratory                  | FL    | USA     |
| DC Field   | Lewin, Sylvia       | University of Maryland, College Park                     | MD    | USA     |
| DC Field   | Li, Jia             | University of Texas, Austin                              | TX    | USA     |
| DC Field   | Li, Jiayi           | Columbia University                                      | NY    | USA     |
| DC Field   | Li, Lu              | University of Michigan                                   | MA    | USA     |
| DC Field   | Li, Shiyu           | University of Illinois Urbana-Champaign                  | IL    | USA     |
| DC Field   | Li, Yaochen         | University of California, Los Angeles                    | CA    | USA     |
| DC Field   | Li, Zizhong         | University of Wisconsin, Madison                         | WI    | USA     |
| DC Field   | Lin, Nianen         | Taylor University                                        | IN    | USA     |
| DC Field   | Lindenberg, Aaron   | Stanford University                                      | CA    | USA     |
| DC Field   | Liu, Fengshuo       | California Institute of Technology                       | CA    | USA     |
| DC Field   | Liu, Jian           | University of Tennessee, Knoxville                       | TN    | USA     |
| DC Field   | Liu, Jinyu          | University of California, Irvine                         | CA    | USA     |
| DC Field   | Liu, Xinyu          | University of Notre Dame                                 | IN    | USA     |
| DC Field   | Liu, Yanzhao        | Peking University                                        | --    | China   |
| DC Field   | Liu, Yijing         | Georgetown University                                    | DC    | USA     |
| DC Field   | Liu, Zhaoyu         | Rice University                                          | TX    | USA     |
| DC Field   | Liu, Ziyu           | Columbia University                                      | NY    | USA     |
| DC Field   | Liurukara, Duminda  | Oak Ridge National Laboratory                            | TN    | USA     |
| DC Field   | Logvenov, Gennady   | Max Planck Institute for Solid State Research, Stuttgart | --    | Germany |
| DC Field   | Long, Jeffrey       | University of California, Berkeley                       | CA    | USA     |
| DC Field   | Long, Mengmeng      | University of Cambridge                                  | --    | UK      |
| DC Field   | Lu, Jun             | National High Magnetic Field Laboratory                  | FL    | USA     |
| DC Field   | Lu, Tao             | California Institute of Technology                       | CA    | USA     |
| DC Field   | Lu, Zhengguang      | Florida State University                                 | FL    | USA     |
| DC Field   | Lyu, Yuanqi         | University of California, Berkeley                       | CA    | USA     |
| DC Field   | Ma, Liguu           | Cornell University                                       | NY    | USA     |
| DC Field   | Maddali, Harshadeep | University of Texas, Austin                              | TX    | USA     |
| DC Field   | Mahmi, Amanpreet    | University of Tennessee, Knoxville                       | TN    | USA     |
| DC Field   | Mai, Nghia          | Ampeers LLC                                              | TX    | USA     |
| DC Field   | Maier, Scott        | National High Magnetic Field Laboratory                  | FL    | USA     |
| DC Field   | Maierov, Boris      | National High Magnetic Field Laboratory                  | NM    | USA     |



| Facilities | Name                    | Organization                                                       | State | Country |
|------------|-------------------------|--------------------------------------------------------------------|-------|---------|
| DC Field   | Majoros, Milan          | Ohio State University                                              | OH    | USA     |
| DC Field   | Mak, Kin Fai            | Cornell University                                                 | NY    | USA     |
| DC Field   | Mandal, Manish          | Florida State University                                           | FL    | USA     |
| DC Field   | Mandigo-Stoba, Milan    | University of California, Los Angeles                              | CA    | USA     |
| DC Field   | Mandrus, David          | University of Tennessee, Knoxville                                 | TN    | USA     |
| DC Field   | Mangotra, Rupali        | Kennesaw State University                                          | GA    | USA     |
| DC Field   | Mao, Zhiqiang           | Pennsylvania State University                                      | PA    | USA     |
| DC Field   | Marquez Tavera, Rodolfo | National High Magnetic Field Laboratory                            | FL    | USA     |
| DC Field   | Marshall, Madalynn      | Kennesaw State University                                          | GA    | USA     |
| DC Field   | Martin, Clyde           | National High Magnetic Field Laboratory                            | FL    | USA     |
| DC Field   | Mayo, Alex              | Massachusetts Institute of Technology                              | MA    | USA     |
| DC Field   | McDonald, Ross          | National High Magnetic Field Laboratory                            | FL    | USA     |
| DC Field   | McGill, Stephen         | National High Magnetic Field Laboratory                            | FL    | USA     |
| DC Field   | McNamara, Dillon        | Florida State University                                           | FL    | USA     |
| DC Field   | McNeill, Jeffrey        | Columbia University                                                | NY    | USA     |
| DC Field   | Mielke, Charles         | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | --    | Germany |
| DC Field   | Misiak, Ian             | University of Tennessee, Knoxville                                 | TN    | USA     |
| DC Field   | Mitrovic, Luka          | Cornell University                                                 | NY    | USA     |
| DC Field   | Mizzi, Christopher      | National High Magnetic Field Laboratory                            | NM    | USA     |
| DC Field   | Mohammadigoushki, Hadi  | Florida State University                                           | FL    | USA     |
| DC Field   | Moll, Philip            | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | --    | Germany |
| DC Field   | Mondal, Dibya           | Florida State University                                           | FL    | USA     |
| DC Field   | Morris, Daniel          | University of Tennessee, Knoxville                                 | TN    | USA     |
| DC Field   | Mourigal, Martin        | Johns Hopkins University                                           | MD    | USA     |
| DC Field   | Mozaffari, Shirin       | University of Tennessee, Knoxville                                 | TN    | USA     |
| DC Field   | Murata, Keizo           | Osaka Metropolitan University                                      | --    | Japan   |
| DC Field   | Murphy, Garfield        | Florida State University                                           | FL    | USA     |
| DC Field   | Murphy, Tim             | National High Magnetic Field Laboratory                            | FL    | USA     |
| DC Field   | Musfeldt, Janice        | University of Tennessee, Knoxville                                 | TN    | USA     |
| DC Field   | Nair, Hari              | Cornell University                                                 | NY    | USA     |
| DC Field   | Nakajima, Yasuyuki      | University of Central Florida                                      | FL    | USA     |
| DC Field   | Neves, Paul             | Massachusetts Institute of Technology                              | MA    | USA     |

| Facilities | Name                   | Organization                              | State | Country   |
|------------|------------------------|-------------------------------------------|-------|-----------|
| DC Field   | Ngo, Danh              | University of California, Berkeley        | CA    | USA       |
| DC Field   | Nguyen, Nhanvan        | Brown University                          | RI    | USA       |
| DC Field   | Nguyen, Phuong         | Cornell University                        | NY    | USA       |
| DC Field   | Nikiforov, Daniel      | University of Utah                        | UT    | USA       |
| DC Field   | Niu, Chang             | Purdue University                         | IN    | USA       |
| DC Field   | Norel, Lucie           | Université de Rennes 1                    | --    | France    |
| DC Field   | Nowell, Robby          | National High Magnetic Field Laboratory   | FL    | USA       |
| DC Field   | Nuckolls, Kevin        | Massachusetts Institute of Technology     | MA    | USA       |
| DC Field   | Oakes, Aaron           | Pennsylvania State University             | PA    | USA       |
| DC Field   | Ogunjimi, Victor       | Commonwealth Fusion Systems               | MA    | USA       |
| DC Field   | Ostrom, Daniel         | Columbia University                       | NY    | USA       |
| DC Field   | Ozarowski, Andrew      | National High Magnetic Field Laboratory   | FL    | USA       |
| DC Field   | Ozerov, Mykhaylo       | National High Magnetic Field Laboratory   | FL    | USA       |
| DC Field   | Pack, Jordan           | Columbia University                       | NY    | USA       |
| DC Field   | Paglione, Johnpierre   | University of Maryland, College Park      | MD    | USA       |
| DC Field   | Palmer-Fortune, Joyce  | Smith College                             | MA    | USA       |
| DC Field   | Pan, Wei               | Sandia National Laboratories              | CA    | USA       |
| DC Field   | Panagopoulos, Christos | Nanyang Technological University          | --    | Singapore |
| DC Field   | Pandey, Binod          | University of Utah                        | UT    | USA       |
| DC Field   | Park, Heonjoon         | University of Washington                  | WA    | USA       |
| DC Field   | Park, Sejun            | Los Alamos National Laboratory            | NM    | USA       |
| DC Field   | Pasupathy, Abhay       | Columbia University                       | NY    | USA       |
| DC Field   | Pearre, Aaron          | Pennsylvania State University             | PA    | USA       |
| DC Field   | Peczkowski, Pawel      | Cardinal Stefan Wyszyński University      | --    | Poland    |
| DC Field   | Perez Roque, Rachel    | Florida State University                  | FL    | USA       |
| DC Field   | Perko-Engel, Gabriel   | California Institute of Technology        | CA    | USA       |
| DC Field   | Peskett, Joe           | UK Atomic Energy Authority                | --    | UK        |
| DC Field   | Petruk, Anton          | State University of New York, Stony Brook | NY    | USA       |
| DC Field   | Pfeiffer, Loren        | Princeton University                      | NJ    | USA       |
| DC Field   | Phillips, Cole         | West Texas A&M University                 | TX    | USA       |
| DC Field   | Phillips, Jared        | Scientific Instruments                    | FL    | USA       |
| DC Field   | Phillips, Lily         | Smith College                             | CA    | USA       |
| DC Field   | Politano, Antonio      | University of L'Aquila                    | --    | Italy     |
| DC Field   | Popiel, Nicholas       | University of Cambridge                   | --    | UK        |

| Facilities | Name                        | Organization                            | State | Country  |
|------------|-----------------------------|-----------------------------------------|-------|----------|
| DC Field   | Popovic, Dragana            | National High Magnetic Field Laboratory | FL    | USA      |
| DC Field   | Powell, Andy                | National High Magnetic Field Laboratory | FL    | USA      |
| DC Field   | Pritchard Cairns, Luke      | University of California, Berkeley      | CA    | USA      |
| DC Field   | Pustogow, Andrej            | University of California, Los Angeles   | CA    | USA      |
| DC Field   | Putzke, Carsten             | University of Bristol                   | --    | UK       |
| DC Field   | Qian, Tiema                 | Los Alamos National Laboratory          | NM    | USA      |
| DC Field   | Qiu, Gang                   | University of Minnesota, Twin Cities    | MN    | USA      |
| DC Field   | Rajbanshi, Abhinna          | University of South Carolina            | SC    | USA      |
| DC Field   | Ramanathan, Arun            | Columbia University                     | NY    | USA      |
| DC Field   | Ramos Rodríguez, Edwin      | University of the Andes                 | --    | Colombia |
| DC Field   | Rasi, Silvia                | High Temperature Superconductors Inc.   | CA    | USA      |
| DC Field   | Rathi, Sumedh               | Georgia Institute of Technology         | GA    | USA      |
| DC Field   | Raz, Eyal                   | Tel-Aviv University                     | --    | Israel   |
| DC Field   | Regmi, Atul                 | University of Central Florida           | FL    | USA      |
| DC Field   | Reid, Jennifer              | National High Magnetic Field Laboratory | FL    | USA      |
| DC Field   | Reyes, Arneil               | National High Magnetic Field Laboratory | FL    | USA      |
| DC Field   | Rhodes, Daniel              | University of Wisconsin, Madison        | WI    | USA      |
| DC Field   | Rice, Anthony               | National Renewable Energy Laboratory    | CO    | USA      |
| DC Field   | Ries, Rastislav             | Florida State University                | FL    | USA      |
| DC Field   | Riveros Mesa, Astrid Camila | National University of Colombia, Bogota | --    | Colombia |
| DC Field   | Roberts, Elliot             | University of Colorado, Boulder         | CO    | USA      |
| DC Field   | Rocquefelte, Xavier         | Université de Rennes 1                  | --    | France   |
| DC Field   | Rojas, Julian               | University of Los Andes                 | --    | Colombia |
| DC Field   | Rosa, Priscila              | Los Alamos National Laboratory          | NM    | USA      |
| DC Field   | Roy, Xavier                 | Columbia University                     | NY    | USA      |
| DC Field   | Rubi, Km                    | Los Alamos National Laboratory          | NM    | USA      |
| DC Field   | Rutherford, Aya             | University of Tennessee, Knoxville      | TN    | USA      |
| DC Field   | Rydh, Andreas               | Stockholm University                    | --    | Sweden   |
| DC Field   | Sääsk, Verner               | University of California, Berkeley      | CA    | USA      |
| DC Field   | Saha, Shanta                | University of Maryland, College Park    | MD    | USA      |
| DC Field   | Sahu, Samikshya             | University of British Columbia          | --    | Canada   |
| DC Field   | Saito, Yohei                | Goethe University Frankfurt             | --    | Germany  |
| DC Field   | Salerno, Elvin              | National High Magnetic Field Laboratory | FL    | USA      |

| Facilities | Name                            | Organization                                | State | Country     |
|------------|---------------------------------|---------------------------------------------|-------|-------------|
| DC Field   | Sanders, Brandon                | University of Tennessee, Knoxville          | TN    | USA         |
| DC Field   | Sandik, Shay                    | Tel-Aviv University                         | --    | Israel      |
| DC Field   | Santana Gonzalez, Juan          | Ecole Polytechnique                         | --    | France      |
| DC Field   | Sarangi, Bhabesh                | University of Houston                       | TX    | USA         |
| DC Field   | Saucedo Salas, Gicela           | University of Maryland, College Park        | MD    | USA         |
| DC Field   | Scheie, Allen                   | Los Alamos National Laboratory              | NM    | USA         |
| DC Field   | Schlom, Darrell                 | Cornell University                          | NY    | USA         |
| DC Field   | Schoop, Leslie                  | Princeton University                        | NJ    | USA         |
| DC Field   | Schroeder, Lily                 | Smith College                               | MA    | USA         |
| DC Field   | Schundelmier, Benny             | Florida State University                    | FL    | USA         |
| DC Field   | Sebastian, Suchitra             | University of Cambridge                     | --    | UK          |
| DC Field   | Selvamanickam, Venkat           | University of Houston                       | TX    | USA         |
| DC Field   | Semenov, Dmitry                 | National High Magnetic Field Laboratory     | FL    | USA         |
| DC Field   | Senaha, Trevor                  | Columbia University                         | NY    | USA         |
| DC Field   | Sengupta, Pinaki                | Nanyang Technological University            | --    | Singapore   |
| DC Field   | Seo, Hyeongwoo                  | Pohang University of Science and Technology | --    | South Korea |
| DC Field   | Shaik, Rahil                    | University of Florida                       | FL    | USA         |
| DC Field   | Shan, Jie                       | Pennsylvania State University               | PA    | USA         |
| DC Field   | Shanmugam, Maheswaran           | Indian Institute of Technology, Bombay      | --    | India       |
| DC Field   | Shao, Yinming                   | Pennsylvania State University               | PA    | USA         |
| DC Field   | Sharma, Manish Mani             | University of Arkansas                      | AR    | USA         |
| DC Field   | Sharma, Shivani                 | National High Magnetic Field Laboratory     | FL    | USA         |
| DC Field   | Shatruk, Michael                | National High Magnetic Field Laboratory     | FL    | USA         |
| DC Field   | Shayegan, Mansour               | Princeton University                        | NJ    | USA         |
| DC Field   | Shepard, Maise                  | Commonwealth Fusion Systems                 | MA    | USA         |
| DC Field   | Sherpa, Phurba                  | Los Alamos National Laboratory              | NM    | USA         |
| DC Field   | Shi, Gang                       | Florida State University                    | FL    | USA         |
| DC Field   | Shi, Qianhui                    | University of California, Los Angeles       | CA    | USA         |
| DC Field   | Shi, Zeping                     | East China Normal University                | --    | China       |
| DC Field   | Shrestha, Keshav                | Texas A&M University                        | TX    | USA         |
| DC Field   | Shtefiienko, Kyril              | West Texas A&M University                   | TX    | USA         |
| DC Field   | Siddarth Swaminathan, Aurobindo | UK Atomic Energy Authority                  | --    | UK          |
| DC Field   | Siegrist, Theo                  | National High Magnetic Field Laboratory     | FL    | USA         |
| DC Field   | Silva Freitas, Gabriel          | Los Alamos National Laboratory              | NM    | USA         |

| Facilities | Name                   | Organization                                                          | State | Country  |
|------------|------------------------|-----------------------------------------------------------------------|-------|----------|
| DC Field   | Silva, Ethege Lakshan  | University of Tennessee, Knoxville                                    | TN    | USA      |
| DC Field   | Silvera Vega, Diego    | University of Los Andes                                               | --    | Colombia |
| DC Field   | Simonov, Nikolai       | Georgia Institute of Technology                                       | GA    | USA      |
| DC Field   | Singh, Ashutosh        | University of British Columbia                                        | --    | Canada   |
| DC Field   | Singh, Siddharth Kumar | Princeton University                                                  | NJ    | USA      |
| DC Field   | Singleton, John        | National High Magnetic Field Laboratory                               | NM    | USA      |
| DC Field   | Smirnov, Dmitry        | National High Magnetic Field Laboratory                               | FL    | USA      |
| DC Field   | Smirnov, Ivan          | Ioffe Physical-Technical Institute of the Russian Academy of Sciences | --    | Russia   |
| DC Field   | Smith, Daniel          | University of South Alabama                                           | AL    | USA      |
| DC Field   | Smith, G. Alexander    | Los Alamos National Laboratory                                        | NM    | USA      |
| DC Field   | Smith, Julia           | National High Magnetic Field Laboratory                               | FL    | USA      |
| DC Field   | Smith, Kent            | Sandia National Laboratories                                          | CA    | USA      |
| DC Field   | Smith, Kevin           | University of Tennessee, Knoxville                                    | TN    | USA      |
| DC Field   | Song, Seunghoon        | University of Tennessee, Knoxville                                    | TN    | USA      |
| DC Field   | Song, Yuan             | Columbia University                                                   | NY    | USA      |
| DC Field   | Sorbom, Brandon        | Commonwealth Fusion Systems                                           | MA    | USA      |
| DC Field   | Speller, Susannah      | University of Oxford                                                  | --    | UK       |
| DC Field   | Spulber, Diana         | Stanford University                                                   | CA    | USA      |
| DC Field   | Starch, William        | Florida State University                                              | FL    | USA      |
| DC Field   | Steinke, Lucia         | Maybell Quantum Industries                                            | CO    | USA      |
| DC Field   | Stemmer, Susanne       | University of California, Santa Barbara                               | CA    | USA      |
| DC Field   | Stepniak, Martyna      | Eastern Washington University                                         | WA    | USA      |
| DC Field   | Stuckert, Michael      | University of Notre Dame                                              | IN    | USA      |
| DC Field   | Suchalkin, Sergey      | State University of New York, Stony Brook                             | NY    | USA      |
| DC Field   | Suderow, Hermann       | Autonomous University of Madrid                                       | --    | Spain    |
| DC Field   | Sumption, Mike         | Ohio State University                                                 | OH    | USA      |
| DC Field   | Suslov, Alexey         | National High Magnetic Field Laboratory                               | FL    | USA      |
| DC Field   | Tai, Chia-Tse          | Princeton University                                                  | NJ    | USA      |
| DC Field   | Taillefer, Louis       | University of Sherbrooke                                              | --    | Canada   |
| DC Field   | Takano, Yasu           | University of Florida                                                 | FL    | USA      |
| DC Field   | Tan, Pukun             | Purdue University                                                     | IN    | USA      |
| DC Field   | Tanaka, Yuki           | University of Tokyo                                                   | --    | Japan    |
| DC Field   | Tarantini, Chiara      | National High Magnetic Field Laboratory                               | FL    | USA      |



| Facilities | Name                         | Organization                                  | State | Country |
|------------|------------------------------|-----------------------------------------------|-------|---------|
| DC Field   | Tazi, Aya Batoul             | Columbia University                           | NY    | USA     |
| DC Field   | Terashima, Taichi            | National Institute for Materials Science      | --    | Japan   |
| DC Field   | Terilli, Michael             | Rutgers University                            | NJ    | USA     |
| DC Field   | Terrones, Taylor             | New Mexico Institute of Mining and Technology | NM    | USA     |
| DC Field   | Thangavel, Kavipriya         | Florida State University                      | FL    | USA     |
| DC Field   | Thevalappilly Paulose, Manoj | University of Houston                         | TX    | USA     |
| DC Field   | Toemtrisa, Nop               | Princeton University                          | NJ    | USA     |
| DC Field   | Tozer, Stanley               | National High Magnetic Field Laboratory       | FL    | USA     |
| DC Field   | Tran, Thao                   | Clemson University                            | SC    | USA     |
| DC Field   | Travaglini, Henry            | Sandia National Laboratories                  | NY    | USA     |
| DC Field   | Trier, Felix                 | Technical University of Denmark               | --    | Denmark |
| DC Field   | Tschirhart, Charles          | Cornell University                            | NY    | USA     |
| DC Field   | Turnbull, Mark               | Clark University                              | MA    | USA     |
| DC Field   | TUSHAR, FNU                  | Ohio State University                         | OH    | USA     |
| DC Field   | Umeh, Chidubem               | University of Central Florida                 | FL    | USA     |
| DC Field   | Unnikrishnan, Arjun          | Purdue University                             | IN    | USA     |
| DC Field   | Upreti, Dinesh               | University of Arkansas                        | AR    | USA     |
| DC Field   | Valecha, Siya                | University of Durham                          | --    | UK      |
| DC Field   | van Tol, Johan               | National High Magnetic Field Laboratory       | FL    | USA     |
| DC Field   | Vardeny, Z. Valy             | University of Utah                            | UT    | USA     |
| DC Field   | Vigil, Julian                | University of California, Berkeley            | CA    | USA     |
| DC Field   | Voigt, Greyson               | Ohio State University                         | OH    | USA     |
| DC Field   | Wakefield, Joshua            | Massachusetts Institute of Technology         | MA    | USA     |
| DC Field   | Wang, Chengyu                | Princeton University                          | NJ    | USA     |
| DC Field   | Wang, Jian                   | Peking University                             | --    | China   |
| DC Field   | Wang, Jiayin                 | Ohio State University                         | OH    | USA     |
| DC Field   | Wang, Kang                   | University of California, Los Angeles         | CA    | USA     |
| DC Field   | Wang, Nathan                 | Duke University                               | NC    | USA     |
| DC Field   | Wang, Pengjie                | University of Illinois at Urbana-Champaign    | IL    | USA     |
| DC Field   | Wang, Xander                 | Commonwealth Fusion Systems                   | MA    | USA     |
| DC Field   | Wang, Yikai                  | University of Wisconsin, Madison              | WI    | USA     |
| DC Field   | Wang, Yuxin                  | Florida State University                      | FL    | USA     |
| DC Field   | Wang, Ziqiao                 | Peking University                             | --    | China   |
| DC Field   | Wei, Kaya                    | National High Magnetic Field Laboratory       | FL    | USA     |
| DC Field   | Weinberger, Theo             | University of Cambridge                       | --    | UK      |

| Facilities | Name              | Organization                            | State | Country |
|------------|-------------------|-----------------------------------------|-------|---------|
| DC Field   | Weiner, Adam      | SuperPower, Inc.                        | NY    | USA     |
| DC Field   | Weiss, Jeremy     | High Temperature Superconductors Inc.   | CA    | USA     |
| DC Field   | Welser, Robert    | University of California, Irvine        | CA    | USA     |
| DC Field   | West, Noah        | University of Michigan                  | MI    | USA     |
| DC Field   | Whitelock, Hope   | University of Colorado, Boulder         | CO    | USA     |
| DC Field   | Wilkinson, Grant  | Georgia Institute of Technology         | GA    | USA     |
| DC Field   | Wimbush, Stuart   | UK Industrial Fusion Solutions Ltd      | --    | UK      |
| DC Field   | Winiarski, Michal | Gdansk University of Technology         | --    | Poland  |
| DC Field   | Winter, Laurel    | National High Magnetic Field Laboratory | NM    | USA     |
| DC Field   | Woods, Andrew     | National High Magnetic Field Laboratory | FL    | USA     |
| DC Field   | Wosnitza, Joachim | Helmholtz Zentrum Dresden-Rossendorf    | --    | Germany |
| DC Field   | Wu, Tsung-Chi     | Rutgers University                      | NJ    | USA     |
| DC Field   | Wu, Wenbin        | East China Normal University            | --    | China   |
| DC Field   | Wu, Zheyu         | National High Magnetic Field Laboratory | FL    | USA     |
| DC Field   | Wyrsta, Ines      | High Temperature Superconductors Inc.   | CA    | USA     |
| DC Field   | xia, yiyu         | Cornell University                      | NY    | USA     |
| DC Field   | Xia, Zhengchao    | Cornell University                      | NY    | USA     |
| DC Field   | Xie, Yunyin       | University of Cambridge                 | --    | UK      |
| DC Field   | Xing, Chengkun    | University of Tennessee, Knoxville      | TN    | USA     |
| DC Field   | Xing, Jie         | Oak Ridge National Laboratory           | TN    | USA     |
| DC Field   | Xiong, Peng       | Florida State University                | FL    | USA     |
| DC Field   | Xu, Aixia         | Florida State University                | FL    | USA     |
| DC Field   | Xu, Sijie         | Rice University                         | TX    | USA     |
| DC Field   | Xu, Xiaodong      | University of Washington                | WA    | USA     |
| DC Field   | Xue, Shengchen    | Ampeers LLC                             | TX    | USA     |
| DC Field   | Xue, Ziling       | University of Tennessee, Knoxville      | TN    | USA     |
| DC Field   | Yagoda, Asaf      | Tel-Aviv University                     | --    | Israel  |
| DC Field   | Yamada, Rinsuke   | University of Tokyo                     | --    | Japan   |
| DC Field   | Yamakawa, Kohtaro | University of California, Berkeley      | CA    | USA     |
| DC Field   | Yamamoto, Riku    | University of California, Los Angeles   | CA    | USA     |
| DC Field   | Yan, Jiaqiang     | Oak Ridge National Laboratory           | TN    | USA     |
| DC Field   | Yang, Birui       | Columbia University                     | NY    | USA     |
| DC Field   | Yang, Hung-Yu     | University of California, Los Angeles   | CA    | USA     |

| Facilities | Name                 | Organization                                                               | State | Country   |
|------------|----------------------|----------------------------------------------------------------------------|-------|-----------|
| DC Field   | Yang, Ting-Hsun      | University of California, Los Angeles                                      | CA    | USA       |
| DC Field   | Ye, Linda            | California Institute of Technology                                         | CA    | USA       |
| DC Field   | Ye, Peide            | Purdue University                                                          | IN    | USA       |
| DC Field   | Yeh, Eric            | University of California, Los Angeles                                      | CA    | USA       |
| DC Field   | Yip, King Yau        | National University of Singapore                                           | --    | Singapore |
| DC Field   | Yoon, Hyeok          | University of Maryland, College Park                                       | MD    | USA       |
| DC Field   | Yoshimura, Kota      | University of Notre Dame                                                   | IN    | USA       |
| DC Field   | Yuan, Xiang          | East China Normal University                                               | --    | China     |
| DC Field   | Zachariasz, Piotr    | Lukasiewicz Research Network - Institute of Microelectronics and Photonics | --    | Poland    |
| DC Field   | Zapf, Vivien         | National High Magnetic Field Laboratory                                    | FL    | USA       |
| DC Field   | Zaprianov, Christian | Rutgers University                                                         | NJ    | USA       |
| DC Field   | Zeng, Yihang         | Cornell University                                                         | NY    | USA       |
| DC Field   | Zhang, Cheng         | Fudan University                                                           | --    | China     |
| DC Field   | Zhang, Dechen        | University of Michigan                                                     | MI    | USA       |
| DC Field   | Zhang, Ling          | Max Planck Institute for Structure and Dynamics of Matter, Hamburg         | --    | Germany   |
| DC Field   | Zhang, Naipeng       | National High Magnetic Field Laboratory                                    | FL    | USA       |
| DC Field   | Zhang, Naiyuan       | University of Washington                                                   | WA    | USA       |
| DC Field   | Zhang, Qixuan        | University of California, San Diego                                        | CA    | USA       |
| DC Field   | Zhang, Shengzhi      | National High Magnetic Field Laboratory                                    | FL    | USA       |
| DC Field   | Zhang, Wei           | National University of Singapore                                           | --    | Singapore |
| DC Field   | Zhang, Xinyang       | Nanyang Technological University                                           | --    | Singapore |
| DC Field   | Zhang, Yichi         | Cornell University                                                         | NY    | USA       |
| DC Field   | Zhang, Yifei         | SuperPower, Inc.                                                           | NY    | USA       |
| DC Field   | Zhang, Yuxin         | Ohio State University                                                      | OH    | USA       |
| DC Field   | Zhang, Zheneng       | Ohio State University                                                      | OH    | USA       |
| DC Field   | Zhao, Yi-Fan         | University of Washington                                                   | WA    | USA       |
| DC Field   | Zheng, Guoxin        | University of Michigan                                                     | MI    | USA       |
| DC Field   | Zhou, Haidong        | University of Tennessee, Knoxville                                         | TN    | USA       |
| DC Field   | Zhou, Shizhe         | Pennsylvania State University                                              | PA    | USA       |
| DC Field   | Zhu, Chengyu         | University of Minnesota, Twin Cities                                       | MN    | USA       |
| DC Field   | Zhu, Yuan            | University of Michigan                                                     | MI    | USA       |
| DC Field   | Zvyagin, Sergei      | Helmholtz Zentrum Dresden-Rossendorf                                       | --    | Germany   |

| Facilities | Name             | Organization        | State | Country |
|------------|------------------|---------------------|-------|---------|
| DC Field   | Zwanziger, Clara | Stanford University | CA    | USA     |

### EMR (26 INTERNATIONAL, 129 NATIONAL USERS)

| Facilities | Name                      | Organization                                   | State | Country   |
|------------|---------------------------|------------------------------------------------|-------|-----------|
| EMR        | Abusa, Yao                | Iowa State University                          | IA    | USA       |
| EMR        | Adami, Francesca          | University College Dublin                      | --    | Ireland   |
| EMR        | Ajayan, Pulickel          | Rice University                                | TX    | USA       |
| EMR        | Alabugin, Igor            | Florida State University                       | FL    | USA       |
| EMR        | Alanthadka, Anitha        | University of Nevada Reno                      | NV    | USA       |
| EMR        | Ara, Ferdous              | National High Magnetic Field Laboratory        | FL    | USA       |
| EMR        | Atwood, Sabastian         | National High Magnetic Field Laboratory        | FL    | USA       |
| EMR        | Avalos, Claudia           | New York University                            | NY    | USA       |
| EMR        | Bartlett, Audrey          | Massachusetts Institute of Technology          | MA    | USA       |
| EMR        | Benner, Florian           | Michigan State University                      | MI    | USA       |
| EMR        | Bernbeck, Maximilian      | Georgia Institute of Technology                | GA    | USA       |
| EMR        | Bienko, Alina             | University of Wroclaw                          | --    | Poland    |
| EMR        | Bisht, Shubham            | Florida State University                       | FL    | USA       |
| EMR        | Biswas, Abhijit           | Rice University                                | TX    | USA       |
| EMR        | Brantley, ChristiAnna     | University of Florida                          | FL    | USA       |
| EMR        | Burrill, Megan            | Northwestern University                        | IL    | USA       |
| EMR        | Cabigting, Jhersie        | California State University, East Bay          | CA    | USA       |
| EMR        | Champ, Anna               | Columbia University                            | NY    | USA       |
| EMR        | Chatterjee, Arka          | Rice University                                | TX    | USA       |
| EMR        | Chatterjee, Satyaki       | University of Iceland                          | --    | Iceland   |
| EMR        | Cheek, Lilly              | Florida State University                       | FL    | USA       |
| EMR        | Chilton, Nicholas         | Australian National University                 | --    | Australia |
| EMR        | Chinaegbomkpa, Uchenna    | Clemson University                             | SC    | USA       |
| EMR        | Choi, Eun Sang            | National High Magnetic Field Laboratory        | FL    | USA       |
| EMR        | Christiansen, Rasmus Tang | Georgia Institute of Technology                | GA    | USA       |
| EMR        | Christou, George          | University of Florida                          | FL    | USA       |
| EMR        | Clark, Rachel             | Florida State University                       | FL    | USA       |
| EMR        | Colacio, Enrique          | University of Granada                          | --    | Spain     |
| EMR        | Coronado, Eugenio         | University of Valencia                         | --    | Spain     |
| EMR        | Cuza, Emmelyne            | University College Dublin                      | --    | Ireland   |
| EMR        | Danopoulos, Andreas       | National and Kapodistrian University of Athens | --    | Greece    |
| EMR        | Dasari, Srikanth          | Ohio State University                          | OH    | USA       |
| EMR        | Demir, Selvan             | Michigan State University                      | MI    | USA       |

| Facilities | Name                                    | Organization                            | State | Country |
|------------|-----------------------------------------|-----------------------------------------|-------|---------|
| EMR        | Deshapriya, Saroshan                    | Michigan State University               | MI    | USA     |
| EMR        | Dickwella Widanage, Malitha Chathuranga | National Renewable Energy Laboratory    | CO    | USA     |
| EMR        | Diodati, Alexander                      | University of Florida                   | FL    | USA     |
| EMR        | Doerr, Linda                            | Boston University                       | MA    | USA     |
| EMR        | Duan, Ran                               | University of Texas, San Antonio        | TX    | USA     |
| EMR        | Dubroca, Thierry                        | National High Magnetic Field Laboratory | FL    | USA     |
| EMR        | Elinburg, Jessica                       | Boston University                       | MA    | USA     |
| EMR        | Fakolujo, Adiat                         | University of Tennessee, Knoxville      | TN    | USA     |
| EMR        | Fiedler, Adam                           | Marquette University                    | WI    | USA     |
| EMR        | Fisher, Ethan                           | University of Florida                   | FL    | USA     |
| EMR        | Frank, Natia                            | University of Nevada Reno               | NV    | USA     |
| EMR        | Freedman, Danna                         | Northwestern University                 | IL    | USA     |
| EMR        | Frydman, Lucio                          | National High Magnetic Field Laboratory | FL    | USA     |
| EMR        | Gabarró-Riera, Guillem                  | University of Barcelona                 | --    | Spain   |
| EMR        | Gakiya, Miguel                          | Florida State University                | FL    | USA     |
| EMR        | Garbacz, Piotr                          | University of Warsaw                    | --    | Poland  |
| EMR        | Ghosh, Subrata                          | University of Nevada Reno               | NV    | USA     |
| EMR        | Giannoulis, Angeliki                    | Weizmann Institute of Science           | --    | Israel  |
| EMR        | González Alférez, Macarena              | University of Virginia                  | VA    | USA     |
| EMR        | Greer, Rianna                           | Massachusetts Institute of Technology   | MA    | USA     |
| EMR        | Grimm, Brittany                         | Florida State University                | FL    | USA     |
| EMR        | Gunnoe, Thomas                          | University of Virginia                  | VA    | USA     |
| EMR        | Hanabe Subramanya, Manoj Vinayaka       | Florida State University                | FL    | USA     |
| EMR        | Harrison, Neil                          | National High Magnetic Field Laboratory | FL    | USA     |
| EMR        | Hedlund, Daniel                         | University of Central Florida           | FL    | USA     |
| EMR        | Herbert, David                          | University of Manitoba                  | --    | Canada  |
| EMR        | Hernandez Requejo, Eduardo              | Florida State University                | FL    | USA     |
| EMR        | Hill, Stephen                           | National High Magnetic Field Laboratory | FL    | USA     |
| EMR        | Hou, Dewen                              | Boise State University                  | ID    | USA     |
| EMR        | Hruby, Jakub                            | National High Magnetic Field Laboratory | FL    | USA     |
| EMR        | Hu, Yan-Yan                             | Florida State University                | FL    | USA     |
| EMR        | Ibbetson, Natalie                       | California State University, East Bay   | CA    | USA     |
| EMR        | Ito, Emi                                | University of California, Berkeley      | CA    | USA     |
| EMR        | Jannin, Sami                            | Claude Bernard University Lyon 1        | --    | France  |



| Facilities | Name                         | Organization                                   | State | Country |
|------------|------------------------------|------------------------------------------------|-------|---------|
| EMR        | Jenkins, Michael             | University of Tennessee, Knoxville             | TN    | USA     |
| EMR        | Kacperkiewicz, Amelia        | University of Manitoba                         | --    | Canada  |
| EMR        | Kirk, Martin                 | University of New Mexico                       | NM    | USA     |
| EMR        | Koay, Christie               | Columbia University                            | NY    | USA     |
| EMR        | Kovnir, Kirill               | Iowa State University                          | IA    | USA     |
| EMR        | Krzystek, Jurek              | National High Magnetic Field Laboratory        | FL    | USA     |
| EMR        | Kulik, Piotr                 | University of Central Florida                  | FL    | USA     |
| EMR        | Kumar, Divya                 | Florida State University                       | FL    | USA     |
| EMR        | Kwon, Hyunchul               | University of California, Berkeley             | CA    | USA     |
| EMR        | Kyritsis, Panayotis          | National and Kapodistrian University of Athens | --    | Greece  |
| EMR        | La Pierre, Henry             | Georgia Institute of Technology                | GA    | USA     |
| EMR        | Lada, Zoi                    | University College Dublin                      | --    | Ireland |
| EMR        | Langelaan, David             | Dalhousie University                           | --    | Canada  |
| EMR        | Li, Jiasong                  | University of Texas, San Antonio               | TX    | USA     |
| EMR        | Li, Jiayi                    | Columbia University                            | NY    | USA     |
| EMR        | Litvak, Ilya                 | National High Magnetic Field Laboratory        | FL    | USA     |
| EMR        | Liu, Aimin                   | University of Texas, San Antonio               | TX    | USA     |
| EMR        | Long, Jeffrey                | University of California, Berkeley             | CA    | USA     |
| EMR        | Lumata, Jenica               | National High Magnetic Field Laboratory        | FL    | USA     |
| EMR        | Ma, Anthony                  | California State University, East Bay          | CA    | USA     |
| EMR        | Mahmi, Amanpreet             | University of Tennessee, Knoxville             | TN    | USA     |
| EMR        | Mao, Haochuan                | Florida State University                       | FL    | USA     |
| EMR        | McNeill, Jeffrey             | Columbia University                            | NY    | USA     |
| EMR        | Mentink, Frederic            | National High Magnetic Field Laboratory        | FL    | USA     |
| EMR        | Mindiola, Daniel             | University of Pennsylvania                     | PA    | USA     |
| EMR        | Mondal, Dibya                | Florida State University                       | FL    | USA     |
| EMR        | Moore, Shawn                 | Boston University                              | MA    | USA     |
| EMR        | Morgan, Grace                | University College Dublin                      | --    | Ireland |
| EMR        | Ngo, Danh                    | University of California, Berkeley             | CA    | USA     |
| EMR        | Ngompe Massado, Cindy Serena | Massachusetts Institute of Technology          | MA    | USA     |
| EMR        | Nguyen, Quang                | Florida State University                       | FL    | USA     |
| EMR        | Ojelade, Islamiyat           | Florida State University                       | FL    | USA     |
| EMR        | Orlando, Tomas               | National High Magnetic Field Laboratory        | FL    | USA     |
| EMR        | Oyekunle, Ifeoluwa           | Florida State University                       | FL    | USA     |

| Facilities | Name                       | Organization                                      | State | Country |
|------------|----------------------------|---------------------------------------------------|-------|---------|
| EMR        | Ozarowski, Andrew          | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Ozerov, Mykhaylo           | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Parker, David              | University of Durham                              | --    | UK      |
| EMR        | Perez Roque, Rachel        | Florida State University                          | FL    | USA     |
| EMR        | Poe, Lola                  | Florida State University                          | FL    | USA     |
| EMR        | Pöpl, Andreas              | Leipzig University                                | --    | Germany |
| EMR        | Ramamoorthy, Ayyalusamy    | Florida State University                          | FL    | USA     |
| EMR        | Ramanathan, Arun           | Columbia University                               | NY    | USA     |
| EMR        | Rosa, Priscila             | Los Alamos National Laboratory                    | NM    | USA     |
| EMR        | Roy, Xavier                | Columbia University                               | NY    | USA     |
| EMR        | Sanders, Brandon           | University of Tennessee, Knoxville                | TN    | USA     |
| EMR        | Sankaralingam, Muniyandi   | National Institute of Technology Calicut          | --    | India   |
| EMR        | Sañudo, E. Carolina        | University of Barcelona                           | --    | Spain   |
| EMR        | Scott, Faith               | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Shanmugam, Maheswaran      | Indian Institute of Technology, Bombay            | --    | India   |
| EMR        | Shatruk, Michael           | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Shepherd, Jennifer         | Gonzaga University                                | WA    | USA     |
| EMR        | Shivanna, Mohana           | Sandia National Laboratories                      | NM    | USA     |
| EMR        | Shultz, David              | North Carolina State University                   | NC    | USA     |
| EMR        | Sidhu, Baldeep             | University of Manitoba                            | --    | Canada  |
| EMR        | Siegrist, Theo             | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Sigurdsson, Snorri         | University of Iceland                             | --    | Iceland |
| EMR        | Singamaneni, Srinivasa Rao | University of Texas, El Paso                      | TX    | USA     |
| EMR        | Stephen, Andrew            | Frederick National Laboratory for Cancer Research | MD    | USA     |
| EMR        | Stoll, Stefan              | University of Washington                          | WA    | USA     |
| EMR        | Stowell, Rachelle          | University of Washington                          | WA    | USA     |
| EMR        | Suslov, Alexey             | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Telser, Joshua             | Roosevelt University                              | IL    | USA     |
| EMR        | Thangavel, Kavipriya       | Florida State University                          | FL    | USA     |
| EMR        | Theodros, Elsa             | Florida State University                          | FL    | USA     |
| EMR        | Toubiana, Léa              | Boston University                                 | MA    | USA     |
| EMR        | Tran, Thao                 | Clemson University                                | SC    | USA     |
| EMR        | Trociewitz, Bianca         | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Truong, Erica              | Florida State University                          | FL    | USA     |

| Facilities | Name                     | Organization                                      | State | Country |
|------------|--------------------------|---------------------------------------------------|-------|---------|
| EMR        | van Tol, Johan           | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Van, Que                 | Frederick National Laboratory for Cancer Research | MD    | USA     |
| EMR        | Venkatesh, Amrit         | University of Virginia                            | VA    | USA     |
| EMR        | Veroneau, Samuel         | University of Pennsylvania                        | PA    | USA     |
| EMR        | Wampler, James           | Los Alamos National Laboratory                    | NM    | USA     |
| EMR        | Wang, Ronghe             | Florida State University                          | FL    | USA     |
| EMR        | Wang, Xiaoling           | California State University, East Bay             | CA    | USA     |
| EMR        | Weaver, Sherwood         | Florida State University                          | FL    | USA     |
| EMR        | Wi, Sungsool             | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Wilkinson, Grant         | Georgia Institute of Technology                   | GA    | USA     |
| EMR        | Winiarski, Michal        | Gdansk University of Technology                   | --    | Poland  |
| EMR        | Xiong, Hui               | Boise State University                            | IN    | USA     |
| EMR        | Xue, Ziling              | University of Tennessee, Knoxville                | TN    | USA     |
| EMR        | Yergeshbayeva, Sandugash | University of Southern California                 | CA    | USA     |
| EMR        | Zadrozny, Joseph         | Ohio State University                             | OH    | USA     |
| EMR        | Zapf, Vivien             | National High Magnetic Field Laboratory           | FL    | USA     |
| EMR        | Zeron, Maynor            | Florida State University                          | FL    | USA     |
| EMR        | Zhu, Wen                 | Florida State University                          | FL    | USA     |
| EMR        | Ziebel, Michael          | Columbia University                               | NY    | USA     |
| EMR        | Zvanut, Mary Ellen       | University of Alabama, Birmingham                 | AL    | USA     |

### HBT (2 INTERNATIONAL, 18 NATIONAL USERS)

| Facilities | Name                 | Organization                          | State | Country |
|------------|----------------------|---------------------------------------|-------|---------|
| High B/T   | Addamane, Sadhvikas  | Sandia National Laboratories          | NM    | USA     |
| High B/T   | Donald, Alexander    | University of Florida                 | FL    | USA     |
| High B/T   | Duong, Daniel        | University of South Carolina          | SC    | USA     |
| High B/T   | Gazizulin, Rasul     | University of Florida                 | FL    | USA     |
| High B/T   | Gervais, Guillaume   | McGill University                     | --    | Canada  |
| High B/T   | Haley, Richard       | University of Lancaster               | --    | UK      |
| High B/T   | Hossain, Md Shafayat | University of California, Los Angeles | CA    | USA     |
| High B/T   | Huan, Chao           | University of Florida                 | FL    | USA     |
| High B/T   | Huang, Silu          | Louisiana State University            | LA    | USA     |
| High B/T   | Jin, Rongying        | University of South Carolina          | SC    | USA     |
| High B/T   | Laroche, Dominique   | University of Florida                 | FL    | USA     |

| Facilities | Name            | Organization                            | State | Country |
|------------|-----------------|-----------------------------------------|-------|---------|
| High B/T   | Lee, Minseong   | National High Magnetic Field Laboratory | NM    | USA     |
| High B/T   | Lee, Sangyun    | National High Magnetic Field Laboratory | FL    | USA     |
| High B/T   | Meisel, Mark    | University of Florida                   | FL    | USA     |
| High B/T   | Ollmann, Chris  | University of Florida                   | FL    | USA     |
| High B/T   | Scheie, Allen   | Los Alamos National Laboratory          | NM    | USA     |
| High B/T   | Silva, Nicolas  | University of Florida                   | FL    | USA     |
| High B/T   | Yeh, Eric       | University of California, Los Angeles   | CA    | USA     |
| High B/T   | Zapf, Vivien    | National High Magnetic Field Laboratory | FL    | USA     |
| High B/T   | Zheng, Mingyang | University of Florida                   | FL    | USA     |

### ICR (49 INTERNATIONAL, 194 NATIONAL USERS)

| Facilities | Name                 | Organization                                   | State | Country  |
|------------|----------------------|------------------------------------------------|-------|----------|
| ICR        | Adhikari, Puspa      | Florida Gulf Coast University                  | FL    | USA      |
| ICR        | Afonso, Carlos       | Normandy University                            | --    | France   |
| ICR        | Agblemany, Felix     | University of Delaware                         | DE    | USA      |
| ICR        | Aguilera, Martha     | National High Magnetic Field Laboratory        | FL    | USA      |
| ICR        | Akongwi, Mirabel     | University of Buea                             | --    | Cameroon |
| ICR        | Alam, Mahbub         | University of South Carolina                   | SC    | USA      |
| ICR        | Aluwihare, Lihini    | University of California, San Diego            | CA    | USA      |
| ICR        | Anderson, Gordon     | GAA Custom Electronics LLC                     | WA    | USA      |
| ICR        | Anderson, James      | Florida State University                       | FL    | USA      |
| ICR        | Anderson, Lissa      | National High Magnetic Field Laboratory        | FL    | USA      |
| ICR        | Andongma, Binda      | Florida Agricultural and Mechanical University | FL    | USA      |
| ICR        | Atkins, Jeffery      | USDA Forest Service                            | GA    | USA      |
| ICR        | Baalousha, Mohammed  | University of South Carolina                   | SC    | USA      |
| ICR        | Babcock-Adams, Lydia | National High Magnetic Field Laboratory        | FL    | USA      |
| ICR        | Baglia, Regina       | National Energy Technology Laboratory          | PA    | USA      |
| ICR        | Bahureksa, William   | New Mexico State University, Main Campus       | NM    | USA      |
| ICR        | Balcazar, Norman     | University of Antioquia                        | --    | Colombia |
| ICR        | Barker, Joel         | University of Minnesota, Twin Cities           | MN    | USA      |
| ICR        | Bataglion, Giovana   | Federal University of Amazonas                 | --    | Brazil   |
| ICR        | Beckman, Joseph      | Oregon State University                        | OR    | USA      |
| ICR        | Bellmore, Ryan       | USDA Forest Service                            | AK    | USA      |
| ICR        | Blakney, Greg        | National High Magnetic Field Laboratory        | FL    | USA      |

| Facilities | Name                        | Organization                                                 | State | Country   |
|------------|-----------------------------|--------------------------------------------------------------|-------|-----------|
| ICR        | Blotevogel, Jens            | Commonwealth Scientific and Industrial Research Organization | --    | Australia |
| ICR        | Boeckx, Pascal              | Ghent University                                             | --    | Belgium   |
| ICR        | Boiteau, Rene               | University of Minnesota, Twin Cities                         | MN    | USA       |
| ICR        | Bone, Sharon                | SLAC National Accelerator Laboratory                         | CA    | USA       |
| ICR        | Bonilla, Juju               | Florida State University                                     | FL    | USA       |
| ICR        | Boot, Claudia               | Colorado State University                                    | CO    | USA       |
| ICR        | Borch, Thomas               | Colorado State University                                    | CO    | USA       |
| ICR        | Bouyssiere, Brice           | University of Pau and the Adour Region                       | --    | France    |
| ICR        | Broeckling, Corey           | Colorado State University                                    | CO    | USA       |
| ICR        | Brooks, Scott               | Oak Ridge National Laboratory                                | TN    | USA       |
| ICR        | Burns, Alyssa               | University of California, Davis                              | CA    | USA       |
| ICR        | Burrows, Lauren             | National Energy Technology Laboratory                        | PA    | USA       |
| ICR        | Butcher, David              | National High Magnetic Field Laboratory                      | FL    | USA       |
| ICR        | Cancelada, Lucia            | Scripps Institution of Oceanography                          | CA    | USA       |
| ICR        | Canterbury, Jesse           | Thermo Fisher Scientific                                     | VA    | USA       |
| ICR        | Castelao, Renato            | University of Georgia                                        | GA    | USA       |
| ICR        | Catasus, Adam               | Florida Gulf Coast University                                | FL    | USA       |
| ICR        | Celestin, Franky            | University of Florida                                        | FL    | USA       |
| ICR        | Champiny, Ryan              | University of Florida                                        | FL    | USA       |
| ICR        | Chang, Ni-Bin               | University of Central Florida                                | FL    | USA       |
| ICR        | Chanton, Jeffrey            | Florida State University                                     | FL    | USA       |
| ICR        | Chen, Huan                  | National High Magnetic Field Laboratory                      | FL    | USA       |
| ICR        | Chen, Huan                  | Clemson University                                           | SC    | USA       |
| ICR        | Chow, Alex                  | Chinese University of Hong Kong                              | --    | Hong Kong |
| ICR        | Cooper, Helen               | University of Birmingham                                     | --    | UK        |
| ICR        | Córdova, Silvia             | University of Nebraska-Lincoln                               | NE    | USA       |
| ICR        | Cortés, Farid B.            | National University of Colombia, Medellin                    | --    | Colombia  |
| ICR        | Dayton, David               | Research Triangle Institute International                    | NC    | USA       |
| ICR        | de Aguiar, Deborah Victória | Federal University of Goias                                  | --    | Brazil    |
| ICR        | DeFiglia, Steven            | Florida State University                                     | FL    | USA       |
| ICR        | Dieser, Markus              | Montana State University                                     | MT    | USA       |
| ICR        | Dixit, Fuhar                | University of California, Berkeley                           | CA    | USA       |
| ICR        | Doting, Eva                 | University of Pennsylvania                                   | PA    | USA       |



| Facilities | Name                      | Organization                                   | State | Country        |
|------------|---------------------------|------------------------------------------------|-------|----------------|
| ICR        | Duan, Zhenhai             | Florida State University                       | FL    | USA            |
| ICR        | Dyhrman, Sonya            | Columbia University                            | NY    | USA            |
| ICR        | Engel, Maya               | Hebrew University of Jerusalem                 | --    | Israel         |
| ICR        | Fegel, Timothy            | USDA Forest Service                            | CO    | USA            |
| ICR        | Fellers, Ryan             | Northwestern University                        | IL    | USA            |
| ICR        | Fellman, Jason            | University of Alaska, Southeast                | AK    | USA            |
| ICR        | Fernandez-Lima, Francisco | Florida International University               | FL    | USA            |
| ICR        | Fettrow, Sean             | Colorado State University                      | CO    | USA            |
| ICR        | Fierros Romero, Grisel    | Florida Agricultural and Mechanical University | FL    | USA            |
| ICR        | Fisher, Nickolas          | Northwestern University                        | IL    | USA            |
| ICR        | Foreman, Christine        | Montana State University                       | MT    | USA            |
| ICR        | Franco, Camilo            | National University of Colombia, Medellin      | --    | Colombia       |
| ICR        | Frossard, Amanda          | University of Georgia                          | GA    | USA            |
| ICR        | Frye-Jones, Joseph        | Woods Hole Oceanographic Institution           | MA    | USA            |
| ICR        | Gascon, German            | University of Pau and the Adour Region         | --    | France         |
| ICR        | Gasparovic, Blazenka      | Institut Ruder Boškovic                        | --    | Croatia        |
| ICR        | Giusti, Pierre            | TotalEnergies                                  | --    | France         |
| ICR        | Gontijo Vaz, Boniek       | Federal University of Goias                    | --    | Brazil         |
| ICR        | González López, Luis      | University of Antioquia                        | --    | Colombia       |
| ICR        | Granzow, Benjamin         | Scripps Institution of Oceanography            | CA    | USA            |
| ICR        | Guzmán Calle, Juan David  | National University of Colombia, Medellin      | --    | Colombia       |
| ICR        | Hagan, Mason              | National High Magnetic Field Laboratory        | FL    | USA            |
| ICR        | Hakansson, Kristina       | National High Magnetic Field Laboratory        | FL    | USA            |
| ICR        | Hale, Oliver              | University of Birmingham                       | --    | UK             |
| ICR        | Haley, Sheean             | Columbia University                            | NY    | USA            |
| ICR        | Hamilton, Trinity         | University of Minnesota, Twin Cities           | MN    | USA            |
| ICR        | Hansen, Christopher       | University of Minnesota, Twin Cities           | MN    | USA            |
| ICR        | Hatton, Jade              | Charles University, Prague, Czechia            | --    | Czech Republic |
| ICR        | Hawkings, Jon             | University of Pennsylvania                     | PA    | USA            |
| ICR        | Hendrickson, Christopher  | National High Magnetic Field Laboratory        | FL    | USA            |
| ICR        | Hensgens, Geert           | Vrije Universiteit                             | --    | Netherlands    |
| ICR        | Hermes, Anna              | University of Colorado, Boulder                | CO    | USA            |
| ICR        | Herrera Rios, Ever        | National University of Colombia, Medellin      | --    | Colombia       |
| ICR        | Hettich, Robert           | Oak Ridge National Laboratory                  | TN    | USA            |

| Facilities | Name                       | Organization                            | State | Country        |
|------------|----------------------------|-----------------------------------------|-------|----------------|
| ICR        | Higgins , Christopher      | Colorado School of Mines                | CO    | USA            |
| ICR        | Hinckley, Eve-Lyn          | University of Colorado, Boulder         | CO    | USA            |
| ICR        | Hollas, Michael            | Northwestern University                 | IL    | USA            |
| ICR        | Holmes, Robert             | Woods Hole Oceanographic Institution    | MA    | USA            |
| ICR        | Holt, Amy                  | Florida State University                | FL    | USA            |
| ICR        | Hood, Eran                 | University of Alaska, Southeast         | AK    | USA            |
| ICR        | Hopf, Leah                 | University of Pennsylvania              | PA    | USA            |
| ICR        | Huettel, Markus            | Florida State University                | FL    | USA            |
| ICR        | Hughes, Emily              | Florida State University                | FL    | USA            |
| ICR        | IINISHI, Akira             | Northeastern University                 | MA    | USA            |
| ICR        | Ippolito, Jim              | Colorado State University               | CO    | USA            |
| ICR        | Jaffe, Rudolf              | Florida International University        | FL    | USA            |
| ICR        | Kafader, Jared             | Northwestern University                 | IL    | USA            |
| ICR        | Kaiser, Nathan             | National High Magnetic Field Laboratory | FL    | USA            |
| ICR        | Kamadana, Krishna Saketh   | Florida State University                | FL    | USA            |
| ICR        | Katz, Samuel               | University of Delaware                  | DE    | USA            |
| ICR        | Kelleher, Neil             | Northwestern University                 | IL    | USA            |
| ICR        | Kellerman, Anne            | Florida State University                | FL    | USA            |
| ICR        | Klímová, Petra             | Charles University, Prague, Czechia     | --    | Czech Republic |
| ICR        | Kocik, Emma                | University of Pennsylvania              | PA    | USA            |
| ICR        | Koester, Irina             | Scripps Institution of Oceanography     | CA    | USA            |
| ICR        | Kominoski, John            | Florida International University        | FL    | USA            |
| ICR        | Kornuc, John               | U.S. Naval Research Laboratory          | DC    | USA            |
| ICR        | Kostka, Joel               | Georgia Institute of Technology         | GA    | USA            |
| ICR        | Ku, Peijia                 | Oak Ridge National Laboratory           | TN    | USA            |
| ICR        | Kurek, Martin              | Florida State University                | FL    | USA            |
| ICR        | Lalk, Ellen                | U.S. Geological Survey (Headquarters)   | MA    | USA            |
| ICR        | Lamarche-Gagnon, Guillaume | UiT, The Arctic University of Norway    | --    | Norway         |
| ICR        | Lamborg, Carl              | University of California, Santa Cruz    | CA    | USA            |
| ICR        | Lazo-Murphy, Birch         | University of South Carolina            | SC    | USA            |
| ICR        | Lee, Yewon                 | University of Maryland, College Park    | MD    | USA            |
| ICR        | Lewis, Kim                 | Northeastern University                 | MA    | USA            |
| ICR        | Li, Jingxuan               | Woods Hole Oceanographic Institution    | MA    | USA            |
| ICR        | Liang, Renxing             | Princeton University                    | NJ    | USA            |

| Facilities | Name                  | Organization                                                 | State | Country   |
|------------|-----------------------|--------------------------------------------------------------|-------|-----------|
| ICR        | Lin, Yang             | University of Florida                                        | FL    | USA       |
| ICR        | Linam, Franklin       | University of Delaware                                       | DE    | USA       |
| ICR        | Lindsay, Brittany     | Florida Agricultural and Mechanical University               | FL    | USA       |
| ICR        | Liu, Hongfei          | University of Maryland, College Park                         | MD    | USA       |
| ICR        | Liu, Jung-Chen        | University of Maryland, College Park                         | MD    | USA       |
| ICR        | Lloyd, Karen          | University of Tennessee, Knoxville                           | TN    | USA       |
| ICR        | Logan, Merritt        | Colorado State University                                    | CO    | USA       |
| ICR        | Lokesh, Srinidhi      | Colorado State University                                    | CO    | USA       |
| ICR        | Long, Sylvia          | Florida State University                                     | FL    | USA       |
| ICR        | L'Orange, Christian   | Colorado State University                                    | CO    | USA       |
| ICR        | Lu, Wenchao           | Commonwealth Scientific and Industrial Research Organization | --    | Australia |
| ICR        | M. G. Mattos, Mariana | National Institute of Technology                             | --    | Brazil    |
| ICR        | Mahmood, Swarnali     | University of Florida                                        | FL    | USA       |
| ICR        | Malik, Ali            | Florida State University                                     | FL    | USA       |
| ICR        | Malina, Natalia       | Auburn University                                            | AL    | USA       |
| ICR        | Mallory, Xian         | Florida State University                                     | FL    | USA       |
| ICR        | Mangione, Caroline    | University of New Mexico                                     | NM    | USA       |
| ICR        | Mangote, Caroline     | TotalEnergies                                                | --    | France    |
| ICR        | Manning, Thomas       | Valdosta State University                                    | GA    | USA       |
| ICR        | Mannino, Antonio      | NASA Goddard Space Flight Center                             | MD    | USA       |
| ICR        | Mase, Charlotte       | University of Rouen                                          | --    | France    |
| ICR        | McCabe, David         | University of Pennsylvania                                   | PA    | USA       |
| ICR        | McClelland, James     | Marine Biological Laboratory                                 | MA    | USA       |
| ICR        | McDevitt, Bonnie      | U.S. Geological Survey (Headquarters)                        | VA    | USA       |
| ICR        | McKenna, Amy          | National High Magnetic Field Laboratory                      | FL    | USA       |
| ICR        | Mead, Richard         | University of Sheffield                                      | --    | UK        |
| ICR        | Medeiros Junior, Iris | Cenpes Petrobras R&D Centre                                  | --    | Brazil    |
| ICR        | Medeiros, Patricia    | University of Georgia                                        | GA    | USA       |
| ICR        | Mikawy, Neven         | National High Magnetic Field Laboratory                      | FL    | USA       |
| ICR        | Miller, Madelyn       | Rensselaer Polytechnic Institute                             | NY    | USA       |
| ICR        | Mo, Xiaohan           | Chinese University of Hong Kong                              | --    | Hong Kong |
| ICR        | Molacek, Lea          | Montana State University                                     | MT    | USA       |
| ICR        | Muniz, Rafael         | Federal University of Western Pará                           | --    | Brazil    |
| ICR        | Mustian, Eva          | Florida State University                                     | FL    | USA       |

| Facilities | Name                       | Organization                                                                              | State | Country |
|------------|----------------------------|-------------------------------------------------------------------------------------------|-------|---------|
| ICR        | Nelson Weker, Johanna      | SLAC National Accelerator Laboratory                                                      | CA    | USA     |
| ICR        | Nisson, Devan              | Princeton University                                                                      | NJ    | USA     |
| ICR        | Norris, Adam               | Colorado State University                                                                 | CO    | USA     |
| ICR        | Ojeda, Ann                 | Auburn University                                                                         | AL    | USA     |
| ICR        | Oliveira, Pablo            | Florida International University                                                          | FL    | USA     |
| ICR        | Painter, Scott             | Oak Ridge National Laboratory                                                             | TN    | USA     |
| ICR        | Peng, Xuefeng              | University of South Carolina                                                              | SC    | USA     |
| ICR        | Petro, Caitlin             | Georgia Institute of Technology                                                           | GA    | USA     |
| ICR        | Poblete, Brian             | Florida State University                                                                  | FL    | USA     |
| ICR        | Pohlman, John              | U.S. Geological Survey (Headquarter)                                                      | MA    | USA     |
| ICR        | Polák, Marek               | National High Magnetic Field Laboratory                                                   | FL    | USA     |
| ICR        | Potu, Teja                 | Florida State University                                                                  | FL    | USA     |
| ICR        | Poulin, Brett              | University of California, Davis                                                           | CA    | USA     |
| ICR        | Pu, Changcheng             | National Energy Technology Laboratory                                                     | PA    | USA     |
| ICR        | Quinn, John                | National High Magnetic Field Laboratory                                                   | FL    | USA     |
| ICR        | Radovic, Jagos             | University of Houston                                                                     | TX    | USA     |
| ICR        | Repetá, Daniel             | Woods Hole Oceanographic Institution                                                      | MA    | USA     |
| ICR        | Rhoades, Charles           | U.S. Department of Agriculture                                                            | CO    | USA     |
| ICR        | Robbins, Winston           | Win Consulting Services                                                                   | ME    | USA     |
| ICR        | Rocha Martins, Gabriel     | University of San Paulo                                                                   | --    | Brazil  |
| ICR        | Rodgers, Ryan              | National High Magnetic Field Laboratory                                                   | FL    | USA     |
| ICR        | Romero, Isabel             | University of South Florida                                                               | TX    | USA     |
| ICR        | Roth, Holly                | Colorado State University                                                                 | CO    | USA     |
| ICR        | Rueger, Christopher        | University of Rostock                                                                     | --    | Germany |
| ICR        | Ruiz, Wladimir             | Institute of Analytical Sciences and Physical Chemistry for the Environment and Materials | --    | France  |
| ICR        | Ruttenberg, Kathleen       | University of Hawaii                                                                      | HI    | USA     |
| ICR        | Salvato Vallverdu, Germain | University De Pau Et Des Pays De L'adour                                                  | --    | France  |
| ICR        | Sant'Ana da Silva, Ayla    | National Institute of Technology                                                          | --    | Brazil  |
| ICR        | Schadt, Christopher        | Oak Ridge National Laboratory                                                             | TN    | USA     |
| ICR        | Senko, Michael             | Thermo Fisher Scientific                                                                  | VA    | USA     |
| ICR        | Seyfferth, Angelia         | University of Delaware                                                                    | DE    | USA     |
| ICR        | Sharifan, Hamidreza        | Colorado State University                                                                 | CO    | USA     |
| ICR        | Sharifan, Hamidreza        | University of Texas, El Paso                                                              | TX    | USA     |

| Facilities | Name                    | Organization                            | State | Country        |
|------------|-------------------------|-----------------------------------------|-------|----------------|
| ICR        | Sharma, Neha            | SLAC National Accelerator Laboratory    | CA    | USA            |
| ICR        | Shvartsburg, Alexandre  | Wichita State University                | KS    | USA            |
| ICR        | Skinner, Amelia         | Colorado State University               | CO    | USA            |
| ICR        | Slentz, Alexis          | Florida State University                | FL    | USA            |
| ICR        | Smith, Harrison         | NASA Goddard Space Flight Center        | MD    | USA            |
| ICR        | Smith, Heidi            | Montana State University                | MT    | USA            |
| ICR        | Smith, Marlin           | Florida Gulf Coast University           | FL    | USA            |
| ICR        | Sparks, Kya             | Colorado State University               | CO    | USA            |
| ICR        | Spencer, Robert         | Florida State University                | FL    | USA            |
| ICR        | Sprunger, Christine     | Michigan State University               | MI    | USA            |
| ICR        | Srinivasan, Poorna      | University of Houston                   | TX    | USA            |
| ICR        | Starr, Sommer           | Trent University                        | --    | Canada         |
| ICR        | Steen, Andrew           | University of Tennessee Space Institute | TN    | USA            |
| ICR        | Stehrer Polášková, Anna | Charles University, Prague, Czechia     | --    | Czech Republic |
| ICR        | Stibal, Marek           | Charles University, Prague, Czechia     | --    | Czech Republic |
| ICR        | Stokes, Sean            | Colorado State University               | CO    | USA            |
| ICR        | Streanga, Iulia         | Woods Hole Oceanographic Institution    | MA    | USA            |
| ICR        | Stubbins, Aron          | Northeastern University                 | MD    | USA            |
| ICR        | Tanentzap, Andrew       | Trent University                        | --    | Canada         |
| ICR        | Tello Rodriguez, Alvaro | Florida State University                | FL    | USA            |
| ICR        | Tfaily, Malak           | University of Arizona                   | AZ    | USA            |
| ICR        | Thurman, Hayden         | Wichita State University                | KS    | USA            |
| ICR        | Tomaszewski, Elizabeth  | U.S. Geological Survey (Headquarters)   | VA    | USA            |
| ICR        | Trettin, Carl           | USDA Forest Service                     | SC    | USA            |
| ICR        | Trivedi, Pankaj         | Colorado State University               | CO    | USA            |
| ICR        | Tyson, Gary             | Florida State University                | FL    | USA            |
| ICR        | Tzortziou, Maria        | City College of New York                | NY    | USA            |
| ICR        | Utsumi, Giovanna        | University of Georgia                   | GA    | USA            |
| ICR        | Van Oost, Kristof       | Catholic University of Leuven           | --    | Belgium        |
| ICR        | VanderRoest, Jacob      | Colorado State University               | CO    | USA            |
| ICR        | Vonk, Jorien            | Utrecht University                      | --    | Netherlands    |
| ICR        | Wadham, Jemma           | UiT, The Arctic University of Norway    | --    | Norway         |
| ICR        | Wagner, Sasha           | Rensselaer Polytechnic Institute        | NY    | USA            |
| ICR        | Ward, Collin            | Woods Hole Oceanographic Institution    | MA    | USA            |
| ICR        | Webster, Jackson        | California State University, Chico      | CA    | USA            |

| Facilities | Name             | Organization                                                 | State | Country        |
|------------|------------------|--------------------------------------------------------------|-------|----------------|
| ICR        | Weisbrod, Chad   | National High Magnetic Field Laboratory                      | FL    | USA            |
| ICR        | White, Rachel    | Florida State University                                     | FL    | USA            |
| ICR        | Whitney, Emily   | University of Alaska, Southeast                              | AK    | USA            |
| ICR        | Wilkins, Mike    | Colorado State University                                    | CO    | USA            |
| ICR        | Williams, Henry  | Florida Agricultural and Mechanical University               | FL    | USA            |
| ICR        | Willis, Madelyne | Montana State University                                     | MT    | USA            |
| ICR        | Wilson, Rachel   | Florida State University                                     | FL    | USA            |
| ICR        | Wozniak, Andrew  | University of Delaware                                       | DE    | USA            |
| ICR        | Wu, Kuan-Lu      | Florida State University                                     | FL    | USA            |
| ICR        | Yde, Jacob       | Western Norway University of Applied Sciences                | --    | Norway         |
| ICR        | Young, Robert    | Commonwealth Scientific and Industrial Research Organization | --    | Australia      |
| ICR        | Youssef, Amina   | University of Pennsylvania                                   | PA    | USA            |
| ICR        | Yvin, Oriane     | Florida State University                                     | FL    | USA            |
| ICR        | Zapata, Karol    | National University of Colombia, Medellin                    | --    | Colombia       |
| ICR        | Zarsky, Jakub    | Charles University, Prague, Czechia                          | --    | Czech Republic |
| ICR        | Zheng, Yuhua     | Clemson University                                           | SC    | USA            |
| ICR        | Zhu, Mengqiang   | University of Maryland, College Park                         | MD    | USA            |
| ICR        | Zvulunov, Yael   | Colorado State University                                    | CO    | USA            |

### NMR (46 INTERNATIONAL, 179 NATIONAL USERS)

| Facilities | Name                 | Organization                                   | State | Country |
|------------|----------------------|------------------------------------------------|-------|---------|
| NMR        | Ahasan, Zoheb        | University of Illinois at Chicago              | IL    | USA     |
| NMR        | Ahmad, Nazifa Tasnim | Florida State University                       | FL    | USA     |
| NMR        | Ali, Jamel           | Florida Agricultural and Mechanical University | FL    | USA     |
| NMR        | Altenhof, Adam       | Los Alamos National Laboratory                 | NM    | USA     |
| NMR        | Ankur, Ankur         | Michigan State University                      | MI    | USA     |
| NMR        | Ansari, Shoyab       | University of Texas, Southwestern              | TX    | USA     |
| NMR        | Arbabian, Arshia     | Florida State University                       | FL    | USA     |
| NMR        | Autschbach, Jochen   | University of Buffalo                          | NY    | USA     |
| NMR        | Azizivahed, Tahereh  | University of Western Ontario                  | --    | Canada  |
| NMR        | Baek, Yoongyeong     | Drexel University                              | PA    | USA     |
| NMR        | Bhagu, Jamini        | Florida State University                       | FL    | USA     |
| NMR        | Blanc, Frédéric      | University of Liverpool                        | --    | UK      |
| NMR        | Boglaev, Sophie      | Florida State University                       | FL    | USA     |
| NMR        | Brey, William        | National High Magnetic Field Laboratory        | FL    | USA     |



| Facilities | Name                                    | Organization                                    | State | Country |
|------------|-----------------------------------------|-------------------------------------------------|-------|---------|
| NMR        | Breynaert, Eric                         | Catholic University of Leuven                   | --    | Belgium |
| NMR        | Bryant, Hannah                          | Florida State University                        | FL    | USA     |
| NMR        | Bunnell, Bruce                          | Tulane University                               | LA    | USA     |
| NMR        | Burrill, Megan                          | Northwestern University                         | IL    | USA     |
| NMR        | Bussey, John                            | Washington State University                     | WA    | USA     |
| NMR        | Cakmak, Ercan                           | Oak Ridge National Laboratory                   | TN    | USA     |
| NMR        | Chandler, Brooks                        | Florida State University                        | FL    | USA     |
| NMR        | Chantra, Dominic                        | Florida State University                        | FL    | USA     |
| NMR        | Chatterjee, Satyaki                     | University of Iceland                           | --    | Iceland |
| NMR        | Chaudhary, Krishna                      | Columbia University                             | NY    | USA     |
| NMR        | Chmelka, Bradley                        | University of California, Santa Barbara         | CA    | USA     |
| NMR        | Cho, Shinho                             | National High Magnetic Field Laboratory         | FL    | USA     |
| NMR        | Cotten, Myriam                          | Oregon State University                         | OR    | USA     |
| NMR        | Dhakal, Ankit                           | University of Virginia                          | VA    | USA     |
| NMR        | Dickwella Widanage, Malitha Chathuranga | National Renewable Energy Laboratory            | CO    | USA     |
| NMR        | Dowdell, Zach                           | Florida State University                        | FL    | USA     |
| NMR        | Dubroca, Thierry                        | National High Magnetic Field Laboratory         | FL    | USA     |
| NMR        | Dukes, Dallas                           | Florida State University                        | FL    | USA     |
| NMR        | Dumarieh, Rania                         | University of Texas Southwestern Medical Center | TX    | USA     |
| NMR        | Dwivedi, Navneet                        | Centre of Biomedical Research                   | --    | India   |
| NMR        | Ehm, Christian                          | University of Naples Federico II                | --    | Italy   |
| NMR        | Eqbal, Asif                             | New York University                             | NY    | USA     |
| NMR        | Fan, Jiaying                            | Florida State University                        | FL    | USA     |
| NMR        | Fleischer, Carl                         | Florida State University                        | FL    | USA     |
| NMR        | Florian, Pierre                         | French National Center for Scientific Research  | --    | France  |
| NMR        | Foudazi, Reza                           | University of Oklahoma                          | OK    | USA     |
| NMR        | Frederick, Kendra                       | University of Texas, Southwestern               | TX    | USA     |
| NMR        | Friscic, Tomislav                       | University of Birmingham                        | --    | UK      |
| NMR        | Frydman, Lucio                          | National High Magnetic Field Laboratory         | FL    | USA     |
| NMR        | Fu, Riqiang                             | National High Magnetic Field Laboratory         | FL    | USA     |
| NMR        | Gan, Zhehong                            | National High Magnetic Field Laboratory         | FL    | USA     |
| NMR        | Gautam, Isha                            | Michigan State University                       | MI    | USA     |
| NMR        | Gazit, Ehud                             | Tel-Aviv University                             | --    | Israel  |
| NMR        | Giri, Gaurav                            | University of Virginia                          | VA    | USA     |

| Facilities | Name                | Organization                            | State | Country        |
|------------|---------------------|-----------------------------------------|-------|----------------|
| NMR        | Goodell, Evan       | College of William and Mary             | VA    | USA            |
| NMR        | Gottwald, Eric      | Karlsruhe Institute of Technology       | --    | Germany        |
| NMR        | Grant, Samuel       | National High Magnetic Field Laboratory | FL    | USA            |
| NMR        | Griffin, Robert     | Massachusetts Institute of Technology   | MA    | USA            |
| NMR        | Grundy, Josef       | Colorado State University               | CO    | USA            |
| NMR        | Gunaga, Shubha      | National High Magnetic Field Laboratory | FL    | USA            |
| NMR        | Gunnore, Thomas     | University of Virginia                  | VA    | USA            |
| NMR        | Guo, Changmiao      | University of Delaware                  | DE    | USA            |
| NMR        | Haile, Sossina      | Northwestern University                 | IL    | USA            |
| NMR        | Harrington, Michael | Huntington Medical Research Institutes  | CA    | USA            |
| NMR        | Holmes, Sean        | Florida State University                | FL    | USA            |
| NMR        | Hostinský, Tomáš    | University of Pardubice                 | --    | Czech Republic |
| NMR        | Hou, Jian           | Dankook University                      | --    | South Korea    |
| NMR        | Hu, Yan-Yan         | Florida State University                | FL    | USA            |
| NMR        | Huang, Yining       | University of Western Ontario           | --    | Canada         |
| NMR        | Humayun, Munir      | National High Magnetic Field Laboratory | FL    | USA            |
| NMR        | Hung, Ivan          | National High Magnetic Field Laboratory | FL    | USA            |
| NMR        | Irving, Robert      | East Carolina University                | NC    | USA            |
| NMR        | Islam, Mahinur      | Florida State University                | FL    | USA            |
| NMR        | Iulucci, Robbie     | Washington and Jefferson College        | PA    | USA            |
| NMR        | Jabbour, Ribal      | New York University                     | NY    | USA            |
| NMR        | Jiang, Zhihua       | Auburn University                       | AL    | USA            |
| NMR        | Jin, Yongkang       | Florida State University                | FL    | USA            |
| NMR        | Johnson, Elizabeth  | University of Virginia                  | VA    | USA            |
| NMR        | Joo, Taigyu         | Massachusetts Institute of Technology   | MA    | USA            |
| NMR        | Joyce, Megan        | Washington and Jefferson College        | PA    | USA            |
| NMR        | Kang, Kisuk         | Seoul National University               | --    | South Korea    |
| NMR        | Kang, Seungwoo      | Augusta University                      | GA    | USA            |
| NMR        | Karamcheti, Anand   | Washington and Jefferson College        | PA    | USA            |
| NMR        | Kaser, Samuel       | Massachusetts Institute of Technology   | MA    | USA            |
| NMR        | Kimball, James      | Florida State University                | FL    | USA            |
| NMR        | Kleimaier, Dennis   | Heidelberg University                   | --    | Germany        |
| NMR        | Klinkhamer, Casper  | University of Gothenburg                | --    | Sweden         |
| NMR        | Kohn, Benjamin      | Washington University in St. Louis      | MO    | USA            |
| NMR        | Kolko, Abe          | University of California, Santa Barbara | CA    | USA            |

| Facilities | Name                 | Organization                                        | State | Country        |
|------------|----------------------|-----------------------------------------------------|-------|----------------|
| NMR        | Kovar, Ondrej        | Charles University, Prague, Czechia                 | --    | Czech Republic |
| NMR        | Lagasca, Dominique   | University of Texas, Southwestern                   | TX    | USA            |
| NMR        | Lam, Fan             | University of Illinois at Urbana-Champaign          | IL    | USA            |
| NMR        | Lane-lightfoot, Kara | Florida State University                            | FL    | USA            |
| NMR        | Laurencin, Danielle  | University of Montpellier                           | --    | France         |
| NMR        | Lee, Choogon         | Florida State University                            | FL    | USA            |
| NMR        | Lee, Daniel          | University of Manchester                            | --    | UK             |
| NMR        | Lee, Myungwoon       | Drexel University                                   | PA    | USA            |
| NMR        | Lee, Tae Hoon        | Massachusetts Institute of Technology               | MA    | USA            |
| NMR        | Leonová, Lucie       | Masaryk University                                  | --    | Czech Republic |
| NMR        | Lesage, Anne         | French National Center for Scientific Research      | --    | France         |
| NMR        | Levenson, Cathy      | Florida State University                            | FL    | USA            |
| NMR        | Li, Shuting          | University of Western Ontario                       | --    | Canada         |
| NMR        | Li, Xiaolin          | Pacific Northwest National Laboratory               | WA    | USA            |
| NMR        | Li, Zhencai          | Aalborg University                                  | --    | Denmark        |
| NMR        | Lim, Jun Hyun        | Dankook University                                  | --    | South Korea    |
| NMR        | Lim, Kwang Hun       | East Carolina University                            | NC    | USA            |
| NMR        | Lim, Mi Hee          | Korea Advanced Institute of Science & Technology    | --    | South Korea    |
| NMR        | Lin, Feng            | Virginia Polytechnic Institute and State University | VA    | USA            |
| NMR        | Litvak, Ilya         | National High Magnetic Field Laboratory             | FL    | USA            |
| NMR        | Long, Joanna         | University of Florida                               | FL    | USA            |
| NMR        | Lowery, Aidan        | Florida State University                            | FL    | USA            |
| NMR        | Lumata, Jenica       | National High Magnetic Field Laboratory             | FL    | USA            |
| NMR        | Machan, Charles      | University of Virginia                              | VA    | USA            |
| NMR        | Malone, Michael      | Los Alamos National Laboratory                      | NM    | USA            |
| NMR        | Martin, Julia        | Florida State University                            | FL    | USA            |
| NMR        | Martinez, Roxanna    | Colorado State University                           | CO    | USA            |
| NMR        | Mason, Harris        | Los Alamos National Laboratory                      | NM    | USA            |
| NMR        | Mattoussi, Hedi      | Florida State University                            | FL    | USA            |
| NMR        | Mauel, Anika         | University of Bayreuth                              | --    | Germany        |
| NMR        | McCall, William      | Augusta University                                  | GA    | USA            |
| NMR        | McCalpin, Sam        | Florida State University                            | FL    | USA            |
| NMR        | McCloy, John         | Washington State University                         | WA    | USA            |
| NMR        | McNarney, Alyssa     | University of California, Santa Barbara             | CA    | USA            |
| NMR        | Mentink, Frederic    | National High Magnetic Field Laboratory             | FL    | USA            |

| Facilities | Name                    | Organization                             | State | Country |
|------------|-------------------------|------------------------------------------|-------|---------|
| NMR        | Metkar, Sanjay          | National High Magnetic Field Laboratory  | FL    | USA     |
| NMR        | Mi, Jiashan             | Iowa State University                    | IA    | USA     |
| NMR        | Mohammadigoushki, Hadi  | Florida State University                 | FL    | USA     |
| NMR        | Morgan, Erick           | Columbia University                      | NY    | USA     |
| NMR        | Mota, Ahsly             | Florida State University                 | FL    | USA     |
| NMR        | Nogueira , M Luiza      | University of Florida                    | FL    | USA     |
| NMR        | Nuhu, Hussaini          | Florida State University                 | FL    | USA     |
| NMR        | O'Hayre, Ryan           | Colorado School of Mines                 | CO    | USA     |
| NMR        | Obi, Cletus             | Florida State University                 | FL    | USA     |
| NMR        | Ogbolu, Bright          | Florida State University                 | FL    | USA     |
| NMR        | Ogg, Jordan             | Florida State University                 | FL    | USA     |
| NMR        | Ojelade, Islamiyat      | Florida State University                 | FL    | USA     |
| NMR        | Ojha, Pawan             | Florida State University                 | FL    | USA     |
| NMR        | Omenya, Fredrick        | Pacific Northwest National Laboratory    | WA    | USA     |
| NMR        | Ortega, Raul            | Florida State University                 | FL    | USA     |
| NMR        | Osborn, Peyton          | Florida State University                 | FL    | USA     |
| NMR        | Ostrovsky, Dmitry       | University of Colorado, Denver           | CO    | USA     |
| NMR        | Oyekunle, Ifeoluwa      | Florida State University                 | FL    | USA     |
| NMR        | Ozvat, Tyler            | Colorado State University                | CO    | USA     |
| NMR        | Patra, Bijaylaxmi       | Centre of Biomedical Research            | --    | India   |
| NMR        | Pazoki, Ali             | Florida State University                 | FL    | USA     |
| NMR        | Peng, Ziyao             | Queen's University at Kingston           | --    | Canada  |
| NMR        | Petzold, Linda          | University of California, Santa Barbara  | CA    | USA     |
| NMR        | Pfukwa, Cathrine        | University of Florida                    | FL    | USA     |
| NMR        | Phillips, Adam          | University of Buffalo                    | NY    | USA     |
| NMR        | Pischer, Anna           | University of California, Santa Barbara  | CA    | USA     |
| NMR        | Polenova, Tatyana       | University of Delaware                   | DE    | USA     |
| NMR        | Polshettiwar, Vivek     | Tata Institute of Fundamental Research   | --    | India   |
| NMR        | Polvani, Deborah        | Washington and Jefferson College         | PA    | USA     |
| NMR        | Procida, Jeff           | Florida State University                 | FL    | USA     |
| NMR        | Qi, Yinghe              | National High Magnetic Field Laboratory  | FL    | USA     |
| NMR        | Qiang, Wei              | State University of New York, Binghamton | NY    | USA     |
| NMR        | Quiñones, Rosalynn      | Marshall University                      | WV    | USA     |
| NMR        | Radovich, Jenna         | Florida State University                 | FL    | USA     |
| NMR        | Ramamoorthy, Ayyalusamy | Florida State University                 | FL    | USA     |
| NMR        | Rassolov, Peter         | Florida State University                 | FL    | USA     |

| Facilities | Name                    | Organization                                                                           | State | Country  |
|------------|-------------------------|----------------------------------------------------------------------------------------|-------|----------|
| NMR        | Ravichandran, Jayakanth | University of Southern California                                                      | CA    | USA      |
| NMR        | Reichert, Simon         | Heidelberg University                                                                  | --    | Germany  |
| NMR        | Richter, Dayna          | Florida State University                                                               | FL    | USA      |
| NMR        | Rodman, Kodie Laine     | Washington State University                                                            | WA    | USA      |
| NMR        | Rokonujjaman, Md        | National High Magnetic Field Laboratory                                                | FL    | USA      |
| NMR        | Rooney, Mary            | College of William and Mary                                                            | VA    | USA      |
| NMR        | Rosa, Guilherme         | University of Aveiro                                                                   | --    | Portugal |
| NMR        | Rossini, Aaron          | Iowa State University                                                                  | IA    | USA      |
| NMR        | Roy, Anamika            | Florida State University                                                               | FL    | USA      |
| NMR        | Ryder, Matthew          | Oak Ridge National Laboratory                                                          | TN    | USA      |
| NMR        | Saha, Jhinuk            | National High Magnetic Field Laboratory                                                | FL    | USA      |
| NMR        | Sahu, Priya             | Michigan State University                                                              | MI    | USA      |
| NMR        | Sanchez, Jazmine        | Florida State University                                                               | FL    | USA      |
| NMR        | Sanchez, Stephanie      | Colorado State University                                                              | CO    | USA      |
| NMR        | Schad, Lothar           | Heidelberg University                                                                  | --    | Germany  |
| NMR        | Schepis, Lilian         | Washington and Jefferson College                                                       | PA    | USA      |
| NMR        | Schlamkowitz, Jack      | University of Florida                                                                  | FL    | USA      |
| NMR        | Schurko, Robert         | Florida State University                                                               | FL    | USA      |
| NMR        | Scigliani, Alfredo      | Florida State University                                                               | FL    | USA      |
| NMR        | Scott, Faith            | National High Magnetic Field Laboratory                                                | FL    | USA      |
| NMR        | Seaman, Zachary         | Washington and Jefferson College                                                       | PA    | USA      |
| NMR        | Sen, Sabyasachi         | University of California, Davis                                                        | CA    | USA      |
| NMR        | Senker, Juergen         | University of Bayreuth                                                                 | --    | Germany  |
| NMR        | Seok, Changgyu          | Virginia Polytechnic Institute and State University                                    | VA    | USA      |
| NMR        | Shin, Yewon             | Colorado School of Mines                                                               | CO    | USA      |
| NMR        | Siegrist, Theo          | National High Magnetic Field Laboratory                                                | FL    | USA      |
| NMR        | Sigurdsson, Snorri      | University of Iceland                                                                  | --    | Iceland  |
| NMR        | Simion, Andrea          | National Institute for Research and Development of Isotopic and Molecular Technologies | --    | Romania  |
| NMR        | Singh, Kalpana          | Michigan State University                                                              | MI    | USA      |
| NMR        | Sinha, Neeraj           | Centre of Biomedical Research                                                          | --    | India    |
| NMR        | Smith, Joel             | Florida State University                                                               | FL    | USA      |
| NMR        | Smith, Robert           | Florida State University                                                               | FL    | USA      |
| NMR        | Smith, Zachary          | Massachusetts Institute of Technology                                                  | MA    | USA      |
| NMR        | Šoltéssová, Mária       | University of Gothenburg                                                               | --    | Sweden   |

| Facilities | Name                    | Organization                                | State | Country |
|------------|-------------------------|---------------------------------------------|-------|---------|
| NMR        | Soudani, Sami           | Washington State University                 | WA    | USA     |
| NMR        | Strouse, Geoffrey       | National High Magnetic Field Laboratory     | FL    | USA     |
| NMR        | Tekwani Movellan, Kumar | University of Delaware                      | DE    | USA     |
| NMR        | Termos, Sara            | Florida State University                    | FL    | USA     |
| NMR        | Thompson, Lynmarie      | University of Massachusetts                 | MA    | USA     |
| NMR        | Tian, Fang              | Pennsylvania State University               | PA    | USA     |
| NMR        | Truong, Erica           | Florida State University                    | FL    | USA     |
| NMR        | Tymochko, Diana         | University of Florida                       | FL    | USA     |
| NMR        | Ungor, Okten            | Colorado State University                   | CO    | USA     |
| NMR        | Veige, Adam             | University of Florida                       | FL    | USA     |
| NMR        | Venkatesh, Amrit        | University of Virginia                      | VA    | USA     |
| NMR        | Verber, Matthew         | University of North Carolina at Chapel Hill | NC    | USA     |
| NMR        | Verma, Rishi            | Tata Institute of Fundamental Research      | --    | India   |
| NMR        | Vojvodin, Cameron       | Florida State University                    | FL    | USA     |
| NMR        | Vugmeyster, Liliya      | University of Colorado, Denver              | CO    | USA     |
| NMR        | Wahlbeck, Katherine     | University of Massachusetts                 | MA    | USA     |
| NMR        | Wang, Jing-Song         | University of Western Ontario               | --    | Canada  |
| NMR        | Wang, Tuo               | Michigan State University                   | MI    | USA     |
| NMR        | Wendlinger, Andre       | University of Cambridge                     | --    | UK      |
| NMR        | Wi, Sungsool            | National High Magnetic Field Laboratory     | FL    | USA     |
| NMR        | Wilber, Aaron           | Florida State University                    | FL    | USA     |
| NMR        | Wilson, Ancy            | University of Iceland                       | --    | Iceland |
| NMR        | Wu, Gang                | Queen's University at Kingston              | --    | Canada  |
| NMR        | Wu, Wan-Ni              | Massachusetts Institute of Technology       | MA    | USA     |
| NMR        | Xiao, Peng              | Michigan State University                   | MI    | USA     |
| NMR        | Xiong, Hui              | Boise State University                      | IN    | USA     |
| NMR        | Xu, Jiabin              | University of Western Ontario               | --    | Canada  |
| NMR        | Yarava, Jayasubba Reddy | Michigan State University                   | MI    | USA     |
| NMR        | Ye, Libin               | University of South Florida                 | FL    | USA     |
| NMR        | Yeo, Jing Ying          | Massachusetts Institute of Technology       | MA    | USA     |
| NMR        | Yue, Yuanzheng          | Aalborg University                          | --    | Denmark |
| NMR        | Zadorozhnyi, Roman      | University of Delaware                      | DE    | USA     |
| NMR        | Zadrozny, Joseph        | Ohio State University                       | OH    | USA     |
| NMR        | Zehender, Dominik       | Heidelberg University                       | --    | Germany |
| NMR        | Zhang, Rongfu           | Florida State University                    | FL    | USA     |
| NMR        | Zhang, Wanli            | University of Western Ontario               | --    | Canada  |



| Facilities | Name           | Organization                | State | Country |
|------------|----------------|-----------------------------|-------|---------|
| NMR        | Zourou, Andrea | College of William and Mary | VA    | USA     |

### PFF (66 INTERNATIONAL, 116 NATIONAL USERS)

| Facilities   | Name                    | Organization                                                                    | State | Country     |
|--------------|-------------------------|---------------------------------------------------------------------------------|-------|-------------|
| Pulsed Field | Abraimov, Dmytro        | National High Magnetic Field Laboratory                                         | FL    | USA         |
| Pulsed Field | Adams, Kirk             | University of Oxford                                                            | --    | UK          |
| Pulsed Field | Agosta, Charles         | Clark University                                                                | MA    | USA         |
| Pulsed Field | Ahn, Charles            | Yale University                                                                 | CT    | USA         |
| Pulsed Field | Ali Khan, Ahad          | Clark University                                                                | MA    | USA         |
| Pulsed Field | Analytis, James         | University of California, Berkeley                                              | CA    | USA         |
| Pulsed Field | Ariando, Ariando        | National University of Singapore                                                | --    | Singapore   |
| Pulsed Field | Ayala Valenzuela, Oscar | National High Magnetic Field Laboratory                                         | FL    | USA         |
| Pulsed Field | Bachhar, Sanjay         | Duke University                                                                 | NC    | USA         |
| Pulsed Field | Bag, Rabindranath       | Duke University                                                                 | NC    | USA         |
| Pulsed Field | Balakirev, Fedor        | National High Magnetic Field Laboratory                                         | NM    | USA         |
| Pulsed Field | Balicas, Luis           | National High Magnetic Field Laboratory                                         | FL    | USA         |
| Pulsed Field | Bangura, Alimamy        | National High Magnetic Field Laboratory                                         | FL    | USA         |
| Pulsed Field | Benkirane, Yacine       | University of California, Berkeley                                              | CA    | USA         |
| Pulsed Field | Bhattacharya, Anand     | Argonne National Laboratory                                                     | IL    | USA         |
| Pulsed Field | Bianconi, Antonio       | National Research Council CNR                                                   | --    | Italy       |
| Pulsed Field | Bierwagen, Oliver       | Paul Drude Institute for Solid State Electronics                                | --    | Germany     |
| Pulsed Field | Blawat, Joanna          | National High Magnetic Field Laboratory                                         | NM    | USA         |
| Pulsed Field | Canfield, Paul          | Ames Laboratory                                                                 | IA    | USA         |
| Pulsed Field | Caviglia, Andrea        | University of Geneva, Switzerland                                               | --    | Switzerland |
| Pulsed Field | Chajewski, Grzegorz     | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | --    | Poland      |
| Pulsed Field | Chan, Mun               | National High Magnetic Field Laboratory                                         | NM    | USA         |
| Pulsed Field | Chaudhary, Prena        | University of Virginia                                                          | VA    | USA         |
| Pulsed Field | Checkelsky, Joseph      | Massachusetts Institute of Technology                                           | MA    | USA         |
| Pulsed Field | Chen, Alan              | Massachusetts Institute of Technology                                           | MA    | USA         |
| Pulsed Field | Choi, Junho             | Kyung Hee University                                                            | --    | South Korea |
| Pulsed Field | Chow, Lin Er            | National University of Singapore                                                | --    | Singapore   |
| Pulsed Field | Chung, Duck Young       | Argonne National Laboratory                                                     | IL    | USA         |

| Facilities   | Name                   | Organization                                                                    | State | Country     |
|--------------|------------------------|---------------------------------------------------------------------------------|-------|-------------|
| Pulsed Field | Collyer, Wesley        | Duke University                                                                 | NC    | USA         |
| Pulsed Field | Corbae, Paul           | University of California, Santa Barbara                                         | CA    | USA         |
| Pulsed Field | Crooker, Scott         | National High Magnetic Field Laboratory                                         | FL    | USA         |
| Pulsed Field | Dan, Shovan            | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | --    | Poland      |
| Pulsed Field | Debbas, Maximilien     | Massachusetts Institute of Technology                                           | MA    | USA         |
| Pulsed Field | Dieudonne, Yannik      | UK Atomic Energy Authority                                                      | --    | UK          |
| Pulsed Field | Dinh, Thao             | Harvard University                                                              | MA    | USA         |
| Pulsed Field | Dong, Jason            | University of California, Santa Barbara                                         | CA    | USA         |
| Pulsed Field | Du, Feng               | Max Planck Institute for Chemistry, Mainz                                       | --    | Germany     |
| Pulsed Field | Eremets, Mikhail       | Max Planck Institute for Chemistry, Mainz                                       | --    | Germany     |
| Pulsed Field | Filippozzi, Ulderico   | Delft University of Technology                                                  | --    | Netherlands |
| Pulsed Field | Fisher, Ian            | Stanford University                                                             | CA    | USA         |
| Pulsed Field | Fortune, Nathanael     | Smith College                                                                   | MA    | USA         |
| Pulsed Field | Galvis Echeverri, Jose | University of Rosario                                                           | --    | Colombia    |
| Pulsed Field | Gao, Anyuan            | Harvard University                                                              | MA    | USA         |
| Pulsed Field | Ghiotto, Augusto       | University of California, Berkeley                                              | CA    | USA         |
| Pulsed Field | Giraldo-Gallo, Paula   | University of Los Andes                                                         | --    | Colombia    |
| Pulsed Field | Goddard, Paul          | University of Warwick                                                           | --    | UK          |
| Pulsed Field | Gould, Shannon         | Washington University in St. Louis                                              | MO    | USA         |
| Pulsed Field | Gu, Yanhong            | University of Tennessee, Knoxville                                              | TN    | USA         |
| Pulsed Field | Guillamon, Isabel      | University of Bristol                                                           | --    | UK          |
| Pulsed Field | Gul, Yilmaz            | University of California, Santa Barbara                                         | CA    | USA         |
| Pulsed Field | Guo, Chunyu            | Max Planck Institute for Structure and Dynamics of Matter, Hamburg              | --    | Germany     |
| Pulsed Field | Hall, Darian           | University of California, Berkeley                                              | CA    | USA         |
| Pulsed Field | Han, Tianxiong         | Iowa State University                                                           | IA    | USA         |
| Pulsed Field | Hannahs, Scott         | National High Magnetic Field Laboratory                                         | FL    | USA         |
| Pulsed Field | Haravifard, Sara       | Duke University                                                                 | NC    | USA         |
| Pulsed Field | Harrison, Neil         | National High Magnetic Field Laboratory                                         | FL    | USA         |
| Pulsed Field | Herrera Vasco, Edwin   | Autonomous University of Madrid                                                 | --    | Spain       |
| Pulsed Field | Hoffmann, Georg        | Paul Drude Institute for Solid State Electronics                                | --    | Germany     |
| Pulsed Field | Huang, Tianye          | Harvard University                                                              | MA    | USA         |
| Pulsed Field | Iliffe, William        | CCFE STEP                                                                       | --    | UK          |

| Facilities   | Name                 | Organization                                                                    | State | Country     |
|--------------|----------------------|---------------------------------------------------------------------------------|-------|-------------|
| Pulsed Field | Ishida, Shigeyuki    | National Institute of Advanced Industrial Science and Technology                | --    | Japan       |
| Pulsed Field | Jaime, Marcelo       | National High Magnetic Field Laboratory                                         | NM    | USA         |
| Pulsed Field | Jaiswal, Arun Kumar  | University of Geneva, Switzerland                                               | --    | Switzerland |
| Pulsed Field | Jalan, Bharat        | University of Minnesota, Twin Cities                                            | MN    | USA         |
| Pulsed Field | Jaroszynski, Jan     | National High Magnetic Field Laboratory                                         | FL    | USA         |
| Pulsed Field | Jenkins, Kaila       | University of Michigan                                                          | MI    | USA         |
| Pulsed Field | Jeong, Seunggyo      | University of Minnesota, Twin Cities                                            | MN    | USA         |
| Pulsed Field | Jiao, Lin            | Zhejiang University                                                             | --    | China       |
| Pulsed Field | Joynt, Robert        | University of Wisconsin, Madison                                                | WI    | USA         |
| Pulsed Field | Kaczorowski, Dariusz | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | --    | Poland      |
| Pulsed Field | Karna, Sunil         | Prairie View A&M University                                                     | TX    | USA         |
| Pulsed Field | Khansili, Akash      | Institute of Science and Technology Austria                                     | --    | Austria     |
| Pulsed Field | Klimczuk, Tomasz     | Gdansk University of Technology                                                 | --    | Poland      |
| Pulsed Field | Klimov, Victor       | Los Alamos National Laboratory                                                  | NM    | USA         |
| Pulsed Field | Kollo, Zoltan        | Institute of Science and Technology Austria                                     | --    | Austria     |
| Pulsed Field | Kuchibhotla, Mahathi | Clark University                                                                | MA    | USA         |
| Pulsed Field | Lee, Ho Nyung        | Oak Ridge National Laboratory                                                   | TN    | USA         |
| Pulsed Field | Lee, Minseong        | National High Magnetic Field Laboratory                                         | NM    | USA         |
| Pulsed Field | Lee, Seunghun        | University of Virginia                                                          | VA    | USA         |
| Pulsed Field | Lewis, Jarrod        | University of Oxford                                                            | --    | UK          |
| Pulsed Field | Li, Lu               | University of Michigan                                                          | MA    | USA         |
| Pulsed Field | Liu, Wenhao          | University of Texas at Dallas                                                   | TX    | USA         |
| Pulsed Field | Liu, Yanzhao         | Peking University                                                               | --    | China       |
| Pulsed Field | Liu, Yufei           | Harvard University                                                              | MA    | USA         |
| Pulsed Field | Logvenov, Gennady    | Max Planck Institute for Solid State Research, Stuttgart                        | --    | Germany     |
| Pulsed Field | Lv, Bing             | University of Texas, Dallas                                                     | TX    | USA         |
| Pulsed Field | Lyu, Yuanqi          | University of California, Berkeley                                              | CA    | USA         |
| Pulsed Field | Maigorov, Boris      | National High Magnetic Field Laboratory                                         | NM    | USA         |
| Pulsed Field | Malick, Sudip        | Gdansk University of Technology                                                 | --    | Poland      |
| Pulsed Field | Mangotra, Rupali     | Kennesaw State University                                                       | GA    | USA         |

| Facilities   | Name                   | Organization                                                       | State | Country     |
|--------------|------------------------|--------------------------------------------------------------------|-------|-------------|
| Pulsed Field | Manson, Jamie          | Eastern Washington University                                      | WA    | USA         |
| Pulsed Field | Marshall, Madalynn     | Kennesaw State University                                          | GA    | USA         |
| Pulsed Field | Martin, Lee            | Nottingham Trent University                                        | --    | UK          |
| Pulsed Field | McDonald, Ross         | National High Magnetic Field Laboratory                            | FL    | USA         |
| Pulsed Field | McQueeney, Robert      | Ames Laboratory                                                    | IA    | USA         |
| Pulsed Field | Mielke, Charles        | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | --    | Germany     |
| Pulsed Field | Minkov, Vasily         | Max Planck Institute for Chemistry, Mainz                          | --    | Germany     |
| Pulsed Field | Miura, Masashi         | Seikei University                                                  | --    | Japan       |
| Pulsed Field | Mizzi, Christopher     | National High Magnetic Field Laboratory                            | NM    | USA         |
| Pulsed Field | Modic, Kimberly        | Institute of Science and Technology Austria                        | --    | Austria     |
| Pulsed Field | Moll, Philip           | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | --    | Germany     |
| Pulsed Field | Moon, Yihyun           | Kyung Hee University                                               | --    | South Korea |
| Pulsed Field | Morris, Daniel         | University of Tennessee, Knoxville                                 | TN    | USA         |
| Pulsed Field | Musfeldt, Janice       | University of Tennessee, Knoxville                                 | TN    | USA         |
| Pulsed Field | Nagarajan, Vikram      | Institute of Science and Technology Austria                        | --    | Austria     |
| Pulsed Field | Nair, Sreejith Thampan | University of Minnesota, Twin Cities                               | MN    | USA         |
| Pulsed Field | Nathwani, Amit         | Institute of Science and Technology Austria                        | --    | Austria     |
| Pulsed Field | Nguyen, Doan           | National High Magnetic Field Laboratory                            | NM    | USA         |
| Pulsed Field | Noe, Gary              | National High Magnetic Field Laboratory                            | FL    | USA         |
| Pulsed Field | Nuckolls, Kevin        | Massachusetts Institute of Technology                              | MA    | USA         |
| Pulsed Field | Okada, Tatsunori       | Kyushu Institute of Technology                                     | --    | Japan       |
| Pulsed Field | Palmer-Fortune, Joyce  | Smith College                                                      | MA    | USA         |
| Pulsed Field | Palmstrom, Chris       | University of California, Santa Barbara                            | CA    | USA         |
| Pulsed Field | Palmstrom, Johanna     | National High Magnetic Field Laboratory                            | NM    | USA         |
| Pulsed Field | Park, Sihyun           | Smith College                                                      | MA    | USA         |
| Pulsed Field | Park, Yunkyu           | Oak Ridge National Laboratory                                      | TN    | USA         |
| Pulsed Field | Peskett, Joe           | UK Atomic Energy Authority                                         | --    | UK          |
| Pulsed Field | Putzke, Carsten        | University of Bristol                                              | --    | UK          |
| Pulsed Field | Qian, Tiema            | Los Alamos National Laboratory                                     | NM    | USA         |
| Pulsed Field | Rakhmanova, Gulnaz     | IST Austria                                                        | --    | Austria     |
| Pulsed Field | Ramos Rodríguez, Edwin | University of the Andes                                            | --    | Colombia    |
| Pulsed Field | Ramshaw, Brad          | Cornell University                                                 | NY    | USA         |

| Facilities   | Name                                                    | Organization                            | State | Country  |
|--------------|---------------------------------------------------------|-----------------------------------------|-------|----------|
| Pulsed Field | Ran, Sheng                                              | Washington University in St. Louis      | MO    | USA      |
| Pulsed Field | Ries, Rastislav                                         | Florida State University                | FL    | USA      |
| Pulsed Field | Rojas, Julian                                           | University of Los Andes                 | --    | Colombia |
| Pulsed Field | Rosa Rocheria, Valeria                                  | University of California, Berkeley      | CA    | USA      |
| Pulsed Field | Rosa, Priscila                                          | Los Alamos National Laboratory          | NM    | USA      |
| Pulsed Field | Rubi, Km                                                | Los Alamos National Laboratory          | NM    | USA      |
| Pulsed Field | Rydh, Andreas                                           | Stockholm University                    | --    | Sweden   |
| Pulsed Field | Saini, Vikas                                            | Los Alamos National Laboratory          | NM    | USA      |
| Pulsed Field | Sarangi, Bhabesh                                        | University of Houston                   | TX    | USA      |
| Pulsed Field | Sasmal, Souvik                                          | Argonne National Laboratory             | IL    | USA      |
| Pulsed Field | Saucedo Salas, Gicela                                   | University of Maryland, College Park    | MD    | USA      |
| Pulsed Field | Scheie, Allen                                           | Los Alamos National Laboratory          | NM    | USA      |
| Pulsed Field | Selvamanickam, Venkat                                   | University of Houston                   | TX    | USA      |
| Pulsed Field | Sharma, Sanjay                                          | University of Warwick                   | --    | UK       |
| Pulsed Field | Shehter, Arkady                                         | National High Magnetic Field Laboratory | FL    | USA      |
| Pulsed Field | Siddarth Swaminathan, Aurobindo                         | UK Atomic Energy Authority              | --    | UK       |
| Pulsed Field | Silva Freitas, Gabriel                                  | Los Alamos National Laboratory          | NM    | USA      |
| Pulsed Field | Silvera Vega, Diego                                     | University of Los Andes                 | --    | Colombia |
| Pulsed Field | Singleton, John                                         | National High Magnetic Field Laboratory | NM    | USA      |
| Pulsed Field | Slade, Tyler                                            | Ames Laboratory                         | IA    | USA      |
| Pulsed Field | Smith, Connor                                           | University of Texas at Dallas           | TX    | USA      |
| Pulsed Field | Smith, G. Alexander                                     | Los Alamos National Laboratory          | NM    | USA      |
| Pulsed Field | Smith, Kevin                                            | University of Tennessee, Knoxville      | TN    | USA      |
| Pulsed Field | Song, Jeongkeun                                         | Oak Ridge National Laboratory           | TN    | USA      |
| Pulsed Field | Speller, Susannah                                       | University of Oxford                    | --    | UK       |
| Pulsed Field | Suderow, Hermann                                        | Autonomous University of Madrid         | --    | Spain    |
| Pulsed Field | Thennakoon Mudiyansele, Asiri Ashoka Bandara Thennakoon | University of Virginia                  | VA    | USA      |
| Pulsed Field | Thevalappilly Paulose, Manoj                            | University of Houston                   | TX    | USA      |
| Pulsed Field | Ueland, Benjamin                                        | Ames Laboratory                         | IA    | USA      |
| Pulsed Field | Vu, Dung                                                | Yale University                         | CT    | USA      |
| Pulsed Field | Wakefield, Joshua                                       | Massachusetts Institute of Technology   | MA    | USA      |
| Pulsed Field | Walker, Frederick                                       | Yale University                         | CT    | USA      |

| Facilities   | Name                   | Organization                                                                    | State | Country   |
|--------------|------------------------|---------------------------------------------------------------------------------|-------|-----------|
| Pulsed Field | Wang, Jian             | Peking University                                                               | --    | China     |
| Pulsed Field | Wang, Linlin           | Ames Laboratory                                                                 | IA    | USA       |
| Pulsed Field | Wang, Nathan           | Duke University                                                                 | NC    | USA       |
| Pulsed Field | Wang, Ziqiao           | Peking University                                                               | --    | China     |
| Pulsed Field | Wei, Wenzheng          | Yale University                                                                 | CT    | USA       |
| Pulsed Field | West, Noah             | University of Michigan                                                          | MI    | USA       |
| Pulsed Field | Wiendlocha, Bartlomiej | AGH University of Science and Technology                                        | --    | Poland    |
| Pulsed Field | Wimbush, Stuart        | UK Industrial Fusion Solutions Ltd                                              | --    | UK        |
| Pulsed Field | Winiarski, Michal      | Gdansk University of Technology                                                 | --    | Poland    |
| Pulsed Field | Winter, Laurel         | National High Magnetic Field Laboratory                                         | NM    | USA       |
| Pulsed Field | Wisniewski, Piotr      | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | --    | Poland    |
| Pulsed Field | Xu, Suyang             | Harvard University                                                              | MA    | USA       |
| Pulsed Field | Yamakawa, Kohtaro      | University of California, Berkeley                                              | CA    | USA       |
| Pulsed Field | Yang, Zhifei           | University of Minnesota, Twin Cities                                            | MN    | USA       |
| Pulsed Field | Ye, Kaixin             | Zhejiang University                                                             | --    | China     |
| Pulsed Field | Yip, King Yau          | National University of Singapore                                                | --    | Singapore |
| Pulsed Field | Yuan, Huiqiu           | Zhejiang University                                                             | --    | China     |
| Pulsed Field | Zambra, Valeska        | Institute of Science and Technology Austria                                     | --    | Austria   |
| Pulsed Field | Zapf, Vivien           | National High Magnetic Field Laboratory                                         | FL    | USA       |
| Pulsed Field | Zhang, Dechen          | University of Michigan                                                          | MI    | USA       |
| Pulsed Field | Zhang, Ling            | Max Planck Institute for Structure and Dynamics of Matter, Hamburg              | --    | Germany   |
| Pulsed Field | Zhang, Shengzhi        | National High Magnetic Field Laboratory                                         | FL    | USA       |
| Pulsed Field | Zhang, Wei             | National University of Singapore                                                | --    | Singapore |
| Pulsed Field | Zhang, Yanan           | Zhejiang University                                                             | --    | China     |
| Pulsed Field | Zheng, Guoxin          | University of Michigan                                                          | MI    | USA       |
| Pulsed Field | Zhou, Haidong          | University of Tennessee, Knoxville                                              | TN    | USA       |
| Pulsed Field | Zhu, Lingfeng          | University of Houston                                                           | TX    | USA       |
| Pulsed Field | Zhu, Yuan              | University of Michigan                                                          | MI    | USA       |



# 2025 MagLab Annual Report

2025 AMRIS NSF Funded

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| Participants<br>(Name, Role, Org., Dept.) |    |                                                     |                                                  | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                                         |                                                                                                                    | Proposal #       | Proposal Title                                                                      | Discipline                                                                                                                  | Exp. #                           | Days Used |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
|-------------------------------------------|----|-----------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|----------------------------------|-----------------------------------------------------------------------|-------------|--------|----------------------------------------------------------------------------------|------------------|--------|---------------------------------------------------------------------------------------------------------|----------------------------------|---|-----|
| Daniel R. Talham (S)                      | PI | University of Florida                               | Chemistry                                        | NSF                                                    | DMR - Division of Materials Research                                                    | DMR2409400                                                                                                         | P20026           | Self-Assembled Polymer Nanostructures as paraCEST MRI Contrast Agents               | Chemistry                                                                                                                   | 1                                | 7.33      |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Diba Allameh Zadeh (G)                    | C  | University of Florida                               | Chemistry                                        | University of Florida                                  | US College and University                                                               | UFRF Research Support 00085603                                                                                     |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Camille Green (U)                         | C  | University of Florida                               | Chemistry                                        |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Brent Sumerlin (S)                        | C  | University of Florida                               | Chemistry                                        |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Lee Sweeney (S)                           | PI | University of Florida                               | Pharmacology & Therapeutics                      | NIH                                                    | NAMS - National Institute of Arthritis and Musculoskeletal and Skin Diseases            | AR052646                                                                                                           | P20062           | Interrogating the role of perturbed bioenergetics in the dystrophin-deficient heart | Biology, Biochemistry, Biophysics                                                                                           | 1                                | 1.33      |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Abhinandan Batra (S)                      | C  | University of Florida                               | Physical therapy                                 | NIH                                                    | NICHD - Eunice Kennedy Shriver National Institute of Child Health and Human Development | HD119693                                                                                                           |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Julian Febo (G)                           | C  | University of Florida                               | Pharmacology & Therapeutics                      |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Sean Forbes (S)                           | C  | University of Florida                               | Departments of Physical Therapy and Physiology   |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| David Hammers (S)                         | C  | University of Florida                               | Pharmacology & Therapeutics                      |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Cora Hart (G)                             | C  | University of Florida                               | Pharmacology and Therapeutics                    |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Jeff Herr (T)                             | C  | University of Florida                               | Pharmacology & Therapeutics                      |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Mark Mattingly (S)                        | C  | Bruker Biospin                                      | Biospin                                          |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Jenny Russ (T)                            | C  | University of Florida                               | Pharmacology and therapeutics                    |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Glenn Walter (S)                          | C  | University of Florida                               | Physiology and Aging                             |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Robert Wiseman (S)                        | C  | Michigan State University                           | Physiology                                       |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Eli Zepa (T)                              | C  | University of Florida                               | Pharmacology and Therapeutics                    |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Malisa Samtiranont (S)                    | PI | University of Florida                               | unknown                                          | NIH                                                    | NCI - National Cancer Institute                                                         | CA012185                                                                                                           | P20171           | Multi-modal approach to probe tumor-induced perivascular space disruption           | Biology, Biochemistry, Biophysics                                                                                           | 1                                | 3.5       |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Thomas Mareci (S)                         | C  | University of Florida                               | Biochemistry and Molecular Biology               |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Jennifer Munson (S)                       | C  | Virginia Polytechnic Institute and State University | Biomedical Engineering and Mechanics             |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Isabel Rivera Santiago (G)                | C  | University of Florida                               | Mechanical Engineering                           |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Ryan Lively (S)                           | PI | Georgia Institute of Technology                     | School of Chemical & Biomolecular Engineering    |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           | NSF                              | CBET - Chemical, Bioengineering, Environmental, and Transport Systems | CBET2135662 | P20207 | Quantifying Microscopic Liquid Diffusion inside Carbon Molecular Sieve Membranes | Engineering      | 1      | 13.33                                                                                                   |                                  |   |     |
| Rebecca Bivins (G)                        | C  | Georgia Institute of Technology                     | Chemical and Biomolecular Engineering            | NSF                                                    | CBET - Chemical, Bioengineering, Environmental, and Transport Systems                   | CBET2135766                                                                                                        |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Sree Laxmi (G)                            | C  | University of Florida                               | Chemical Engineering Department                  |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Joshua Moon (S)                           | C  | University of Florida                               | Department of Chemical Engineering               |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Sergey Vasenkov (S)                       | C  | University of Florida                               | Chemical Engineering                             |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Young Hee Yoon (G)                        | C  | Georgia Institute of Technology                     | School of Chemical & Biomolecular Engineering    |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Jeannine Brady (S)                        | PI | University of Florida                               | Oral Biology                                     | NIH                                                    | NIDCR - National Institute of Dental and Craniofacial Research                          | DE021789                                                                                                           | P20327           | ML-BRADY-003: AMRIS components of NMR Facility's P20106                             | Biology, Biochemistry, Biophysics                                                                                           | 2                                | 31.67     |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Joanna Long (S)                           | C  | University of Florida                               | Biochemistry & Molecular Biology                 | NIH                                                    | NIDCR - National Institute of Dental and Craniofacial Research                          | DE008007                                                                                                           |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Thiago Machado Pasin (P)                  | C  | University of Florida                               | Oral Biology - College of Dentistry              |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| M Luiza Nogueira (S)                      | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Chase Norton (T)                          | C  | University of Florida                               | UF Biochemistry                                  |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Qingqing (Emily) Peng (G)                 | C  | University of Florida                               | Department of Biochemistry and Molecular Biology |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Joanna Long (S)                           | PI | University of Florida                               | Biochemistry & Molecular Biology                 |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  | No other support | P20343 | MAINTENANCE: Routine maintenance of existing AMRIS Facility equipment (formerly P09510, P17541, P19543) | Development of Magnet Technology | 1 | 326 |
| James Collins (O)                         | C  | University of Florida                               | Biochemistry & Molecular Biology                 |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Greg Dowling (S)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Kelly Jenkins (T)                         | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Anil Mehta (S)                            | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| James Rocca (S)                           | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Joshua Slade (T)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Huadong Zeng (S)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Joanna Long (S)                           | PI | University of Florida                               | Biochemistry & Molecular Biology                 |                                                        |                                                                                         |                                                                                                                    | No other support | P20345                                                                              | MLDEV-Setup: training new users, workshops, updating corbias, prosol tables, or shim files (formerly P17542 and P19554)     | Development of Magnet Technology | 1         |                                  |                                                                       |             |        |                                                                                  | 172.75           |        |                                                                                                         |                                  |   |     |
| James Collins (O)                         | C  | University of Florida                               | Biochemistry & Molecular Biology                 |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Greg Dowling (S)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Anil Mehta (S)                            | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| James Rocca (S)                           | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Huadong Zeng (S)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Joanna Long (S)                           | PI | University of Florida                               | Biochemistry & Molecular Biology                 | No other support                                       | P20346                                                                                  | MLDEV-Method: setting up new protocols or pulse sequences; preliminary characterization of samples for feasibility |                  |                                                                                     |                                                                                                                             |                                  |           | Development of Magnet Technology | 1                                                                     | 14.5        |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| James Collins (O)                         | C  | University of Florida                               | Biochemistry & Molecular Biology                 |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Anil Mehta (S)                            | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Matthew Merritt (S)                       | C  | University of Florida                               | Biochemistry and Molecular Biology               |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| James Rocca (S)                           | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Huadong Zeng (S)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Joanna Long (S)                           | PI | University of Florida                               | Biochemistry & Molecular Biology                 |                                                        |                                                                                         |                                                                                                                    | No other support | P20347                                                                              | MLDEV-Repair: work on magnets, replacing broken amplifiers, troubleshooting consoles, tracking down the source of a problem | Development of Magnet Technology | 1         |                                  |                                                                       |             | 29.5   |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| James Collins (O)                         | C  | University of Florida                               | Biochemistry & Molecular Biology                 |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Greg Dowling (S)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Kelly Jenkins (T)                         | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Anil Mehta (S)                            | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| James Rocca (S)                           | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Joshua Slade (T)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |
| Huadong Zeng (S)                          | C  | University of Florida                               | AMRIS                                            |                                                        |                                                                                         |                                                                                                                    |                  |                                                                                     |                                                                                                                             |                                  |           |                                  |                                                                       |             |        |                                                                                  |                  |        |                                                                                                         |                                  |   |     |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                     |                                                                                   | Funding Sources<br>(Funding Agency, Division, Award #)                                                                                                                       |                                                                                          | Proposal # | Proposal Title                                                                                                                                                                                                                       | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|----|-----------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Joanna Long (S)                           | PI | University of Florida                               | Biochemistry & Molecular Biology                                                  | No other support                                                                                                                                                             |                                                                                          | P20348     | MLDEV-Hardware: installation, calibration, and testing of new probes, consoles, amplifiers, gradients                                                                                                                                | Development of Magnet Technology  | 1      | 45.83     |
| James Collins (O)                         | C  | University of Florida                               | Biochemistry & Molecular Biology                                                  |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Greg Dowling (S)                          | C  | University of Florida                               | AMRIS                                                                             |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Kelly Jenkins (T)                         | C  | University of Florida                               | AMRIS                                                                             |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Anil Mehta (S)                            | C  | University of Florida                               | AMRIS                                                                             |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Matthew Merritt (S)                       | C  | University of Florida                               | Biochemistry and Molecular Biology                                                |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| James Rocca (S)                           | C  | University of Florida                               | AMRIS                                                                             |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Joshua Slade (T)                          | C  | University of Florida                               | AMRIS                                                                             |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Huadong Zeng (S)                          | C  | University of Florida                               | AMRIS                                                                             |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Jason Bara (S)                            | PI | University of Alabama, Tuscaloosa                   | Department of Chemical and Biological Engineering                                 | NSF                                                                                                                                                                          | CBET - Chemical, Bioengineering, Environmental, and Transport Systems                    | P20361     | Quantification of Microscopic Gas Diffusion in Doubly-Segmented (DS) Ionene Membranes by PFG NMR                                                                                                                                     | Engineering                       | 1      | 46.83     |
| Mousumi Bepari (G)                        | C  | University of Alabama, Tuscaloosa                   | Chemical Engineering                                                              | NSF                                                                                                                                                                          | CBET - Chemical, Bioengineering, Environmental, and Transport Systems                    |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Sandhya Thiagarajan (P)                   | C  | University of Alabama, Tuscaloosa                   | Chemical Engineering                                                              |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Alain Tundidor Camba (S)                  | C  | University of Alabama, Tuscaloosa                   | Chemical Engineering                                                              |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Sergey Vasenkov (S)                       | C  | University of Florida                               | Chemical Engineering                                                              |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| John Jones (S)                            | PI | Center for Neurosciences and Cell Biology           | Metabolic Control Lab                                                             | Pfizer Global Medical Grants "Pentose phosphate pathway and serine oxidation fluxes in NAFLD and NASH"                                                                       | 77183119                                                                                 | P20421     | High-sensitivity <sup>13</sup> C NMR isotopomer analysis of human liver metabolite enrichment from [U- <sup>13</sup> C]glucose via a novel chemical biopsy agent: application to metabolic flux profiling of NAFLD and NASH patients | Biology, Biochemistry, Biophysics | 1      | 20.5      |
| Matthew Merritt (S)                       | C  | University of Florida                               | Biochemistry and Molecular Biology                                                | European Commission Horizon Program "PAS GRAS - de-risking metabolic, environmental and behavioural determinants of obesity in children, adolescents and young adults"       | Non US Council                                                                           |            | HORIZON-HLTH-2022-STAYHLTH-01-101080329-2                                                                                                                                                                                            |                                   |        |           |
|                                           |    |                                                     |                                                                                   | Portuguese Foundation of Science and Technology "Measuring hepatic polyol pathway activity and connecting it with lipogenic glucose metabolism in Type 2 Diabetes patients." | Other Non US Federal Agency                                                              |            | 2023.11517.PEX                                                                                                                                                                                                                       |                                   |        |           |
| Zhongwu Guo (S)                           | PI | University of Florida                               | Chemistry                                                                         | NIH                                                                                                                                                                          | NIA - National Institute on Aging                                                        | P20426     | 2H and 31P NMR characterization of Novel Glycolipid Analogs                                                                                                                                                                          | Chemistry                         | 1      | 2.83      |
| Gail Fanucci (S)                          | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Sayan Kundu (G)                           | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Venkanna Mullaipudi (P)                   | C  | University of Florida                               | UF Chemistry                                                                      |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Rajendra Rohokale (P)                     | C  | University of Florida                               | UF Chemistry                                                                      |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Carson Ingo (S)                           | PI | Northwestern University                             | Department of Neurology, Department of Physical Therapy & Human Movement Sciences | NIH                                                                                                                                                                          | NSI - National Cancer Institute                                                          | P20436     | Investigation of the power-law infection point diffusion properties in gray and white matter using generalized exponential imaging with a 750 MHz imaging spectrometer                                                               | Biology, Biochemistry, Biophysics | 1      | 22        |
| Thomas Barrick (S)                        | C  | St George's University of London                    | Department of Neurosciences                                                       |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Ayush Batra (S)                           | C  | Northwestern University Feinberg School of Medicine | Neurology                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Diego Caban-Rivera (P)                    | C  | Northwestern University Feinberg School of Medicine | Physical Therapy & Human Movement Sciences                                        |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Matt Hall (S)                             | C  | National Physical Laboratory, Teddington            | Medical, Marine, and Nuclear                                                      |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Thomas Mareci (S)                         | C  | University of Florida                               | Biochemistry and Molecular Biology                                                |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Katie Taran (G)                           | C  | Northwestern University Feinberg School of Medicine | Physical Therapy & Human Movement Sciences                                        |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Jeffrey Rudolf (S)                        | PI | University of Florida                               | Chemistry                                                                         | NIH                                                                                                                                                                          | NIAMS - National Institute of General Medical Sciences                                   | P20449     | ML-RUDOLF-002 Exploring the Chemical Space of Bacterial Terpenes                                                                                                                                                                     | Chemistry                         | 1      | 2         |
| Mohammed Ahmed (P)                        | C  | University of Florida                               | Chemistry                                                                         | NIH                                                                                                                                                                          | NIAMS - National Institute of General Medical Sciences                                   |            | GM136583                                                                                                                                                                                                                             |                                   |        |           |
| Daniel Icenhour (G)                       | C  | University of Florida                               | Chemistry                                                                         | NSF                                                                                                                                                                          | CHE - Chemistry                                                                          |            | CHE2440573                                                                                                                                                                                                                           |                                   |        |           |
| Caitlin McCadden (G)                      | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Wenbo Ning (G)                            | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Tracy Qu (U)                              | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Diana Stancic (G)                         | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Xiuting Wei (G)                           | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Tracy Centanni (S)                        | PI | University of Florida                               | Speech, Language, and Hearing Sciences                                            | NIH                                                                                                                                                                          | NICHHD - Eunice Kennedy Shriver National Institute of Child Health and Human Development | P20456     | Effect of genetic knockout on neural plasticity in a rat model                                                                                                                                                                       | Biology, Biochemistry, Biophysics | 1      | 6.5       |
| Brenton Cooper (S)                        | C  | Texas Christian University                          | Psychology                                                                        |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Zachary Smith (S)                         | PI | Massachusetts Institute of Technology               | Chemical Engineering                                                              | NSF                                                                                                                                                                          | CBET - Chemical, Bioengineering, Environmental, and Transport Systems                    | P20553     | Quantifying Dependence of Gas Diffusivity on Concentration of Metal-Organic Framework Particles inside Polymer-Based Membranes for Gas Separations                                                                                   | Engineering                       | 1      | 25.5      |
| Omar Boloki (G)                           | C  | University of Florida                               | Chemical Engineering                                                              | NSF                                                                                                                                                                          | CBET - Chemical, Bioengineering, Environmental, and Transport Systems                    |            | CBET2034742                                                                                                                                                                                                                          |                                   |        |           |
| Eric Hahnert (G)                          | C  | Massachusetts Institute of Technology               | Chemical Engineering                                                              |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Philippe Jean-Baptiste (G)                | C  | Massachusetts Institute of Technology               | Chemical Engineering                                                              |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Sree Laxmi (G)                            | C  | University of Florida                               | Chemical Engineering Department                                                   |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Sergey Vasenkov (S)                       | C  | University of Florida                               | Chemical Engineering                                                              |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Rachel Martin (S)                         | PI | University of California, Irvine                    | Chemistry                                                                         | No other support                                                                                                                                                             |                                                                                          | P20751     | Understanding the role of deamidation in cataract formation                                                                                                                                                                          | Biology, Biochemistry, Biophysics | 1      | 9.5       |
| Keith Searles (S)                         | PI | University of Florida                               | Chemistry                                                                         | No other support                                                                                                                                                             |                                                                                          | P20761     | Solid-State NMR Characterization of Well-defined Heterogeneous Catalysts Used in Hydrocarbon Conversions                                                                                                                             | Chemistry                         | 1      | 66.5      |
| Rasaq Adams (G)                           | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Clifford (Russ) Bowers (S)                | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Konstantin Bukhryakov (S)                 | C  | Florida International University                    | Chemistry and Biochemistry                                                        |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Faezeh Farokhpour (G)                     | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Shirley Hernandez (G)                     | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Selena Kuenzig (G)                        | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |
| Alexander Stant (G)                       | C  | University of Florida                               | Chemistry                                                                         |                                                                                                                                                                              |                                                                                          |            |                                                                                                                                                                                                                                      |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                       |                                                | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                       |               | Proposal # | Proposal Title                                                                                                                                               | Discipline                        | Exp. # | Days Used |                  |  |              |       |
|-------------------------------------------|----|-------------------------------------------------------|------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------|---------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|------------------|--|--------------|-------|
| Bill Baker (S)                            | PI | University of South Florida                           | Chemistry                                      | NSF                                                    | OPP - Office of Polar Programs                                        | OPP2142914    | P20766     | Natural Product Drug Discovery from Museum Specimens and Palmeroleide Biosynthesis                                                                           | Chemistry                         | 1      | 15.75     |                  |  |              |       |
| Sam Afoulouss (P)                         | C  | University of South Florida                           | USF Chemistry                                  | NIH                                                    | NCCIH - National Center for Complementary and Integrative Health      | AT012954      |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Ezequiel Cruz Rosa (G)                    | C  | University of South Florida                           | Chemistry                                      |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Stine Sofie Olsen (G)                     | C  | University of South Florida                           | USF Chemistry                                  |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Sylvester Osei Bobbie (G)                 | C  | University of South Florida                           | Chemistry                                      |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Nathaniel Schmidt (G)                     | C  | University of South Florida                           | Chemistry                                      |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Benjamin Smith (G)                        | C  | University of South Florida                           | Chemistry                                      |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Jennifer Williams (G)                     | C  | University of South Florida                           | USF Chemistry                                  |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Benjamin Wylie (S)                        | PI | Texas Tech University                                 | Chemistry and Biochemistry                     | NIH                                                    | NIGMS - National Institute of General Medical Sciences                | GM124979      | P20789     | Determining the dynamic structure of the human Kir2.1 channel in the presence of activating and inhibiting lipids                                            | Biology, Biochemistry, Biophysics | 1      | 109       |                  |  |              |       |
| Sara Bannister (G)                        | C  | Indiana University                                    | Chemistry                                      |                                                        |                                                                       |               | P20791     | Quantifying Diffusion of Liquid Sorbates Inside Mixed-Matrix Membranes Based on Carbon Molecular Sieves                                                      | Engineering                       | 1      | 32.83     |                  |  |              |       |
| Joanna Long (S)                           | C  | University of Florida                                 | Biochemistry & Molecular Biology               |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| M Luiza Nogueira (S)                      | C  | University of Florida                                 | AMRIS                                          |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Oziomachi Onogu (G)                       | C  | Texas Tech University                                 | Chemistry & Biochemistry                       |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Ryan Lively (S)                           | PI | Georgia Institute of Technology                       | School of Chemical & Biomolecular Engineering. | NSF                                                    | CBET - Chemical, Bioengineering, Environmental, and Transport Systems | CBET2135662   |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Rebecca Bivins (G)                        | C  | Georgia Institute of Technology                       | Chemical and Biomolecular Engineering          | NSF                                                    | CBET - Chemical, Bioengineering, Environmental, and Transport Systems | CBET2135766   |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Sree Laxmi (G)                            | C  | University of Florida                                 | Chemical Engineering Department                |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Joshua Moon (S)                           | C  | University of Florida                                 | Department of Chemical Engineering             |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Sergey Vasenkov (S)                       | C  | University of Florida                                 | Chemical Engineering                           |                                                        |                                                                       |               | P20804     | Ecology driven natural product discovery                                                                                                                     | Biology, Biochemistry, Biophysics | 1      | 4.33      |                  |  |              |       |
| Young Hee Yoon (G)                        | C  | Georgia Institute of Technology                       | School of Chemical & Biomolecular Engineering  |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Emily Meyers (S)                          | PI | * Virginia Polytechnic Institute and State University | Department of Chemistry                        | No other support                                       |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Jeanine Brady (S)                         | PI | University of Florida                                 | Oral Biology                                   | UCGP                                                   |                                                                       | ML- Pasin-001 |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Joanna Long (S)                           | C  | University of Florida                                 | Biochemistry & Molecular Biology               |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Thiago Machado Pasin (P)                  | C  | University of Florida                                 | Oral Biology - College of Dentistry            |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| M Luiza Nogueira (S)                      | C  | University of Florida                                 | AMRIS                                          |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Scott Prosser (S)                         | PI | University of Toronto (Toronto)                       | Chemistry and Biochemistry                     | No other support                                       |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Adwait Hasabnis (G)                       | C  | University of Toronto (Toronto)                       | Biochemistry/Chemistry                         |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Joanna Long (S)                           | C  | University of Florida                                 | Biochemistry & Molecular Biology               |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Huadong Zeng (S)                          | C  | University of Florida                                 | AMRIS                                          |                                                        |                                                                       |               | P20923     | In vivo Detection and Quantification of Pegylated Protein using diffusion-filtered MRI and MRS                                                               | Biology, Biochemistry, Biophysics | 1      | 3         |                  |  |              |       |
| William R. Kern (S)                       | PI | * University of Florida                               | Pharmacology/ Therapeutics                     | No other support                                       |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| M Luiza Nogueira (S)                      | C  | University of Florida                                 | AMRIS                                          |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Jianfeng Cai (S)                          | PI | * University of South Florida                         | Department of Chemistry                        | NIH                                                    | NIA - National Institute on Aging                                     | AG056569      |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Ying Li (O)                               | C  | University of Florida                                 | McKnight Brain Institute                       |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Heng Liu (P)                              | C  | University of South Florida                           | Chemistry                                      |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Sandra Loesgen (S)                        | PI | University of Florida                                 | Chemistry                                      | NSF                                                    | IOS - Integrative Organismal Systems                                  | IOS2124120    |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Grace Dyer (G)                            | C  | University of Florida                                 | Whitney Laboratory for Marine Bioscience       | NSF                                                    | IOS - Integrative Organismal Systems                                  | IOS2314456    |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Sajan Green (G)                           | C  | University of Florida                                 | Whitney Laboratory for Marine Bioscience       |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Joseph Mangun (G)                         | C  | University of Florida                                 | Whitney Laboratory for Marine Bioscience       |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Erin Marshall (G)                         | C  | University of Florida                                 | Whitney Lab                                    |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Bastien Petit (P)                         | C  | University of Florida                                 | Whitney Lab                                    |                                                        |                                                                       |               | P20949     | NMR characterization of an enzymatic subunit from Shiga toxin and evaluation of potential small molecule inhibitors                                          | Biology, Biochemistry, Biophysics | 1      | 7         |                  |  |              |       |
| Matthew Eddy (S)                          | PI | University of Florida                                 | Chemistry                                      | NIH                                                    | NIGMS - National Institute of General Medical Sciences                | GM138291      |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Nessa Pesaran Afsharian (G)               | C  | University of Florida                                 | Chemistry                                      | NSF                                                    | DMR - Division of Materials Research                                  | DMR2339330    |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Adrian Rotberg (S)                        | C  | University of Florida                                 | Chemistry                                      |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Roxana Toriano (S)                        | C  | University of Buenos Aires                            | Laboratorio de Biomembranes                    |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Xingui Liu (S)                            | PI | * University of Florida                               | Medicinal Chemistry                            | No other support                                       |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Linfai Li (S)                             | PI | * Florida International University                    | Civil & Environmental Engineering              | No other support                                       |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Priyan Roy Tamil Eniyan (G)               | C  | Florida International University                      | Civil and Environmental Engineering            |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Adam Veige (S)                            | PI | University of Florida                                 | Chemistry                                      | No other support                                       |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Benjamin Atterberry (P)                   | C  | University of Florida                                 | Chemistry                                      |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Clifford (Russ) Bowers (S)                | C  | University of Florida                                 | Chemistry                                      |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Bingren Hu (S)                            | PI | * University of California, San Diego                 | Neurosciences and Emergency Medicine           | NIH                                                    | NINDS - National Institute of Neurological Disorders and Stroke       | NS130557      | P21093     | MRI Imaging of White Matter Injury and Remodeling After Ischemic Stroke in Mice                                                                              | Biology, Biochemistry, Biophysics | 1      | 1         |                  |  |              |       |
| James Collins (O)                         | C  | University of Florida                                 | Biochemistry & Molecular Biology               |                                                        |                                                                       |               | P21016     | End Group Analysis, Olefin Coupling, and Backbone Structure Characterization in Cyclic Polymers and Their Linear Analogues by Carbon-13 MAS NMR Spectroscopy | Chemistry                         | 1      | 20.5      |                  |  |              |       |
| Dayalan Sampath (P)                       | C  | University of California, San Diego                   | Emergency Medical Services                     |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
| Huadong Zeng (S)                          | C  | University of Florida                                 | AMRIS                                          |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           |                  |  |              |       |
|                                           |    |                                                       |                                                |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           | Total Proposals: |  | Experiments: | Days: |
|                                           |    |                                                       |                                                |                                                        |                                                                       |               |            |                                                                                                                                                              |                                   |        |           | 33               |  | 34           | 1,074 |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                     |                                                                |                              | Funding Sources<br>(Funding Agency, Division, Award #)          |                      | Proposal # | Proposal Title                                                                                                                              | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|----|-------------------------------------|----------------------------------------------------------------|------------------------------|-----------------------------------------------------------------|----------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Marcelo Febo (S)                          | PI | University of Florida               | Psychiatry                                                     | NIH                          | NIA - National Institute on Aging                               | AG070913             | P16151     | Febo Projects                                                                                                                               | Biology, Biochemistry, Biophysics | 1      | 2         |
|                                           |    |                                     |                                                                | NIH                          | NIA - National Institute on Aging                               | AG049722             |            |                                                                                                                                             |                                   |        |           |
|                                           |    |                                     |                                                                | NIH                          | NHLBI - National Heart and Blood Institute                      | HL152101             |            |                                                                                                                                             |                                   |        |           |
|                                           |    |                                     |                                                                | NIH                          | NINDS - National Institute of Neurological Disorders and Stroke | NS125089             |            |                                                                                                                                             |                                   |        |           |
| Matthew Eddy (S)                          | PI | University of Florida               | Chemistry                                                      | NIH                          | NIH - National Institute of General Medical Sciences            | GM138291             | P19523     | EDDY-001: [Independently-funded Research Proposal]                                                                                          | Biology, Biochemistry, Biophysics | 1      | 67        |
| Antara Banerjee (G)                       | C  | University of Florida               | Chemistry                                                      | NSF                          | DMR - Division of Materials Research                            | DMR2339330           |            |                                                                                                                                             |                                   |        |           |
| James Collins (O)                         | C  | University of Florida               | Biochemistry & Molecular Biology                               |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Shreyashi Das (G)                         | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Niloofar Gopal Pour (G)                   | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Michael Harris (S)                        | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Beining (Kim) Jin (G)                     | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Nessa Pesaran Afsharian (G)               | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Arka Prabha Ray (G)                       | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Cate Richardson (U)                       | C  | University of Florida               | Chemistry Department                                           |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Gabriella Sprague (U)                     | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Bahareh Tavasoli (G)                      | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Anuradha Wijesekara (G)                   | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Keen Zhang (U)                            | C  | University of Florida               | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Marcelo Febo (S)                          | PI | University of Florida               | Psychiatry                                                     | NIH                          | NHLBI - National Heart and Blood Institute                      | HL152101             | P19524     | [Independently-funded Research Proposal]                                                                                                    | Biology, Biochemistry, Biophysics | 1      | 3         |
| Jose Abisambra (S)                        | C  | University of Florida               | Neuroscience                                                   | NIH                          | NIA - National Institute on Aging                               | AG070913             |            |                                                                                                                                             |                                   |        |           |
| Jen Bizon (S)                             | C  | University of Florida               | Neuro                                                          | NIH                          | NINDS - National Institute of Neurological Disorders and Stroke | NS125089             |            |                                                                                                                                             |                                   |        |           |
| Joy Burama (U)                            | C  | University of Florida               | Neuroscience                                                   | NIH                          | NIDA - National Institute on Drug Abuse                         | DA049470             |            |                                                                                                                                             |                                   |        |           |
| Sara Burke (S)                            | C  | University of Florida               | Neuroscience                                                   | NIH                          | NIA - National Institute on Aging                               | AG049722             |            |                                                                                                                                             |                                   |        |           |
| Matthew Burns (S)                         | C  | University of Florida               | Neurology                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Eduardo Candelario-Jall (S)               | C  | University of Florida               | Neuroscience                                                   |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Paramita Chakrabarty (S)                  | C  | University of Florida               | Biology                                                        |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Matthew Farrer (S)                        | C  | University of Florida               | Neurology                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Matteo Grudry (G)                         | C  | University of Florida               | Psychiatry - ADRC                                              |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Catherine Kaczorowski (S)                 | C  | Jackson Laboratory                  | Neuroscience                                                   |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Wen Li (T)                                | C  | University of Florida               | UF Department of Neuroscience                                  |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Michael Pizzi (S)                         | C  | University of Florida               | Neurology                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Leah Reznikov (S)                         | C  | University of Florida               | Physiological Sciences                                         |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Aleyna Ross (G)                           | C  | University of Florida               | Neuroscience                                                   |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Barry Setlow (S)                          | C  | University of Florida               | Psychiatry                                                     |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Zachary Simon (G)                         | C  | University of Florida               | Neuroscience                                                   |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Kevin (Ka) Wang (S)                       | C  | University of Florida               | Emergency Medicine                                             |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Madeline Zelinka (U)                      | C  | University of Florida               | Neuroscience                                                   |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Lakesha Williams (S)                      | PI | University of Florida               | Biomedical Engineering                                         | UF Research                  | US College and University                                       | AWD08483             | P19527     | [Independently-funded Research Proposal]                                                                                                    | Biology, Biochemistry, Biophysics | 1      | 8         |
| Elio Alzamora (U)                         | C  | University of Florida               | Department of Biomedical Engineering                           | Alzheimer's Association      | US Foundation                                                   | AARGD-NTF-22-919409  |            |                                                                                                                                             |                                   |        |           |
| Abigail Aplin (G)                         | C  | University of Florida               | Biomedical Engineering                                         |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Ta-Tyonna Buck (G)                        | C  | University of Florida               | Biomedical Engineering                                         |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Jai Raccioppi (G)                         | C  | University of Florida               | Engineering                                                    |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Andre Obenaus (S)                         | PI | University of California, Riverside | Biomedical Sciences                                            | NIH                          | NIA - National Institute on Aging                               | AG054349             | P19645     | [Independently-funded Research Proposal]                                                                                                    | Biology, Biochemistry, Biophysics | 1      | 89.5      |
| James Collins (O)                         | C  | University of Florida               | Biochemistry & Molecular Biology                               | NIH                          | NIA - National Institute on Aging                               | AG054345             |            |                                                                                                                                             |                                   |        |           |
| Amandine Julienne (P)                     | C  | University of California, Irvine    | Pediatrics, Anatomy & Neurobiology                             | NIH                          | NINDS - National Institute of Neurological Disorders and Stroke | NS119605             |            |                                                                                                                                             |                                   |        |           |
| Brenda Patricia Noarbe (T)                | C  | University of California, Irvine    | Pediatrics                                                     |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| JiaMin Yan (T)                            | C  | University of California, Riverside | Biomedical Sciences                                            |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Chalermchai Khemtong (S)                  | PI | University of Florida               | Medicine                                                       | University of Florida        | US College and University                                       | Seed Fund            | P19735     | [Independently-funded Research Proposal]                                                                                                    | Biology, Biochemistry, Biophysics | 2      | 24        |
| David Alvarez (U)                         | C  | University of Florida               | Department of Medicine                                         | Alzheimer's Association      | US Foundation                                                   | AARGD-NTF-24-1307571 |            |                                                                                                                                             |                                   |        |           |
| Chelsea Brook (U)                         | C  | University of Florida               | Division of Endocrinology, Diabetes, & Metabolism              | Florida Department of Health | Other                                                           | AGR DTD 07-28-2015   |            |                                                                                                                                             |                                   |        |           |
| Phillippe Fernandes (U)                   | C  | University of Florida               | undergrad                                                      | University of Florida        | Other                                                           | Seed Fund            |            |                                                                                                                                             |                                   |        |           |
| Nesmine Maptue (T)                        | C  | University of Florida               | Medicine                                                       |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| William McDonald (U)                      | C  | University of Florida               | Division of Endocrinology, Diabetes, & Metabolism              |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Shrina Patel (U)                          | C  | University of Florida               | Endocrinology                                                  |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Qinyang Shen (G)                          | C  | University of Florida               | Medicine                                                       |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Nguyen Thanh Tri (U)                      | C  | University of Florida               | Division of Endocrinology, Diabetes, & Metabolism              |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Ngan Vu (U)                               | C  | University of Florida               | Division of Endocrinology, Diabetes, & Metabolism              |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Rebecca Butcher (S)                       | PI | University of Florida               | Chemistry                                                      | NSF                          | CHE - Chemistry                                                 | CHE2108278           | P19761     | BUTCHER-001: [Independently-funded Research Proposal]                                                                                       | Biology, Biochemistry, Biophysics | 1      | 7         |
| Yuelan Li (P)                             | C  | University of Florida               | Department of Chemistry                                        | NIH                          | NIH - National Institute of General Medical Sciences            | GM144076             |            |                                                                                                                                             |                                   |        |           |
| Surasree Rakshit (G)                      | C  | Advanced Magnet Lab, Inc.           | Chemistry                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Jose Abisambra (S)                        | PI | University of Florida               | Neuroscience                                                   | NIH                          | NIA - National Institute on Aging                               | AG074584             | P20059     | ABISAMBRA-001: Interaction between early tau protein abnormalities and amyloid beta proteins in the brain, hallmarks of Alzheimer's disease | Biology, Biochemistry, Biophysics | 1      | 21.5      |
| Davin Barroso (O)                         | C  | University of Florida               | Neuroscience                                                   | NIH                          | NIA - National Institute on Aging                               | AG075900             |            |                                                                                                                                             |                                   |        |           |
| Diana Cuesta Torres (P)                   | C  | University of Florida               | Neuroscience                                                   |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Camelia Foroozhar (U)                     | C  | University of Florida               | Neuroscience                                                   |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| John Koren (S)                            | C  | University of Florida               | Center for Translational Research in Neurodegenerative Disease |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Michael Pizzi (S)                         | C  | University of Florida               | Neurology                                                      |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Sakthivel Ravi (S)                        | C  | University of Florida               | Neuroscience                                                   |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |
| Diego Rubio (O)                           | C  | University of Florida               | Center for Translational Research in Neurodegenerative Disease |                              |                                                                 |                      |            |                                                                                                                                             |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                       |                                                   | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                                                                        | Proposal #                                                            | Proposal Title                           | Discipline                                             | Exp. #                            | Days Used |     |
|-------------------------------------------|----|---------------------------------------|---------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------|-----------------------------------|-----------|-----|
| Sergey Vasenkov (S)                       | PI | University of Florida                 | Chemical Engineering                              | Honeywell Inc                                          | #S0581942<br>LAW-2023-0950<br>(EM11709.T07)<br>CBET2312001<br>CBET2427603<br>CBET2135662<br>CBET2135766<br>CBET2034734 | P20079                                                                | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics                      | 2                                 | 43.67     |     |
| Jason Bara (S)                            | C  | University of Alabama, Tuscaloosa     | Department of Chemical and Biological Engineering | Exxon Mobil                                            |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Rebecca Bivins (G)                        | C  | Georgia Institute of Technology       | Chemical and Biomolecular Engineering             | NSF                                                    |                                                                                                                        | CBET - Chemical, Bioengineering, Environmental, and Transport Systems |                                          |                                                        |                                   |           |     |
| Omar Boloki (G)                           | C  | University of Florida                 | Chemical Engineering                              | NSF                                                    |                                                                                                                        | CBET - Chemical, Bioengineering, Environmental, and Transport Systems |                                          |                                                        |                                   |           |     |
| Abbas Kothawala (U)                       | C  | University of Florida                 | Chemical Engineering                              | NSF                                                    |                                                                                                                        | CBET - Chemical, Bioengineering, Environmental, and Transport Systems |                                          |                                                        |                                   |           |     |
| Sree Laxmi (G)                            | C  | University of Florida                 | Chemical Engineering Department                   | NSF                                                    |                                                                                                                        | CBET - Chemical, Bioengineering, Environmental, and Transport Systems |                                          |                                                        |                                   |           |     |
| Ryan Lively (S)                           | C  | Georgia Institute of Technology       | School of Chemical & Biomolecular Engineering,    | NSF                                                    |                                                                                                                        | CBET - Chemical, Bioengineering, Environmental, and Transport Systems |                                          |                                                        |                                   |           |     |
| Joshua Moon (S)                           | C  | University of Florida                 | Department of Chemical Engineering                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Zachary Smith (S)                         | C  | Massachusetts Institute of Technology | Chemical Engineering                              |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Jared Baisden (P)                         | PI | Scripps Research Institute, Florida   | Chemistry                                         | Expansion Therapeutics, Jupiter, FL                    | Other                                                                                                                  | Peter Connolly                                                        | P20189                                   | CONNOLLY-001: [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics | 1         | 10  |
| Joseph Marcinko (S)                       | PI | Polymer Synergies, LLC                | President                                         | Polymer Synergies LLC                                  |                                                                                                                        |                                                                       | P20320                                   | [Independently-funded Research Proposal]               | Biology, Biochemistry, Biophysics | 1         | 8   |
| Matthew Farrer (S)                        | PI | University of Florida                 | Neurology                                         | MSA Coalition                                          | US Foundation                                                                                                          | CoreG-2021-07-002                                                     | P20325                                   | [Independently-funded Research Proposal]               | Biology, Biochemistry, Biophysics | 1         | 7   |
| Marcelo Febo (S)                          | C  | University of Florida                 | Psychiatry                                        |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Matteo Grudny (G)                         | C  | University of Florida                 | Psychiatry - ADRC                                 |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Melissa Maczis (P)                        | C  | University of Florida                 | Neurology                                         |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Matthew Merritt (S)                       | PI | University of Florida                 | Biochemistry and Molecular Biology                | NIH                                                    | NIBIB - National Institute for Biomedical Imaging and Bioengineering                                                   | EB032376                                                              | P20326                                   | [Independently-funded Research Proposal]               | Biology, Biochemistry, Biophysics | 1         | 84  |
| Guna Teja Athota (G)                      | C  | University of Florida                 | Department of Biochemistry and Molecular Biology  | NIH                                                    | NIDDK - National Institute of Diabetes and Digestive and Kidney Diseases                                               | DK132254                                                              |                                          |                                                        |                                   |           |     |
| Arshad Badar (T)                          | C  | University of Florida                 | Biochemistry and Molecular Biology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Alan Carter (G)                           | C  | University of Florida                 | Biochemistry & Molecular Biology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Mario Chang Reyes (G)                     | C  | University of Florida                 | Biochemistry & Molecular Biology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Max Glanz (G)                             | C  | University of Florida                 | Biochemistry and Molecular Biology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Manoj Madheswaran (P)                     | C  | University of Florida                 | Biochemistry and Molecular Biology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Vinay Malut (G)                           | C  | University of Florida                 | Department of Molecular Biology and Biochemistry  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Sameer Naik (U)                           | C  | University of Florida                 | Biochemistry and Molecular Biology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Geraldine Pierre (U)                      | C  | University of Florida                 | Biochemistry and Molecular Biology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Anna Rushin (G)                           | C  | University of Florida                 | Biochemistry and Molecular Biology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Krish Saluja (U)                          | C  | University of Florida                 | Biochemistry                                      |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Gaurav Sharma (P)                         | C  | University of Florida                 | BMB                                               |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Hannah Skwarek (U)                        | C  | University of Florida                 | Biochemistry & Molecular Biology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Kaushal Vedula (U)                        | C  | University of Florida                 | Biochemistry and Molecular Biology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Joanna Long (S)                           | PI | University of Florida                 | Biochemistry & Molecular Biology                  | NIH                                                    | NIGMS - National Institute of General Medical Sciences                                                                 | GM148766                                                              | P20349                                   | [Independently-funded Research Proposal]               | Biology, Biochemistry, Biophysics | 1         | 111 |
| James Collins (O)                         | C  | University of Florida                 | Biochemistry & Molecular Biology                  | NIH                                                    | NIDCR - National Institute of Dental and Craniofacial Research                                                         | DE021789                                                              |                                          |                                                        |                                   |           |     |
| Ying Li (O)                               | C  | University of Florida                 | McKnight Brain Institute                          | NSF                                                    | DMR - Division of Materials Research                                                                                   | DMR2128556                                                            |                                          |                                                        |                                   |           |     |
| M Luiza Noqueira (S)                      | C  | University of Florida                 | AMRIS                                             |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Qingqing (Emily) Peng (G)                 | C  | University of Florida                 | Department of Biochemistry and Molecular Biology  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Cathrine Pukwa (P)                        | C  | University of Florida                 | Biochemistry and Molecular Biology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Neel Shah (U)                             | C  | University of Florida                 | Biochemistry & Molecular Biology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Ryan Smith (U)                            | C  | University of Florida                 | Biochemistry & Molecular Biology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Diana Tymochko (U)                        | C  | University of Florida                 | Biochemistry & Molecular Biology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| David Vaillancourt (S)                    | PI | University of Florida                 | Applied Physiology and Kinesiology                | NIH                                                    | NINDS - National Institute of Neurological Disorders and Stroke                                                        | NS058487                                                              | P20351                                   | [Independently-funded Research Proposal]               | Biology, Biochemistry, Biophysics | 1         | 8.5 |
| Rabeya Zinnat Adury (G)                   | C  | University of Florida                 | Applied physiology and kinesiology                | NIH                                                    | NIA - National Institute on Aging                                                                                      | AG066506                                                              |                                          |                                                        |                                   |           |     |
| Sanjana Ande (U)                          | C  | University of Florida                 | UF Health and Human Performance                   | NIH                                                    | NINDS - National Institute of Neurological Disorders and Stroke                                                        | NS082168                                                              |                                          |                                                        |                                   |           |     |
| David Arpin (P)                           | C  | University of Florida                 | Applied Physiology and Kinesiology                | NIH                                                    | NINDS - National Institute of Neurological Disorders and Stroke                                                        | NS119562                                                              |                                          |                                                        |                                   |           |     |
| Robin Chen (G)                            | C  | University of Florida                 | UF Health and Human Performance                   |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Evankeles Christou (S)                    | C  | University of Florida                 | Applied Physiology and Kinesiology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Savannah Duff (U)                         | C  | University of Florida                 | UF Health and Human Performance                   |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Freydell Espinoza (G)                     | C  | University of Florida                 | Applied Physiology & Kinesiology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Marcelo Febo (S)                          | C  | University of Florida                 | Psychiatry                                        |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Hannah Hardegree (S)                      | C  | University of Florida                 | Applied Physiology and Kinesiology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| John Hayworth (U)                         | C  | University of Florida                 | APK                                               |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Owen Keller (U)                           | C  | University of Florida                 | UF Health and Human Performance                   |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Valeria Kovtun (U)                        | C  | University of Florida                 | Applied Physiology & Kinesiology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Kamalika Kummathi (U)                     | C  | University of Florida                 | UF Health and Human Performance                   |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Joonhoo Lee (G)                           | C  | University of Florida                 | Applied Physiology & Kinesiology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Allison Leimkuhler (U)                    | C  | University of Florida                 | APK                                               |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Jason León (U)                            | C  | University of Florida                 | UF Health and Human Performance                   |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Hong Li (S)                               | C  | Florida State University              | Chemistry                                         |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Yuqing Li (S)                             | C  | University of Florida                 | Neurology                                         |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Max Lin (U)                               | C  | University of Florida                 | UF Health and Human Performance                   |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Nikolaus McFarland (S)                    | C  | University of Florida                 | Department of Neurology                           |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Kelsey Nao (U)                            | C  | University of Florida                 | UF Health and Human Performance                   |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Michael Okun (S)                          | C  | University of Florida                 | Neurology                                         |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Regan Roth (U)                            | C  | University of Florida                 | Department of Applied Physiology & Kinesiology    |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Dimitri Selimos (U)                       | C  | University of Florida                 | Applied Physiology and Kinesiology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Nirvana Soundara (U)                      | C  | University of Florida                 | Applied Physiology & Kinesiology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Emily Tobin (G)                           | C  | University of Florida                 | Applied Physiology and Kinesiology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Allison Traiser (U)                       | C  | University of Florida                 | UF Health and Human Performance                   |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Bradley Wilkes (S)                        | C  | University of Florida                 | Applied Physiology and Kinesiology                |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |
| Francisco Zhou (T)                        | C  | University of Florida                 | Applied Physiology & Kinesiology                  |                                                        |                                                                                                                        |                                                                       |                                          |                                                        |                                   |           |     |

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| Participants<br>(Name, Role, Org., Dept.) |    |                               |                                                | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                                         |                   | Proposal #   | Proposal Title                           | Discipline                               | Exp. #                            | Days Used |   |
|-------------------------------------------|----|-------------------------------|------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------|--------------|------------------------------------------|------------------------------------------|-----------------------------------|-----------|---|
| Hendrik Luesch (S)                        | PI | University of Florida         | College of Pharmacy                            | NIH                                                    | NIH                                                                                     | NIH               | NIH          | NIH                                      | NIH                                      | NIH                               | NIH       |   |
| Kalina Atanasova (T)                      | C  | University of Florida         | Medicinal Chemistry                            |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Jeremiah Batucan (G)                      | C  | University of the Philippines | Marine Science Institute                       |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Manvun Chen (S)                           | C  | University of Florida         | Medicinal Chemistry                            |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Qiyin Chen (P)                            | C  | University of Florida         | unknown                                        |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Haeveon (Halev) Choi (U)                  | C  | University of Florida         | Medicinal Chemistry                            |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Larissa Costa de Almeida (P)              | C  | University of Florida         | Medicinal Chemistry                            |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Emma Ellis (G)                            | C  | University of Florida         | UF Medicinal Chemistry                         |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Malles Kathe (S)                          | C  | University of Florida         | Medicinal Chemistry                            |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Sofia Kokkaliari (P)                      | C  | University of Florida         | Medicinal chemistry                            |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Ranjala Ratnayake (S)                     | C  | University of Florida         | Medicinal Chemistry                            |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Hoan Dan Tam Pham (G)                     | C  | University of Florida         | UF Medicinal Chemistry                         |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Tracy Centanni (S)                        | PI | University of Florida         | Speech, Language, and Hearing Sciences         | NIH                                                    | NICHD - Eunice Kennedy Shriver National Institute of Child Health and Human Development | HD103479          | P20450       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 23.5      |   |
| Brenton Cooper (S)                        | C  | Texas Christian University    | Psychology                                     |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| John Ligon (S)                            | PI | University of Florida         | Pediatric Oncology                             | Chadlough Defeat DIPG Foundation                       | US Foundation                                                                           | AGR0002828        | P20569       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 3         |   |
| Rachel Moor (P)                           | C  | University of Florida         | Neurosurgery                                   |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| May Khanna (S)                            | PI | University of Florida         | Department of Pharmacology & Therapeutics      | NIH                                                    | NINDS - National Institute of Neurological Disorders and Stroke                         | NS136684          | P20821       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 55.5      |   |
| Amelia Bunnell (G)                        | C  | University of Florida         | Pharmacology and Therapeutics                  | DOD                                                    | Other                                                                                   | HT94252410194     |              |                                          |                                          |                                   |           |   |
| Akash Rajaram (G)                         | C  | University of Florida         | Pharmacology and Therapeutics                  | DOD                                                    | Other                                                                                   | HT94252310810     |              |                                          |                                          |                                   |           |   |
| Marina Rodriguez Sanchez (S)              | C  | University of Florida         | Department of Pharmacology & Therapeutics      | Forebatten Foundation                                  | US Foundation                                                                           | AGR DTD 3-26-2024 |              |                                          |                                          |                                   |           |   |
| Orlando Laitano (S)                       | PI | University of Florida         | Department of Applied Physiology & Kinesiology | NIH                                                    | NIAMS - National Institute of Arthritis and Musculoskeletal and Skin Diseases           | AR084591          | P20822       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 16.5      |   |
| Armina Azam (U)                           | C  | University of Florida         | Applied Physiology & Kinesiology               | NIH                                                    | NIA - National Institute on Aging                                                       | AG072011          |              |                                          |                                          |                                   |           |   |
| Michele Moraes (P)                        | C  | University of Florida         | Applied Physiology & Kinesiology               | DOD                                                    | Other                                                                                   | HT9425-23-1-0769  |              |                                          |                                          |                                   |           |   |
| Bradley Wilkes (S)                        | C  | University of Florida         | Applied Physiology and Kinesiology             | DOD                                                    | Other                                                                                   | HT9425-24-1-0275  |              |                                          |                                          |                                   |           |   |
| Paramita Chakrabarty (S)                  | PI | University of Florida         | Biology                                        | NIH                                                    | NIA - National Institute on Aging                                                       | AG055798          | P20925       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 12        |   |
| Marcelo Febo (S)                          | C  | University of Florida         | Psychiatry                                     |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Matteo Grudny (G)                         | C  | University of Florida         | Psychiatry - ADRC                              |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Sandra Loessen (S)                        | PI | University of Florida         | Chemistry                                      | NSF                                                    | IOS - Integrative Organismal Systems                                                    | IOS2124120        | P20926       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 11.5      |   |
| Grace Dyer (G)                            | C  | University of Florida         | Whitney Laboratory for Marine Bioscience       | NSF                                                    | IOS - Integrative Organismal Systems                                                    | IOS2314456        |              |                                          |                                          |                                   |           |   |
| Saia Green (G)                            | C  | University of Florida         | Whitney Laboratory for Marine Bioscience       |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Joseph Mancun (G)                         | C  | University of Florida         | Whitney Laboratory for Marine Bioscience       |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Erin Marshall (G)                         | C  | University of Florida         | Whitney Lab                                    |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Bastien Petit (P)                         | C  | University of Florida         | Whitney Lab                                    |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Joshua Moon (S)                           | PI | University of Florida         | Department of Chemical Engineering             | NSF                                                    | CBET - Chemical, Bioengineering, Environmental, and Transport Systems                   | CBET2427603       | P20936       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 44.33     |   |
| Ryan Johnson (G)                          | C  | University of Florida         | Department of Chemical Engineering             |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Jinqiu Tan (U)                            | C  | University of Florida         | Department of Chemical Engineering             |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Akhilesh Upasani (G)                      | C  | University of Florida         | Chemical Engineering                           |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Sergey Vasenkov (S)                       | C  | University of Florida         | Chemical Engineering                           |                                                        |                                                                                         |                   |              |                                          |                                          |                                   |           |   |
| Xingui Liu (S)                            | PI | University of Florida         | Medicinal Chemistry                            | University of Florida                                  | US College and University                                                               | Startup Funds     | P20937       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 5         |   |
| Bradley Wilkes (S)                        | PI | University of Florida         | Applied Physiology and Kinesiology             | No other support                                       |                                                                                         |                   | P21099       | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics        | 1                                 | 13        |   |
| Yousong Ding (S)                          | PI | University of Florida         | Medicinal Chemistry                            | NIH                                                    | NIH                                                                                     | NIH               | R35 GM128742 | P21100                                   | [Independently-funded Research Proposal] | Biology, Biochemistry, Biophysics | 1         | 5 |
| Amit Mondal (G)                           | C  | University of Florida         | Medicinal Chemistry                            | NIH                                                    | NIH                                                                                     | NIH               | RM1 GM145426 |                                          |                                          |                                   |           |   |
|                                           |    |                               |                                                | NSF                                                    | CHE - Chemistry                                                                         |                   | CHE2108383   |                                          |                                          |                                   |           |   |
| Total Proposals:                          |    |                               |                                                |                                                        |                                                                                         |                   |              |                                          |                                          | Experiments:                      | Days:     |   |
|                                           |    |                               |                                                |                                                        |                                                                                         |                   |              |                                          | 26                                       | 28                                | 697       |   |



## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                            | Funding Sources<br>(Funding Agency, Division, Award #) |                             | Proposal # | Proposal Title                                                                                                                        | Discipline                       | Exp. # | Days Used |
|-------------------------------------------|----|--------------------------------------------|--------------------------------------------------------|-----------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------|-----------|
| Alimamy Bangura (S)                       | PI | National High Magnetic Field Laboratory    | CMS                                                    | No other support            | P19255     | High field probe development - noise reduction and in-field thermometry calibration                                                   | Condensed Matter Physics         | 3      | 14.14     |
| Troy Bunnin (T)                           | C  | National High Magnetic Field Laboratory    | DC Field                                               |                             |            |                                                                                                                                       |                                  |        |           |
| Yimiao Guo (G)                            | C  | University of Illinois at Urbana-Champaign | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Hansol Kim (G)                            | C  | University of Illinois at Urbana-Champaign | Department of Physics                                  |                             |            |                                                                                                                                       |                                  |        |           |
| Shiyu Li (G)                              | C  | University of Illinois Urbana-Champaign    | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Zhanguang Lu (S)                          | C  | Florida State University                   | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Cyde Martin (T)                           | C  | National High Magnetic Field Laboratory    | DC Instrumentation                                     |                             |            |                                                                                                                                       |                                  |        |           |
| Robby Nowell (T)                          | C  | National High Magnetic Field Laboratory    | DC User Support                                        |                             |            |                                                                                                                                       |                                  |        |           |
| Daniilo Roberto Ratkovski (O)             | C  | National High Magnetic Field Laboratory    | CMS                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Dmitry Semenov (T)                        | C  | National High Magnetic Field Laboratory    | DC Field                                               |                             |            |                                                                                                                                       |                                  |        |           |
| Pengjie Wang (S)                          | C  | University of Illinois at Urbana-Champaign | Department of Physics                                  |                             |            |                                                                                                                                       |                                  |        |           |
| Andrew Woods (S)                          | C  | National High Magnetic Field Laboratory    | CMS                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Shengzhi Zhang (S)                        | C  | National High Magnetic Field Laboratory    | CMS                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Tim Murphy (S)                            | PI | National High Magnetic Field Laboratory    | DC Field Facility                                      | No other support            | P19611     | Testing of DCF magnets, power supplies and associated equipment                                                                       | Condensed Matter Physics         | 1      | 1         |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory    | CMS                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Andy Powell (S)                           | C  | National High Magnetic Field Laboratory    | Operations                                             |                             |            |                                                                                                                                       |                                  |        |           |
| Julia Smith (S)                           | C  | National High Magnetic Field Laboratory    | DC Field                                               |                             |            |                                                                                                                                       |                                  |        |           |
| Eric Stiers (O)                           | C  | National High Magnetic Field Laboratory    | DC Field                                               |                             |            |                                                                                                                                       |                                  |        |           |
| Yasu Takano (S)                           | PI | University of Florida                      | Physics                                                | No other support            | P19638     | Calorimetric and magnetic studies of quantum spin liquid candidates                                                                   | Condensed Matter Physics         | 1      | 5.84      |
| Nathanael Fortune (S)                     | C  | Smith College                              | Department of Physics                                  |                             |            |                                                                                                                                       |                                  |        |           |
| Scott Hansma (S)                          | C  | National High Magnetic Field Laboratory    | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Joyce Palmer-Fortune (S)                  | C  | Smith College                              | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Jiaqiang Yan (S)                          | C  | Oak Ridge National Laboratory              | Materials Science and Technology Division              | Commonwealth Fusion Systems | P19831     | Angularly Resolved Critical Current Characterization of REBCO High Temperature Superconductors for High-Field Fusion Magnets          | Development of Magnet Technology | 2      | 12.95     |
| Brandon Sorbom (S)                        | PI | Commonwealth Fusion Systems                | Research & Development                                 |                             |            |                                                                                                                                       |                                  |        |           |
| Yinglai Chen (T)                          | C  | Commonwealth Fusion Systems                | R&D                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| JL (Jie Lee-Ling) Cheng (S)               | C  | Commonwealth Fusion Systems                | Research & Development                                 |                             |            |                                                                                                                                       |                                  |        |           |
| Ashleigh Francis (S)                      | C  | Commonwealth Fusion Systems                | R&D                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Jan Jaroszynski (S)                       | C  | National High Magnetic Field Laboratory    | CMS                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Victor Ogunjimi (S)                       | C  | Commonwealth Fusion Systems                | HTS R&D                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Maise Shepard (S)                         | C  | Commonwealth Fusion Systems                | R&D                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Axia Xu (S)                               | C  | Florida State University                   | ASC                                                    | UCLA start-up fund          | P19890     | Probing spin and pseudospin degrees of freedom in 2D semiconducting transition metal dichalcogenide heterostructures                  | Condensed Matter Physics         | 2      | 14        |
| Qianhui Shi (S)                           | PI | University of California, Los Angeles      | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Edgar Elias Bernabe (G)                   | C  | University of California, Los Angeles      | physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Mian Mandigo-Stoba (G)                    | C  | University of California, Los Angeles      | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Luis Jauregui (S)                         | PI | University of California, Irvine           | Department of Physics and Astronomy                    | NSF                         | P19933     | Magnetotransport of gate-tunable van der Waals topological heterostructures                                                           | Condensed Matter Physics         | 1      | 4.56      |
| Marshall Campbell (G)                     | C  | University of California, Irvine           | Physics and Astronomy                                  |                             |            |                                                                                                                                       |                                  |        |           |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory    | DC Field / CMS                                         |                             |            |                                                                                                                                       |                                  |        |           |
| Jinyu Liu (P)                             | C  | University of California, Irvine           | Department of Physics and Astronomy                    |                             |            |                                                                                                                                       |                                  |        |           |
| Robert Welsch (G)                         | C  | University of California, Irvine           | Department of Physics and Astronomy                    | DOE                         | P19938     | Emergent magnetotransport phenomena of geometrically frustrated heterostructures                                                      | Condensed Matter Physics         | 1      | 7         |
| Jan Liu (S)                               | PI | University of Tennessee, Knoxville         | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory    | Physics Department                                     |                             |            |                                                                                                                                       |                                  |        |           |
| Seunghoon Song (G)                        | C  | University of Tennessee, Knoxville         | Department of Physics and Astronomy                    |                             |            |                                                                                                                                       |                                  |        |           |
| Chetan Duttal (S)                         | PI | Kennesaw State University                  | Physics                                                | DOE                         | P19941     | Study of quantum oscillations in possible Weyl semimetal candidate NdAlGe                                                             | Condensed Matter Physics         | 2      | 14        |
| Tobias Beyer (U)                          | C  | Kennesaw State University                  | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Alex Eaton (S)                            | PI | University of Cambridge                    | Physics                                                | EPSRC UK                    | P19943     | High magnetic field study of a spin-triplet superconductor candidate                                                                  | Condensed Matter Physics         | 1      | 5.9       |
| Hanyu Chen (G)                            | C  | University of Cambridge                    | Physics quantum matter                                 |                             |            |                                                                                                                                       |                                  |        |           |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory    | DC Field / CMS                                         |                             |            |                                                                                                                                       |                                  |        |           |
| Mengmeng Long (G)                         | C  | University of Cambridge                    | Department of Physics                                  |                             |            |                                                                                                                                       |                                  |        |           |
| Thao Weinberger (G)                       | C  | University of Cambridge                    | Cavendish Laboratory                                   |                             |            |                                                                                                                                       |                                  |        |           |
| Zheyu Wu (S)                              | C  | National High Magnetic Field Laboratory    | Condensed Matter Science, DC field                     |                             |            |                                                                                                                                       |                                  |        |           |
| Christianne Beekman (S)                   | PI | National High Magnetic Field Laboratory    | Physics                                                |                             | P19955     | Study of the Magneto-elastic Coupling in Thin Films and Bulk Samples of Frustrated Magnets                                            | Condensed Matter Physics         | 3      | 28        |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory    | DC Field / CMS                                         | NSF                         |            |                                                                                                                                       |                                  |        |           |
| Alycia Bella Lake (S)                     | C  | Helmholtz Zentrum-Berlin                   | QM-IQM                                                 |                             |            |                                                                                                                                       |                                  |        |           |
| Dillon McMamara (G)                       | C  | Florida State University                   | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Jennifer Reid (P)                         | C  | National High Magnetic Field Laboratory    | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Wei Pan (S)                               | PI | Sandia National Laboratories               | Materials Physics Department                           | DOE                         | P20027     | Electronic transport and optical studies of semiconductor artificial quantum materials                                                | Condensed Matter Physics         | 2      | 14        |
| Kent Smith (S)                            | C  | Sandia National Laboratories               | 8351                                                   |                             |            |                                                                                                                                       |                                  |        |           |
| Henry Travaglini (P)                      | C  | Sandia National Laboratories               | Materials Physics                                      | DOE                         | P20028     | Anomalous Landau levels and magneto-excitons in chiral 2D hybrid organic inorganic perovskites with strong Rashba spin-orbit coupling | Condensed Matter Physics         | 1      | 5         |
| Z. Vally Vardeny (S)                      | PI | University of Utah                         | Department of Physics & Astronomy                      |                             |            |                                                                                                                                       |                                  |        |           |
| Rikard Bodin (G)                          | C  | University of Utah                         | Physics & Astronomy                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Isaac Brown (G)                           | C  | University of Utah                         | Physics & Astronomy                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Heshan Hewa Walpitage (G)                 | C  | University of Utah                         | Department of Physics and Astronomy                    |                             |            |                                                                                                                                       |                                  |        |           |
| Uyen Huynh (P)                            | C  | University of Utah                         | Physics                                                |                             |            |                                                                                                                                       |                                  |        |           |
| Stephen McGill (S)                        | C  | National High Magnetic Field Laboratory    | Condensed Matter Science                               |                             |            |                                                                                                                                       |                                  |        |           |
| Daniel Nikiforov (P)                      | C  | University of Utah                         | Department of Physics & Astronomy                      |                             |            |                                                                                                                                       |                                  |        |           |
| Brod Pandey (G)                           | C  | University of Utah                         | Physics and Astronomy                                  |                             |            |                                                                                                                                       |                                  |        |           |
| Dmitry Smlimov (S)                        | C  | National High Magnetic Field Laboratory    | Instrumentation & Operations                           |                             |            |                                                                                                                                       |                                  |        |           |
| Sergei Zvyagin (S)                        | PI | Helmholtz Zentrum Dresden-Rossendorf       | Dresden High Magnetic Field Laboratory                 |                             | P20035     | Frustration and competing interactions in quantum antiferromagnets                                                                    | Condensed Matter Physics         | 1      | 7         |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory    | DC Field / CMS                                         |                             |            |                                                                                                                                       |                                  |        |           |
| Jochim Wosnitza (S)                       | C  | Helmholtz Zentrum Dresden-Rossendorf       | Dresden High Magnetic Field Laboratory (HLD)           |                             |            |                                                                                                                                       |                                  |        |           |
| Mansour Shayegan (S)                      | PI | Princeton University                       | Department of Electrical and Computer Engineering      | NSF                         | P20041     | Role of layer thickness on enhancement of spin susceptibility of an interacting 2DES                                                  | Condensed Matter Physics         | 1      | 14        |
| Casey Calhoun (G)                         | C  | Princeton University                       | Electrical and Computer Engineering                    |                             |            |                                                                                                                                       |                                  |        |           |
| Aadbut Gupta (P)                          | C  | Princeton University                       | Electrical and Computer Engineering                    | DOE                         |            |                                                                                                                                       |                                  |        |           |
| Siddharth Kumar Singh (G)                 | C  | Princeton University                       | Electrical Engineering                                 |                             |            |                                                                                                                                       |                                  |        |           |
| Chia-Tao Tai (G)                          | C  | Princeton University                       | Electrical and Computer Engineering                    | DOE                         |            |                                                                                                                                       |                                  |        |           |
| Chengyu Wang (G)                          | C  | Princeton University                       | Electrical and Computer Engineering                    |                             |            |                                                                                                                                       |                                  |        |           |
| Vincent Sefweniamukam (S)                 | PI | University of Houston                      | Mechanical Engineering                                 | DOE                         | P20049     | Critical current characterization of STAR® REBCO wires at 4.2 K and very high magnetic fields                                         | Development of Magnet Technology | 1      | 3.2       |
| Nghia Mai (G)                             | C  | Ampeers LLC                                | Mechanical Engineering                                 |                             |            |                                                                                                                                       |                                  |        |           |
| Rastislav Ries (P)                        | C  | Florida State University                   | ASC                                                    |                             |            |                                                                                                                                       |                                  |        |           |
| Bhabesh Sarangi (G)                       | C  | University of Houston                      | Material Science and Engineering                       |                             |            |                                                                                                                                       |                                  |        |           |
| Manoj Thevalappilly Paulose (G)           | C  | University of Houston                      | Mechanical and Aerospace Engineering                   |                             |            |                                                                                                                                       |                                  |        |           |
| Shengchen Xue (S)                         | C  | Ampeers LLC                                | Technology Bridge                                      |                             |            |                                                                                                                                       |                                  |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                 | Funding Sources<br>(Funding Agency, Division, Award #)     |                                             |                             | Proposal #                                                          | Proposal Title                                                                    | Discipline                                                                                                                  | Exp. #                                                                                                                       | Days<br>Used                                              |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
|-------------------------------------------|----|-------------------------------------------------|------------------------------------------------------------|---------------------------------------------|-----------------------------|---------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------|------------------------------------------------------------------------------------|-----------------------------------------------|--------------------------|---------------------------------------------------------------------|-------------|--------|----------------------------------------------|--------------------------|---|---|
| Natia Frank (S)                           | PI | University of Nevada Reno                       | Chemistry                                                  | DOE                                         | BES – Basic Energy Sciences | DE-SC0022258                                                        | P20070                                                                            | EPR Investigation of Optically Gated Spin State Switching in Photochromic Cobalt Dioxolones for Quantum Information Science | Chemistry                                                                                                                    | 1                                                         | 7                        |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Anitha Alanthadka (P)                     | C  | University of Nevada Reno                       | Department of Chemistry                                    | NSF                                         | CHE - Chemistry             | CHE1956301                                                          |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Subrata Ghosh (P)                         | C  | University of Nevada Reno                       | Chemistry                                                  |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Brittany Grimm (G)                        | C  | Florida State University                        | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Stephen Hill (S)                          | C  | National High Magnetic Field Laboratory         | EMR                                                        |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Elvin Salerno (P)                         | C  | National High Magnetic Field Laboratory         | EMR                                                        |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Johan van Tol (S)                         | C  | National High Magnetic Field Laboratory         | EMR                                                        |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Lucie Norel (S)                           | PI | Université de Rennes 1                          | ISCR                                                       | No other support                            |                             | P20122                                                              | Multifunctional Molecular Magnets based on Lanthanide Ions and Functional Ligands | Chemistry                                                                                                                   | 2                                                                                                                            | 14                                                        |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Kevin Bernot (S)                          | C  | National Institute for Applied Sciences, Rennes | INSA-CSM                                                   |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory         | Condensed Matter Science, DC Field CMS                     | NSF                                         | Other                       | 2336011                                                             | P20127                                                                            | Electronic properties of topological materials under high pressure                                                          | Condensed Matter Physics                                                                                                     | 2                                                         | 16.29                    |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Dmitry Smirnov (S)                        | C  | National High Magnetic Field Laboratory         | Instrumentation & Operations                               |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          | VSP                                                                                | VSP, Project # 12707                          |                          |                                                                     |             |        |                                              |                          |   |   |
| Keshav Shrestha (S)                       | PI | Texas A&M University                            | Chemistry and Physics                                      | VSP                                         | 433                         | P20131                                                              |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          | Low-temperature measurements of 51V NMR relaxation times in single crystal of V3Si | Condensed Matter Physics                      | 3                        | 20                                                                  |             |        |                                              |                          |   |   |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory         | DC Field / CMS                                             |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Cole Phillips (G)                         | C  | West Texas A&M University                       | Chemistry and Physics                                      |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Kyryl Shitlenko (U)                       | C  | West Texas A&M University                       | Chemistry and Physics                                      | University of South Alabama                 |                             | US College and University                                           |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          | P20144                                                                             | Unusual Magnetotransport in Layered Materials | Condensed Matter Physics | 2                                                                   | 12.29       |        |                                              |                          |   |   |
| Albert Gapud (S)                          | PI | University of South Alabama                     | Department of Physics                                      |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Rong Gong (S)                             | C  | National High Magnetic Field Laboratory         | Condensed Matter Science                                   |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Arnell Reyes (S)                          | C  | National High Magnetic Field Laboratory         | Condensed Matter Science/DCFF                              |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Daniel Smith (U)                          | C  | University of South Alabama                     | Physics                                                    | NSF                                         |                             | DOE                                                                 | DMR - Division of Materials Research<br>BES – Basic Energy Sciences               | DMR2238254<br>GR017341                                                                                                      | P20145                                                                                                                       | Magneto-infrared spectroscopy of magnetic Weyl semimetals | Condensed Matter Physics | 2                                                                                  | 14                                            |                          |                                                                     |             |        |                                              |                          |   |   |
| Jin Hu (S)                                | PI | University of Arkansas                          | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Gokul Acharya (G)                         | C  | University of Arkansas                          | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Prince Anagbonu (G)                       | C  | University of Arkansas                          | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Rabindra Basnet (P)                       | C  | University of Arkansas at Pine Bluff            | Chemistry & Physics                                        |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Santosh Chhetri (G)                       | C  | University of Arkansas                          | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Sagar Dahal (G)                           | C  | University of Arkansas                          | Department of Physics                                      | NSF                                         | DOE                         | DMR - Division of Materials Research<br>BES – Basic Energy Sciences | DMR22003117                                                                       | P20149                                                                                                                      | New multifermionity of new layered compounds                                                                                 | Condensed Matter Physics                                  | 1                        | 7                                                                                  |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Manish Mani Sharma (P)                    | C  | University of Arkansas                          | Department of Physics                                      |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Dinesh Upreti (G)                         | C  | University of Arkansas                          | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Xiang Yuan (S)                            | PI | East China Normal University                    | state key laboratory of precision spectroscopy             |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    | East China Normal University                  |                          | Non US College and University                                       |             |        |                                              |                          |   |   |
| Yuhan Du (G)                              | C  | East China Normal University                    | State Key Laboratory of Precision Spectroscopy             |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    | East China Normal University                  |                          | State Key Laboratory of Precision Spectroscopy                      |             |        |                                              |                          |   |   |
| Xiangyu Jiang (G)                         | C  | East China Normal University                    | State Key Laboratory of Precision Spectroscopy             |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    | East China Normal University                  |                          | State Key Laboratory of Precision Spectroscopy                      |             |        |                                              |                          |   |   |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory         | Condensed Matter Science, DC Field CMS                     | NSF                                         | DOE                         | DMR - Division of Materials Research<br>BES – Basic Energy Sciences | DMR22003117                                                                       | P20149                                                                                                                      | New multifermionity of new layered compounds                                                                                 | Condensed Matter Physics                                  | 1                        | 7                                                                                  |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Zeping Shi (P)                            | C  | East China Normal University                    | State Key Laboratory of Precision Spectroscopy             |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Wenbin Wu (G)                             | C  | East China Normal University                    | State Key Laboratory of Precision Spectroscopy             |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Cheng Zhang (S)                           | C  | Fudan University                                | Institute for Nanoelectronic Devices and Quantum Computing |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Haidong Zhou (S)                          | PI | University of Tennessee, Knoxville              | Physics and Astronomy                                      |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    | NSF                                           | DOE                      | DMR - Division of Materials Research<br>BES – Basic Energy Sciences | DMR22003117 | P20149 | New multifermionity of new layered compounds | Condensed Matter Physics | 1 | 7 |
| Alexander Brasington (G)                  | C  | University of Tennessee, Knoxville              | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory         | Physics Department                                         |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Minseong Lee (S)                          | C  | National High Magnetic Field Laboratory         | MPA-MAG                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Sangyun Lee (S)                           | C  | National High Magnetic Field Laboratory         | Department of Physics                                      |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Aya Rutherford (G)                        | C  | University of Tennessee, Knoxville              | Institute for Advanced Materials and Manufacturing         |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Woun Kang (S)                             | PI | Ewha Womans University                          | Department of Physics                                      | National Science Foundation of Korea        |                             | Non US Foundation                                                   | P20154                                                                            | Search for the Fermi surface of the organic line node semi-metal HMTSF-TCNQ                                                 | Condensed Matter Physics                                                                                                     | 1                                                         | 7                        |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| YounJung Jo (S)                           | C  | Kyungpook National University                   | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Reizo Kato (S)                            | C  | RIKEN                                           | Condensed Molecular Materials Laboratory - Wako Institute  |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Jun Sung Kim (S)                          | C  | Pohang University of Science and Technology     | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Keizo Murata (S)                          | C  | Osaka Metropolitan University                   | Department of Physics, Graduate School of Science          |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Jun Sung Kim (S)                          | PI | Pohang University of Science and Technology     | Physics                                                    | Pohang University of Science and Technology |                             | Non US College and University                                       |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Min Hyuk Choi (G)                         | C  | Pohang University of Science and Technology     | Physics                                                    | NSF                                         | DOE                         | DMR - Division of Materials Research<br>BES – Basic Energy Sciences | DMR22003117                                                                       | P20165                                                                                                                      | Novel electronic phases and high-magnetic-field transport of nodal-line fermions proximate to a topological phase transition | Condensed Matter Physics                                  | 2                        | 14.2                                                                               |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| YounJung Jo (S)                           | C  | Kyungpook National University                   | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Woun Kang (S)                             | C  | Ewha Womans University                          | Department of Physics                                      |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Hoi Kim (G)                               | C  | Pohang University of Science and Technology     | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Juhyeon Kim (G)                           | C  | Kyungpook National University                   | physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Jun seong Lee (G)                         | C  | Pohang University of Science and Technology     | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Hyeonwoo Seo (G)                          | C  | Pohang University of Science and Technology     | Physics Department                                         | NSF                                         | DOE                         | DMR - Division of Materials Research<br>BES – Basic Energy Sciences | DMR22003117                                                                       | P20238                                                                                                                      | Magneto-infrared spectroscopy and quantum oscillations of novel quantum materials                                            | Condensed Matter Physics                                  | 1                        | 7                                                                                  |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Dmitri Basov (S)                          | PI | Columbia University                             | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory         | DC Field / CMS                                             |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Seng Huat Lee (S)                         | C  | Pennsylvania State University                   | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Zhiqiang Mao (S)                          | C  | Pennsylvania State University                   | Department of Physics                                      |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory         | Condensed Matter Science, DC Field CMS                     |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Yimeng Shao (S)                           | C  | Pennsylvania State University                   | Physics                                                    | NSF                                         | DOE                         | DMR - Division of Materials Research<br>BES – Basic Energy Sciences | DMR22003117                                                                       | P20243                                                                                                                      | The exploration of field induced quantum spin liquid state in new quantum magnets                                            | Condensed Matter Physics                                  | 3                        | 21                                                                                 |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Dmitry Smirnov (S)                        | C  | National High Magnetic Field Laboratory         | Instrumentation & Operations                               |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Haidong Zhou (S)                          | PI | University of Tennessee, Knoxville              | Physics and Astronomy                                      |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Alexander Brasington (G)                  | C  | University of Tennessee, Knoxville              | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory         | Physics Department                                         |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Aya Rutherford (G)                        | C  | University of Tennessee, Knoxville              | Institute for Advanced Materials and Manufacturing         |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Saunghoon Song (G)                        | C  | University of Tennessee, Knoxville              | Department of Physics and Astronomy                        | NSF                                         | DOD                         | DMR - Division of Materials Research<br>US Air Force                | FA9550-23-1-0502                                                                  | P20243                                                                                                                      | The exploration of field induced quantum spin liquid state in new quantum magnets                                            | Condensed Matter Physics                                  | 3                        | 21                                                                                 |                                               |                          |                                                                     |             |        |                                              |                          |   |   |
| Chengkun Xing (G)                         | C  | University of Tennessee, Knoxville              | Physics                                                    |                                             |                             |                                                                     |                                                                                   |                                                                                                                             |                                                                                                                              |                                                           |                          |                                                                                    |                                               |                          |                                                                     |             |        |                                              |                          |   |   |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                                    | Funding Sources<br>(Funding Agency, Division, Award #)        |                                 |                                      | Proposal #                         | Proposal Title | Discipline                                                                                                           | Exp. #                           | Days Used |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
|-------------------------------------------|----|--------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------|--------------------------------------|------------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|-------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------|----|---|
| Juan Wang (S)                             | PI | Peking University                                                  | International Center for Quantum Materials, School of Physics | Smith College                   | US College and University            | SD-60175 CFCD - Fortune, Nathanael | P20256         | Specific heat measurements of top-periodic oscillations under high magnetic field in Dirac materials ZrTe5 and HfTe5 | Condensed Matter Physics         | 1         | 5.49  |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory                            | CMS                                                           | Smith College                   | US College and University            | SD-60175 CFCD - Fortune, Nathanael | P20256         |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Nathanael Fortune (S)                     | C  | Smith College                                                      | Department of Physics                                         |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Scott Hannahs (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Robert Joynt (S)                          | C  | University of Wisconsin, Madison                                   | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Yanzhao Liu (G)                           | C  | Peking University                                                  | School of Physics                                             |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Joyce Palmer-Fortune (S)                  | C  | Smith College                                                      | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Daniilo Roberto Ratkovski (O)             | C  | National High Magnetic Field Laboratory                            | CMS                                                           |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Ziqiao Wang (P)                           | C  | Peking University                                                  | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Jun Lu (S)                                | PI | National High Magnetic Field Laboratory                            | MS&T                                                          | NSF                             | DMR - Division of Materials Research | DMR2131790                         | P20258         | REBCO delamination strength under electromagnetic force                                                              | Development of Magnet Technology | 1         | 5.15  |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Dmytro Abramov (S)                        | C  | National High Magnetic Field Laboratory                            | The Applied Superconductivity Center                          | Smith College                   | US College and University            | SD-60175 CFCD - Fortune, Nathanael | P20259         |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Jeremy Levitan (T)                        | C  | National High Magnetic Field Laboratory                            | MS&T                                                          |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Nathanael Fortune (S)                     | PI | Smith College                                                      | Department of Physics                                         |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory                            | CMS                                                           | Smith College                   | US College and University            | SD-60175 CFCD - Fortune, Nathanael | P20259         |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Scott Hannahs (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Joyce Palmer-Fortune (S)                  | C  | Smith College                                                      | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Andreas Rydh (S)                          | C  | Stockholm University                                               | Department of Physics                                         |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Paula Giraldo-Gallo (S)                   | PI | University of Los Andes                                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       | Universidad de Los Andes, Universidad Nacional de Colombia, Sistema general de regalías de Colombia, Ministerio de Ciencia de Colombia | Non US College and University | BPIN 2022000100133 | P20260                                                                         | High field study of quasi-1D transition metal chalcogenides and related charge-ordered compounds | Condensed Matter Physics | 1  | 7 |
| Ian Fisher (S)                            | C  | Stanford University                                                | Applied Physics                                               |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       | No other support                                                                                                                       |                               |                    | P20261                                                                         |                                                                                                  |                          |    |   |
| Jose Galvis Echeverri (S)                 | C  | University of Rosario                                              | School of Sciences and Engineering                            |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Isabel Guillemon (P)                      | C  | University of Bristol                                              | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Edwin Herrera Vasco (P)                   | C  | Autonomous University of Madrid                                    | Condensed Matter                                              |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Edwin Ramos Rodríguez (S)                 | C  | University of the Andes                                            | Física                                                        |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Astrid Camila Riveros Mesa (G)            | C  | National University of Colombia, Bogota                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Julian Rojas (G)                          | C  | University of Los Andes                                            | Bogota                                                        |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Diego Silvera Vega (G)                    | C  | University of Los Andes                                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Hermann Suderow (S)                       | C  | Autonomous University of Madrid                                    | Condensed Matter                                              |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Antonio Prillano (S)                      | PI | University of L'Aquila                                             | Physical and Chemical Sciences                                | No other support                |                                      |                                    | P20261         |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Shermane Benjamin (S)                     | C  | National High Magnetic Field Laboratory                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Totone Dadiani (G)                        | C  | University of L'Aquila                                             | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Zhigang Jiang (S)                         | PI | Georgia Institute of Technology                                    | School of Physics                                             | DOE                             | BES - Basic Energy Sciences          | DE-FG02-07ER46451                  | P20265         | Magneto-infrared Spectroscopy Study of Emerging Quantum Materials with Layered Structures                            | Condensed Matter Physics         | 2         | 21    |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory                            | Condensed Matter Science, DC Field CMS                        | DOE                             | BES - Basic Energy Sciences          | DE-SC0013599                       | P20269         |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Sumedh Rath (G)                           | C  | Georgia Institute of Technology                                    | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Nikolai Simonov (G)                       | C  | Georgia Institute of Technology                                    | School of Physics                                             |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Dmitry Sminov (S)                         | C  | National High Magnetic Field Laboratory                            | Instrumentation & Operations                                  |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Nanpeng Zhang (P)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| E. Dan Dahlberg (S)                       | PI | University of Minnesota, Twin Cities                               | School of Physics and Astronomy                               |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       | DOE                                                                                                                                    | BES - Basic Energy Sciences   | DE-SC0013599       | P20269                                                                         |                                                                                                  |                          |    |   |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory                            | Physics Department                                            |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Scott Hannahs (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Charles Agosta (S)                        | PI | Clark University                                                   | Department of Physics                                         | NSF                             | DMR - Division of Materials Research | DMR2408453                         | P20274         | The TDO in pulsed fields, a study of 7-(BETS)2GaCl4                                                                  | Condensed Matter Physics         | 1         | 4.22  |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory                            | CMS                                                           | NSF                             | DMR - Division of Materials Research | DMR2408453                         | P20274         |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Nathanael Fortune (S)                     | C  | Smith College                                                      | Department of Physics                                         |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Hanna Galach (G)                          | C  | Stockholm University                                               | Department of Physics                                         |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Scott Hannahs (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Akiko Kobayashi (S)                       | C  | University of Tokyo                                                | Research Centre for Spectrochemistry                          |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Lily Phillips (U)                         | C  | Smith College                                                      | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Daniilo Roberto Ratkovski (O)             | C  | National High Magnetic Field Laboratory                            | CMS                                                           |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Andreas Rydh (S)                          | C  | Stockholm University                                               | Department of Physics                                         |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Lily Schroeder (U)                        | C  | Smith College                                                      | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Laurel Winter (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                       | European Research Council (ERC) | Non US Council                       | 101164280                          | P20283         |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Philip Moll (S)                           | PI | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | Max Planck Institute for Structure and Dynamics of Matter     |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Chunyu Guo (S)                            | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | MQM                                                           |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Yining Hu (P)                             | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | Microstructured Quantum Matter                                |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Charles Meike (P)                         | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | Microstructured Quantum Matter                                |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Carsten Putzke (U)                        | C  | University of Bristol                                              | Physics                                                       |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Priscila Rosa (S)                         | C  | Los Alamos National Laboratory                                     | MPA-Q                                                         |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Ling Zhang (G)                            | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | MQM                                                           |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| David Mandrus (S)                         | PI | University of Tennessee, Knoxville                                 | Materials Science and Engineering                             |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       | Gordon and Betty Moore Foundation                                                                                                      | Other                         | GBMF9069           | P20286                                                                         |                                                                                                  |                          |    |   |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory                            | DC Field / CMS                                                |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Shirin Mozaffari (P)                      | C  | University of Tennessee, Knoxville                                 | Materials Science and Engineering                             |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| David Graf (S)                            | PI | National High Magnetic Field Laboratory                            | DC Field / CMS                                                | No other support                |                                      |                                    | P20295         | Instrumentation and Technique Development                                                                            | Condensed Matter Physics         | 6         | 44.84 |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Zhenqi Hua (G)                            | C  | Florida State University                                           | Physics                                                       | DOE                             | BES - Basic Energy Sciences          | DESC0019330                        | P20300         |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Gang Shi (P)                              | C  | Florida State University                                           | Department of Physics                                         |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Michael Shatruk (S)                       | PI | National High Magnetic Field Laboratory                            | Department of Chemistry and Biochemistry                      |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       | NSF                                                                                                                                    | CHE - Chemistry               | CHE2300779         | Crystal Structure of Valence Tautomeric Cobalt Complex in High Magnetic Fields | Material Science                                                                                 | 3                        | 28 |   |
| Shubham Bisht (G)                         | C  | Florida State University                                           | Chemistry and Biochemistry                                    |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Miguel Gakiya (G)                         | C  | Florida State University                                           | Chemistry and Biochemistry                                    |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Eduardo Hernandez Requejo (G)             | C  | Florida State University                                           | Chemistry and Biochemistry                                    | NSF                             | CHE - Chemistry                      | CHE2300779                         |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Olivia Mondal (P)                         | C  | Florida State University                                           | Chemistry and Biochemistry                                    |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory                            | Condensed Matter Science, DC Field CMS                        |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Rachel Perez Roque (G)                    | C  | Florida State University                                           | Chemistry and Biochemistry                                    |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |
| Alexey Suslov (S)                         | C  | National High Magnetic Field Laboratory                            | Condensed Matter Science                                      |                                 |                                      |                                    |                |                                                                                                                      |                                  |           |       |                                                                                                                                        |                               |                    |                                                                                |                                                                                                  |                          |    |   |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                          |                                                            | Funding Sources<br>(Funding Agency, Division, Award #) |                                                            |                    | Proposal # | Proposal Title                                                                                                                                | Discipline                       | Exp. # | Days Used |
|-------------------------------------------|----|----------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------|--------------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------|-----------|
| Janice Musfeldt (S)                       | PI | University of Tennessee, Knoxville                       | Department of Chemistry                                    | NSF                                                    | DMR - Division of Materials Research                       | DMR2226109         | P20344     | High field spectroscopy of materials with broken symmetries and strong spin-orbit coupling                                                    | Chemistry                        | 4      | \$1.44    |
| Yanhong Gu (P)                            | C  | University of Tennessee, Knoxville                       | Chemistry                                                  |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Kavishka Jayathirna (G)                   | C  | University of Tennessee, Knoxville                       | Chemistry                                                  |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Stephen McGill (S)                        | C  | National High Magnetic Field Laboratory                  | Condensed Matter Science                                   |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Ian Misiak (G)                            | C  | University of Tennessee, Knoxville                       | Chemistry                                                  |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Daniel Morris (G)                         | C  | University of Tennessee, Knoxville                       | Chemistry                                                  |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Ethege Lakahan Silva (G)                  | C  | University of Tennessee, Knoxville                       | Chemistry                                                  |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Dmitry Smirnov (S)                        | C  | National High Magnetic Field Laboratory                  | Instrumentation & Operations                               |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Kevin Smith (P)                           | C  | University of Tennessee, Knoxville                       | Chemistry                                                  |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Christanne Beekman (S)                    | PI | National High Magnetic Field Laboratory                  | Physics                                                    | NSF                                                    | DMR - Division of Materials Research                       | DMR1847887         | P20367     | Characterization of novel magnetic phases in quantum material thin films and bulk crystals                                                    | Condensed Matter Physics         | 1      | 3.62      |
| Kaylee Biggart (G)                        | C  | University of Waterloo                                   | Physics and Astronomy                                      |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Jessica Chapman (G)                       | C  | University of Cambridge                                  | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Robert Hill (S)                           | C  | University of Waterloo                                   | Physics and Astronomy                                      |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Dillon McNamara (G)                       | C  | Florida State University                                 | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Jennifer Reid (P)                         | C  | National High Magnetic Field Laboratory                  | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Suchitra Sebastian (S)                    | C  | University of Cambridge                                  | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Alexey Suslov (S)                         | C  | National High Magnetic Field Laboratory                  | Condensed Matter Science                                   |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Gennady Logvenov (S)                      | PI | Max Planck Institute for Solid State Research, Stuttgart | Thin Film Technology Facility                              | Max Planck Institute for Solid State Research          | Non US Government Lab                                      |                    | P20378     | High Magnetic Field Magnetotransport in Artificial Cuprate Superlattices                                                                      | Condensed Matter Physics         | 2      | 10.83     |
| Andrea Alimenti (S)                       | C  | Roma Tre University                                      | Dept. of Industrial, Electronic and Mechanical Engineering |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Fedor Balakirev (S)                       | C  | National High Magnetic Field Laboratory                  | PFF                                                        |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Luis Balicas (S)                          | C  | National High Magnetic Field Laboratory                  | Condensed Matter Experiment                                |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Antonio Bianconi (S)                      | C  | National Research Council CNR                            | Institute of Crystallography                               |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| G. Alexander Smith (P)                    | C  | Los Alamos National Laboratory                           | MPA-MAGLAB                                                 |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Chun Ning (Jesse) Lau (S)                 | PI | Ohio State University                                    | Department of Physics and Astronomy                        | NSF                                                    | DMR - Division of Materials Research                       | DMR2421962         | P20390     | Symmetry-broken Phases and Phase Transitions in Layered Quantum Materials                                                                     | Condensed Matter Physics         | 2      | 12.97     |
| Luis Balicas (S)                          | C  | National High Magnetic Field Laboratory                  | Condensed Matter Experiment                                | DOE                                                    | BES - Basic Energy Sciences                                | will provide later |            |                                                                                                                                               |                                  |        |           |
| Dmitry Smirnov (S)                        | C  | National High Magnetic Field Laboratory                  | Instrumentation & Operations                               |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Greyson Voigt (G)                         | C  | Ohio State University                                    | Dept of Physics                                            |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Jiayin Wang (G)                           | C  | Ohio State University                                    | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Yuxin Zhang (G)                           | C  | Ohio State University                                    | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Zheneng Zhang (G)                         | C  | Ohio State University                                    | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Jan Jaroszynski (S)                       | PI | National High Magnetic Field Laboratory                  | CMS                                                        | NSF                                                    | DMR - Division of Materials Research                       | DMR2128556         | P20394     | Critical Current in REBCO Superconducting Tapes Assessed by Torque                                                                            | Development of Magnet Technology | 2      | 7.6       |
| Jeiseok Bang (S)                          | C  | National High Magnetic Field Laboratory                  | ASC                                                        |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Jonathan Lee (G)                          | C  | National High Magnetic Field Laboratory                  | ASC                                                        |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Garfield Murphy (T)                       | C  | Florida State University                                 | ASC                                                        |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Rastislav Rias (P)                        | C  | Florida State University                                 | ASC                                                        |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Aixia Xu (S)                              | C  | Florida State University                                 | ASC                                                        |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Nikolai Kalugin (S)                       | PI | New Mexico Institute of Mining and Technology            | Department of Materials Engineering                        | NSF                                                    | Other                                                      | 2329006            | P20397     | Quantum Hall states under periodic driving                                                                                                    | Condensed Matter Physics         | 1      | 7         |
| Paola Barbara (S)                         | C  | Georgetown University                                    | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Shehan de Silva (G)                       | C  | Georgetown University                                    | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Luis Foa Torres (S)                       | C  | University of Chile                                      | Department of Physics, FCFM                                |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Yijing Liu (G)                            | C  | Georgetown University                                    | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Alexey Suslov (S)                         | C  | National High Magnetic Field Laboratory                  | Condensed Matter Science                                   |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Taylor Terrones (G)                       | C  | New Mexico Institute of Mining and Technology            | Materials Engineering Department                           |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Christopher Mizzi (S)                     | PI | * National High Magnetic Field Laboratory                | MPA-MAGLAB; MPA-MAG LAB NHMFL GROUP                        | DOE                                                    | BES - Basic Energy Sciences                                | 0                  | P20401     | Symmetry-Sensitive Detection of a Novel Magnetic Phase                                                                                        | Condensed Matter Physics         | 1      | 6.15      |
| Minseong Lee (S)                          | C  | National High Magnetic Field Laboratory                  | MPA-MAG                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Boris Malorov (S)                         | C  | National High Magnetic Field Laboratory                  | MPA-MAGLAB                                                 |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Tiema Qian (P)                            | C  | Los Alamos National Laboratory                           | MPA-Maglab                                                 |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Haidong Zhou (S)                          | C  | University of Tennessee, Knoxville                       | Physics and Astronomy                                      |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Linda Ye (S)                              | PI | California Institute of Technology                       | Mathematics, Physics and Astronomy                         | Gordon and Betty Moore Foundation                      | US Foundation                                              | GBMF12765          | P20405     | Modulating frustration in strongly spin-orbit coupled magnets via strain and magnetic fields                                                  | Condensed Matter Physics         | 2      | 10.14     |
| Adit Desai (G)                            | C  | California Institute of Technology                       | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Zhi Feng (P)                              | C  | California Institute of Technology                       | Physics, Mathematics and Astronomy                         |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Takeshi Kurumaji (S)                      | C  | California Institute of Technology                       | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Fengshuo Liu (G)                          | C  | California Institute of Technology                       | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Tao Lu (G)                                | C  | California Institute of Technology                       | Mathematics, Physics and Astronomy                         |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Gabriel Perko-Engel (G)                   | C  | California Institute of Technology                       | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Abhay Pasupathy (S)                       | PI | Columbia University                                      | Physics                                                    | NSF                                                    | MRSEC - Materials Research Science and Engineering Centers | DMR-1420634        | P20407     | Pressure tuning of flatbands in twisted homobilayer WSe2: in search of correlated topological states, superconductivity and magnetic ordering | Condensed Matter Physics         | 4      | 28        |
| John Cenker (P)                           | C  | Columbia University                                      | Physics                                                    | DOE                                                    | BES - Basic Energy Sciences                                | DE-SC00167703      |            |                                                                                                                                               |                                  |        |           |
| Augusto Ghiotto (P)                       | C  | University of California, Berkeley                       | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Yinjie Guo (G)                            | C  | Columbia University                                      | Physics Department                                         |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Daniel Ostrom (G)                         | C  | Columbia University                                      | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Jordan Pack (G)                           | C  | Columbia University                                      | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Yuan Song (G)                             | C  | Columbia University                                      | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Aya Batoul Tazi (G)                       | C  | Columbia University                                      | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Birui Yang (G)                            | C  | Columbia University                                      | Physics                                                    |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Ian Fisher (S)                            | PI | Stanford University                                      | Applied Physics                                            | Gordon and Betty Moore Foundation                      | US Foundation                                              | GBMF9068           | P20409     | Probing strain-tuned Fermi surfaces via quantum oscillations in the elastocaloric effect                                                      | Condensed Matter Physics         | 1      | 5.89      |
| Sayak Ghosh (P)                           | C  | Stanford University                                      | Applied Physics                                            |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Benito Gonzalez (G)                       | C  | Stanford University                                      | Applied Physics                                            |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Qianqi Jiang (P)                          | C  | Stanford University                                      | Applied Physics                                            |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Diana Spulber (G)                         | C  | Stanford University                                      | Applied Physics                                            |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |
| Daniel Rhodes (S)                         | PI | University of Wisconsin, Madison                         | Materials Science and Engineering                          | No other support                                       | BES - Basic Energy Sciences                                | DE-SC0023866       | P20410     | Electronic Properties of Superconducting and Topological Bulk and Few-Layer 1T Transition Metal Chalcogenides                                 | Material Science                 | 7      | 47.65     |
| Brenna Bierman (G)                        | C  | University of Wisconsin, Madison                         | Chemistry                                                  | DOE                                                    | BES - Basic Energy Sciences                                | DE-SC0023866       |            |                                                                                                                                               |                                  |        |           |
| Yangchen He (G)                           | C  | University of Wisconsin, Madison                         | Department of Material Science and Engineering             | DOE                                                    | BES - Basic Energy Sciences                                | DE-SC0023866       |            |                                                                                                                                               |                                  |        |           |
| Zhzhong Li (G)                            | C  | University of Wisconsin, Madison                         | Department of Materials Science and Engineering            | DOE                                                    | BES - Basic Energy Sciences                                | SC0023866          |            |                                                                                                                                               |                                  |        |           |
| Yikai Wang (G)                            | C  | University of Wisconsin, Madison                         | Material Science and Engineering                           |                                                        |                                                            |                    |            |                                                                                                                                               |                                  |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                                       |                                                            | Funding Sources<br>(Funding Agency, Division, Award #) |                                      |                                                                                        | Proposal # | Proposal Title                                                                                                                                                             | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|----|-----------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| James Analysis (S)                        | PI | University of California, Berkeley                                    | Physics                                                    | DOE                                                    | US Air Force                         | FA95502210270                                                                          | P20412     | High Magnetic field Investigations of the Eu122 candidate Axionic Insulators                                                                                               | Biology, Biochemistry, Biophysics | 1      | 7.65      |
| Yacine Benkirane (G)                      | C  | University of California, Berkeley                                    | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Augusto Ghiotto (P)                       | C  | University of California, Berkeley                                    | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Yuanqi Lyu (G)                            | C  | University of California, Berkeley                                    | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Kohitaro Yamakawa (G)                     | C  | University of California, Berkeley                                    | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Qixuan Zhang (G)                          | C  | University of California, San Diego                                   | MATERIAL SCIENCE AND ENGINEERING                           |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Arbab Banerjee (S)                        | PI | Purdue University                                                     | Physics and Astronomy                                      | DOE                                                    | BES – Basic Energy Sciences          | DOE BES DE-0002896                                                                     | P20413     | Low-Temperature AC Magnetic susceptibility Measurement on Two-Dimensional Honeycomb Quantum Magnet                                                                         | Condensed Matter Physics          | 1      | 7         |
| Bishnu Belbase (G)                        | C  | Purdue University                                                     | Physics and Astronomy                                      |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory                               | Physics Department                                         |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Ajrun Unnikrishnan (P)                    | C  | Purdue University                                                     | Physics and Astronomy                                      |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Henry La Pierre (S)                       | PI | Georgia Institute of Technology                                       | School of Chemistry and Biochemistry                       | DOE                                                    | QIS - Quantum Information Science    | DE-SC0023455                                                                           | P20424     | Measuring and Tuning the Effects of Crystal Field and Vibrational Degrees of Freedom on the Static and Dynamic Properties of Lanthanide and Actinide Molecular Nanomagnets | Chemistry                         | 1      | 7         |
| Maximilian Benbeck (P)                    | C  | Georgia Institute of Technology                                       | Chemistry                                                  |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Rasmus Tang Christiansen (P)              | C  | Georgia Institute of Technology                                       | School of Physics and School of Chemistry and Biochemistry |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Thierry Dubroca (S)                       | C  | National High Magnetic Field Laboratory                               | EMR                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory                               | EMR                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory                               | Condensed Matter Science, DC Field CMS                     |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Grant Wilkinson (G)                       | C  | Georgia Institute of Technology                                       | School of Chemistry                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Kim Fai Mak (S)                           | PI | Cornell University                                                    | Physics                                                    | NSF                                                    | DMR - Division of Materials Research | DMR2039380                                                                             | P20428     | Strong correlation physics in transition metal dichalcogenide                                                                                                              | Condensed Matter Physics          | 4      | 21.16     |
| Hemadri Chakraborti (P)                   | C  | Cornell University                                                    | Cornell Laboratory for Atomic and Solid State Physics      | DOE                                                    | BES – Basic Energy Sciences          | DE-SC0019481                                                                           |            |                                                                                                                                                                            |                                   |        |           |
| Raghav Chaturvedi (G)                     | C  | Cornell University                                                    | Applied & Engineering Physics                              | Gordon and Betty Moore Foundation                      | US Foundation                        | GBMF11563                                                                              |            |                                                                                                                                                                            |                                   |        |           |
| Zhongdong Han (P)                         | C  | Cornell University                                                    | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Liguo Ma (P)                              | C  | Cornell University                                                    | AEP                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Phuong Nguyen (G)                         | C  | Cornell University                                                    | Applied and Engineering Physics                            |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Jie Shan (S)                              | C  | Pennsylvania State University                                         | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Charles Tschirhart (P)                    | C  | Cornell University                                                    | Laboratory of Atomic and Solid State Physics               |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| yu yu xia (G)                             | C  | Cornell University                                                    | Applied and Engineering Physics                            |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Zhengchao Xia (G)                         | C  | Cornell University                                                    | Department of Applied and Engineering Physics              |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| King Yau Yip (P)                          | C  | National University of Singapore                                      | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Yihang Zeng (P)                           | C  | Cornell University                                                    | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Yichi Zhang (G)                           | C  | Cornell University                                                    | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Younjung Jo (S)                           | PI | Kyungpook National University                                         | Physics                                                    | National Research Foundation of Korea (NRF)            | Non US Foundation                    | RS-2024-00337640                                                                       | P20482     | The role of Kondo interactions in d-electron systems and the emergence of exotic phenomena                                                                                 | Condensed Matter Physics          | 1      | 7.2       |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory                               | Physics Department                                         |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Joonyoung Choi (G)                        | C  | Kyungpook National University                                         | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Woun Kang (S)                             | C  | Ewha Womans University                                                | Department of Physics                                      |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Hail Kim (G)                              | C  | Pohang University of Science and Technology                           | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Juhyeon Kim (G)                           | C  | Kyungpook National University                                         | physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Jun Sung Kim (S)                          | C  | Pohang University of Science and Technology                           | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Jun seong Lee (G)                         | C  | Pohang University of Science and Technology                           | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Hyeonwoo Seo (G)                          | C  | Pohang University of Science and Technology                           | Physics Department                                         |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Yoram Dagan (S)                           | PI | Tel-Aviv University                                                   | School of Physics and Astronomy                            | Israeli Science Foundation                             | Non US Foundation                    | 1711/23                                                                                | P20501     | Nonlinear transport properties of oxide interfaces at high magnetic fields                                                                                                 | Condensed Matter Physics          | 1      | 5.39      |
| Shilo Avraham (G)                         | C  | Tel-Aviv University                                                   | Condensed Matter Physics                                   |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Eyal Raz (G)                              | C  | Tel-Aviv University                                                   | physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Shay Sandik (U)                           | C  | Tel-Aviv University                                                   | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Asaf Yagoda (G)                           | C  | Tel-Aviv University                                                   | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Alexey Sustov (S)                         | PI | National High Magnetic Field Laboratory                               | Condensed Matter Science                                   | No other support                                       |                                      |                                                                                        | P20503     | High-frequency conductivity in InSb/InAlSb Structures: Acoustic Studies                                                                                                    | Condensed Matter Physics          | 2      | 21        |
| Irina Dridhko (S)                         | C  | Ioffe Physical-Technical Institute of the Russian Academy of Sciences | Physics of Semiconductors and Dielectrics                  |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Ivan Sminov (S)                           | C  | Ioffe Physical-Technical Institute of the Russian Academy of Sciences | Physics of Semiconductors and Dielectrics                  |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Andrew Woods (S)                          | PI | National High Magnetic Field Laboratory                               | CMS                                                        | NSF                                                    | DMR - Division of Materials Research | DMR2128556                                                                             | P20509     | Development of Novel High Magnetic Field Compatible Thermometry Using Quartz Tuning Forks                                                                                  | Condensed Matter Physics          | 2      | 15        |
| Alexander Donald (G)                      | C  | University of Florida                                                 | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Lucia Steinke (S)                         | C  | Maybell Quantum Industries                                            | N/A                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Kirstin Alberti (S)                       | PI | National Renewable Energy Laboratory                                  | Materials Science                                          | DOE                                                    | BES – Basic Energy Sciences          | Division of Materials Sciences and Engineering, Physical Behavior of Materials Program | P20510     | Investigating Magnetoelectrical Transport in Topological Semimetal Thin Films                                                                                              | Condensed Matter Physics          | 1      | 5.08      |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory                               | DC Field / CMS                                             |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Ian Leahy (P)                             | C  | National Renewable Energy Laboratory                                  | Materials, Chemical, and Computational Science             |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Wei Pan (S)                               | C  | Sandia National Laboratories                                          | Materials Physics Department                               |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Anthony Rice (S)                          | C  | National Renewable Energy Laboratory                                  | Materials, Chemical, and Computational Science             |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Bryan Kudisch (S)                         | PI | Florida State University                                              | Chemistry & Biochemistry                                   | No other support                                       |                                      |                                                                                        | P20514     | Ultrafast Spin Dynamics as a Mechanistic Tool in Synthetic Photocatalysis                                                                                                  | Chemistry                         | 2      | 6.27      |
| Darius Agolliari (G)                      | C  | Florida State University                                              | Chemistry                                                  |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Thomas Brumback (T)                       | C  | Florida State University                                              | Chemistry and Biochemistry                                 |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Rachel Clark (G)                          | C  | Florida State University                                              | Chemistry & Biochemistry                                   |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Sornath Das (P)                           | C  | Florida State University                                              | Chemistry and Biochemistry                                 |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Stephen McGill (S)                        | C  | National High Magnetic Field Laboratory                               | Condensed Matter Science                                   |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Allen Scheie (S)                          | PI | Los Alamos National Laboratory                                        | MPA-Q                                                      | DOE                                                    | BES – Basic Energy Sciences          | 0                                                                                      | P20517     | Quantum spin liquid phase in rare-earth triangular lattice antiferromagnets                                                                                                | Condensed Matter Physics          | 1      | 7         |
| Minseong Lee (S)                          | C  | National High Magnetic Field Laboratory                               | MPA-MAG                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Sangyun Lee (S)                           | C  | National High Magnetic Field Laboratory                               | Department of Physics                                      |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Gabriel Silva Freitas (P)                 | C  | Los Alamos National Laboratory                                        | National High Magnetic Field Laboratory                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Vivien Zapf (S)                           | C  | National High Magnetic Field Laboratory                               | Physics                                                    |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Shengzhi Zhang (S)                        | C  | National High Magnetic Field Laboratory                               | CMS                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| David Larbalestier (S)                    | PI | National High Magnetic Field Laboratory                               | ASC                                                        | DOE                                                    | Office of Science                    | DE-SC0022011                                                                           | P20525     | REBCO CC High-Field Technology Development Program at ASC                                                                                                                  | Material Science                  | 2      | 10.72     |
| Jeiseok Bang (S)                          | C  | National High Magnetic Field Laboratory                               | ASC                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Kwangmin Kim (O)                          | C  | National High Magnetic Field Laboratory                               | Magnet Science and Technology                              |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Jonathan Lee (G)                          | C  | National High Magnetic Field Laboratory                               | ASC                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Rastislav Ries (P)                        | C  | Florida State University                                              | ASC                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |
| Aixia Xu (S)                              | C  | Florida State University                                              | ASC                                                        |                                                        |                                      |                                                                                        |            |                                                                                                                                                                            |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                                                 |                                                             | Funding Sources<br>(Funding Agency, Division, Award #) |                                      |                 | Proposal # | Proposal Title                                                                                                    | Discipline                       | Exp. # | Days Used |
|-------------------------------------------|----|---------------------------------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------|--------------------------------------|-----------------|------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------|--------|-----------|
| Gael Grissonnanche (S)                    | PI | Institute Polytechnic De Paris                                                  | Physics                                                     | Ecole Polytechnique                                    | Non US College and University        |                 | P20527     | Probing scattering times in quantum materials                                                                     | Condensed Matter Physics         | 1      | 5.17      |
| Patrick Fournier (S)                      | C  | University of Sherbrooke                                                        | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Adrien Gourgout (P)                       | C  | University of Sherbrooke                                                        | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Charles Ioro-Duval (G)                    | C  | University of Sherbrooke                                                        | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Juan Santana Gonzalez (G)                 | C  | Ecole Polytechnique                                                             | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Louis Taillefer (S)                       | C  | University of Sherbrooke                                                        | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Joseph Checkelaky (S)                     | PI | Massachusetts Institute of Technology                                           | Physics                                                     | DOD                                                    | ARO - Army Research Office           |                 | P20531     | High Field Studies of Superconducting Superlattices                                                               | Condensed Matter Physics         | 8      | 49.88     |
| Yash Anand (G)                            | C  | Massachusetts Institute of Technology                                           | Physics                                                     | NSF                                                    | DMR - Division of Materials Research | DMR1231319      |            |                                                                                                                   |                                  |        |           |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory                                         | CMS                                                         |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Alan Chen (G)                             | C  | Massachusetts Institute of Technology                                           | EECS                                                        |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Maximilien Debbas (G)                     | C  | Massachusetts Institute of Technology                                           | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Roei Dery (G)                             | C  | Massachusetts Institute of Technology                                           | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Chi Ian Ip (G)                            | C  | Massachusetts Institute of Technology                                           | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Caolan John (G)                           | C  | Massachusetts Institute of Technology                                           | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Alex Mayo (P)                             | C  | Massachusetts Institute of Technology                                           | Department of Physics                                       |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Paul Neves (G)                            | C  | Massachusetts Institute of Technology                                           | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Kevin Nuckolls (P)                        | C  | Massachusetts Institute of Technology                                           | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Danilo Roberto Ratkovski (O)              | C  | National High Magnetic Field Laboratory                                         | CMS                                                         |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Joshua Wakefield (G)                      | C  | Massachusetts Institute of Technology                                           | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Mike Sumption (S)                         | PI | Ohio State University                                                           | CSMM, MSE                                                   | DOE                                                    | HEP - High Energy Physics            | DE-SC0011721    | P20532     | Magnetization of HTS Cables at High Fields                                                                        | Development of Magnet Technology | 1      | 5.95      |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory                                         | Physics Department                                          |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Milan Majeros (S)                         | C  | Ohio State University                                                           | Materials Science and Engineering                           |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Firu Tushar (G)                           | C  | Ohio State University                                                           | Material Science and Engineering                            |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Cory Dean (S)                             | PI | Columbia University                                                             | Physics                                                     | DOE                                                    | BES - Basic Energy Sciences          | DE-SC00167703   | P20533     | Tuning electronic correlations and topology in van der Waals heterostructures under high magnetic fields          | Condensed Matter Physics         | 4      | 26.02     |
| John Cenko (P)                            | C  | Columbia University                                                             | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Yinjie Guo (G)                            | C  | Columbia University                                                             | Physics Department                                          |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Ziyu Liu (P)                              | C  | Columbia University                                                             | Physics Department                                          |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Jordan Pack (G)                           | C  | Columbia University                                                             | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Trevor Senaha (G)                         | C  | Columbia University                                                             | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Birui Yang (G)                            | C  | Columbia University                                                             | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Michihiro Hirata (S)                      | PI | Los Alamos National Laboratory                                                  | MPA-Q                                                       | DOE                                                    | BES - Basic Energy Sciences          | 0               | P20536     | Quantum spin liquid phase in Kagomé Lattice antiferromagnets                                                      | Condensed Matter Physics         | 2      | 8         |
| Minseong Lee (S)                          | C  | National High Magnetic Field Laboratory                                         | MPA-MAG                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Sejun Park (P)                            | C  | Los Alamos National Laboratory                                                  | MPA-Q                                                       |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Phurba Sherpa (G)                         | C  | Los Alamos National Laboratory                                                  | MPAQ                                                        |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Riku Yamamoto (P)                         | C  | University of California, Los Angeles                                           | Physics and Astronomy                                       |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Vivien Zapf (S)                           | C  | National High Magnetic Field Laboratory                                         | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Shengzhi Zhang (S)                        | C  | National High Magnetic Field Laboratory                                         | CMS                                                         |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Joanna Blawie (P)                         | PI | National High Magnetic Field Laboratory                                         | NHML                                                        | No other support                                       |                                      |                 | P20538     | High magnetic field studies of CePd-based heavy fermion compounds                                                 | Condensed Matter Physics         | 1      | 12.53     |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory                                         | CMS                                                         |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Grzegorz Chajewski (P)                    | C  | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | Division of Magnetic Research                               |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Dariusz Kaczorowski (S)                   | C  | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | Magnetic Research Division                                  |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Ross McDonald (S)                         | C  | National High Magnetic Field Laboratory                                         | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Philip Moll (S)                           | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg              | Max Planck Institute for Structure and Dynamics of Matter   |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Danilo Roberto Ratkovski (O)              | C  | National High Magnetic Field Laboratory                                         | CMS                                                         |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| John Singleton (S)                        | C  | National High Magnetic Field Laboratory                                         | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Sergey Suchalkin (S)                      | PI | State University of New York, Stony Brook                                       | Electrical and Computer Engineering                         | ARO                                                    | Other US Federal Agency              |                 | P20539     | Faraday effect in metamorphic InAsSb-based semiconductor structures                                               | Condensed Matter Physics         | 1      | 7         |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory                                         | Condensed Matter Science, DC Field CMS                      |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Anton Petruk (G)                          | C  | State University of New York, Stony Brook                                       | Electrical Engineering                                      |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Dmitry Smirnov (S)                        | C  | National High Magnetic Field Laboratory                                         | Instrumentation & Operations                                |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Mykhaylo Ozerov (S)                       | PI | National High Magnetic Field Laboratory                                         | Condensed Matter Science, DC Field CMS                      | No other support                                       |                                      |                 | P20547     | MAGNETO-OPTICAL STUDY OF SPIN-PHONON COUPLING EFFECTS IN VAN DER WAALS MAGNETS.                                   | Condensed Matter Physics         | 2      | 28        |
| Vadym Kulchenko (S)                       | C  | National High Magnetic Field Laboratory                                         | Condensed matter science                                    |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Johnpiere Paglione (S)                    | PI | University of Maryland, College Park                                            | Maryland Quantum Materials Center and Department of Physics | DOE                                                    | BES - Basic Energy Sciences          | DESC0019154     | P20615     | Revealing the order parameters of high-field superconducting phases in UTe2.                                      | Condensed Matter Physics         | 1      | 8.73      |
| Jarryd Horn (G)                           | C  | University of Maryland, College Park                                            | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Shanta Saha (P)                           | C  | University of Maryland, College Park                                            | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Hyek Yoon (P)                             | C  | University of Maryland, College Park                                            | Department of Physics                                       |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Badri Assaf (S)                           | PI | University of Notre Dame                                                        | Physics                                                     | DOE                                                    | BES - Basic Energy Sciences          | DE-SC-0024291   | P20616     | Probing engineered topological phases at high magnetic fields                                                     | Condensed Matter Physics         | 3      | 21        |
| Muhsin Abdul Karim (G)                    | C  | University of Notre Dame                                                        | Physics                                                     | NSF                                                    | DMR - Division of Materials Research | DMR2313441      |            |                                                                                                                   |                                  |        |           |
| Sara Bey (G)                              | C  | University of Notre Dame                                                        | Physics and Astronomy                                       | DOE                                                    | BES - Basic Energy Sciences          | DE-SC0024291    |            |                                                                                                                   |                                  |        |           |
| Ruben Franchini (U)                       | C  | University of Notre Dame                                                        | Physics and Astronomy                                       |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory                                         | DC Field / CMS                                              |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Xinyu Liu (S)                             | C  | University of Notre Dame                                                        | Department of Physics and Astronomy                         |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory                                         | Condensed Matter Science, DC Field CMS                      |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Michael Stuckert (U)                      | C  | University of Notre Dame                                                        | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Kota Yoshimura (G)                        | C  | University of Notre Dame                                                        | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Hemamala Karunadasa (S)                   | PI | Stanford University                                                             | Chemistry                                                   | Brown Science Foundation                               | Other                                | 1267187-10UAKHZ | P20617     | Investigation of Low-Dimensional Magnetism in Halide Perovskite Intergrowths Synthesized by Aqueous Self-Assembly | Chemistry                        | 2      | 12.92     |
| Caravaggio Caniglia (G)                   | C  | Stanford University                                                             | Chemistry                                                   |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Julian Vigil (P)                          | C  | University of California, Berkeley                                              | College of Chemistry                                        |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Clara Zwanziger (G)                       | C  | Stanford University                                                             | Chemistry                                                   |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Eun Sang Choi (S)                         | PI | National High Magnetic Field Laboratory                                         | Physics Department                                          | No other support                                       |                                      |                 | P20619     | User Instrumentation and Technique Development                                                                    | Condensed Matter Physics         | 2      | 11.39     |
| Min Hyuk Choi (G)                         | C  | Pohang University of Science and Technology                                     | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Hoi Kim (G)                               | C  | Pohang University of Science and Technology                                     | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Jun Sung Kim (S)                          | C  | Pohang University of Science and Technology                                     | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |
| Jun seong Lee (G)                         | C  | Pohang University of Science and Technology                                     | Physics                                                     |                                                        |                                      |                 |            |                                                                                                                   |                                  |        |           |



## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |      |                                                                  | Funding Sources<br>(Funding Agency, Division, Award #) |                                        |                                      | Proposal #        | Proposal Title                                                                                                                                           | Discipline                                                                             | Exp. #                            | Days Used |       |
|-------------------------------------------|------|------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------|--------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-----------------------------------|-----------|-------|
| Felix Trier (S)                           | PI * | Technical University of Denmark                                  | DTU Energy                                             | The Villum Foundation                  | Non US Foundation                    | P20620            | Complex oxide-based two-dimensional electronic systems in high magnetic fields                                                                           | Condensed Matter Physics                                                               | 1                                 | 3.88      |       |
| Amit Chanda (P)                           | C    | Technical University of Denmark                                  | DTU Energy                                             |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Anshu Gupta (P)                           | C    | Technical University of Denmark                                  | DTU Energy                                             |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Neil Harrison (S)                         | C    | National High Magnetic Field Laboratory                          | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Thor Hvid-Olsen (G)                       | C    | Technical University of Denmark                                  | DTU Energy                                             |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Km Rubi (S)                               | C    | Los Alamos National Laboratory                                   | MPA-MAGLAB                                             |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Xavier Roy (S)                            | PI   | Columbia University                                              | Chemistry                                              | DOE                                    | BES – Basic Energy Sciences          | DE-SC0023406      | P20634                                                                                                                                                   | Tunable Electron Correlations in 2D and Quasi-2D Materials                             | Condensed Matter Physics          | 2         | 14    |
| Annam Chang (G)                           | C    | Columbia University                                              | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Jiayi Li (P)                              | C    | Columbia University                                              | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Jeffrey McNeill (P)                       | C    | Columbia University                                              | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Arun Ramanathan (P)                       | C    | Columbia University                                              | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Xiaodong Xu (S)                           | PI   | University of Washington                                         | Physics                                                | DOE                                    | BES – Basic Energy Sciences          | DE-SC0018171      | P20637                                                                                                                                                   | Probing fractional quantum states in moiré materials                                   | Condensed Matter Physics          | 2         | 12    |
| Dhan Bautista (G)                         | C    | University of Washington                                         | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Jiaqi Cai (G)                             | C    | University of Washington                                         | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Chaoxue Hu (G)                            | C    | University of California, Los Angeles                            | Department of Physics and Astronomy                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Heonjoon Park (G)                         | C    | University of Washington                                         | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Naiyuan Zhang (P)                         | C    | University of Washington                                         | Department of Physics                                  |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Yi-Fan Zhao (P)                           | C    | University of Washington                                         | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Kang Wang (S)                             | PI   | University of California, Los Angeles                            | Electrical Engineering                                 | DOD                                    | ARO - Army Research Office           | W911NF20-2-0166   | P20644                                                                                                                                                   | Searching for Parity Anomaly in Axon Insulator                                         | Condensed Matter Physics          | 1         | 7     |
| Eun Sang Choi (S)                         | C    | National High Magnetic Field Laboratory                          | Physics Department                                     | NSF                                    | Other                                | 1936383           |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Yaochen Li (G)                            | C    | University of California, Los Angeles                            | Electrical and Computer Engineering                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Gang Qiu (S)                              | C    | University of Minnesota, Twin Cities                             | Electrical and Computer Engineering                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Hung-Yu Yang (P)                          | C    | University of California, Los Angeles                            | ECE                                                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Ting-Hsun Yang (G)                        | C    | University of California, Los Angeles                            | Electric and Computer Engineering                      |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Tim Murphy (S)                            | PI   | National High Magnetic Field Laboratory                          | DC Field Facility                                      | No other support                       |                                      |                   | P20671                                                                                                                                                   | Testing DCF magnets, power supplies & instrumentation                                  | Condensed Matter Physics          | 3         | 19.16 |
| Alimamy Bangura (S)                       | C    | National High Magnetic Field Laboratory                          | CMS                                                    | NSF                                    | DMR - Division of Materials Research | DMR2128556        |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Shermane Benjamin (S)                     | C    | National High Magnetic Field Laboratory                          | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Joanna Blawat (P)                         | C    | National High Magnetic Field Laboratory                          | NHMFL                                                  |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Troy Brumm (T)                            | C    | National High Magnetic Field Laboratory                          | DC Field                                               |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Scott Maier (S)                           | C    | National High Magnetic Field Laboratory                          | Instrumentation and Operations                         |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Cyde Martin (T)                           | C    | National High Magnetic Field Laboratory                          | DC Instrumentation                                     |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Robby Nowell (T)                          | C    | National High Magnetic Field Laboratory                          | DC User Support                                        |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Andy Powell (S)                           | C    | National High Magnetic Field Laboratory                          | Operations                                             |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Danilo Roberto Ratkovski (O)              | C    | National High Magnetic Field Laboratory                          | CMS                                                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Lily Schroeder (U)                        | C    | Smith College                                                    | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Julia Smith (S)                           | C    | National High Magnetic Field Laboratory                          | DC Field                                               |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Martyna Stepniak (U)                      | C    | Eastern Washington University                                    | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Andrew Woods (S)                          | C    | National High Magnetic Field Laboratory                          | CMS                                                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Hadi Mohammadigoushki (S)                 | PI   | Florida State University                                         | Chemical and Biomedical Engineering                    | Rare Earth Initiative/gypstack project | Other                                | 227013-531-102206 | P20674                                                                                                                                                   | measuring magnetization of steel wires and balls                                       | Engineering                       | 1         | 7     |
| Mohd Khan (P)                             | C    | National High Magnetic Field Laboratory                          | Chemical and Biomedical Engineering                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Nicholas Butch (S)                        | PI   | National Institute of Standards and Technology MD                | NIST Center for Neutron Research                       | NSF                                    | DMR - Division of Materials Research | DMR2105191        | P20683                                                                                                                                                   | Lazarus and beyond: high field behavior of UTe2                                        | Condensed Matter Physics          | 2         | 9.92  |
| Alimamy Bangura (S)                       | C    | National High Magnetic Field Laboratory                          | CMS                                                    | DOC - Department of Commerce           |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Audrey Grockowiak (S)                     | C    | Leibniz Institute for Solid State and Materials Research Dresden | Thermodynamics Team                                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Thomas Halloran (G)                       | C    | National Institute of Standards and Technology MD                | NIST Center for Neutron Research                       |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Sylvia Lewin (P)                          | C    | University of Maryland, College Park                             | physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Gisela Saucedo Salas (G)                  | C    | University of Maryland, College Park                             | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Stanley Tozer (S)                         | C    | National High Magnetic Field Laboratory                          | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Jeffrey Long (S)                          | PI   | University of California, Berkeley                               | Chemistry                                              | NSF                                    | CHE - Chemistry                      | CHE2303044        | P20690                                                                                                                                                   | Hard Permanent Magnetism from Mixed-Valence Dimeric Complexes with Metal-Metal Bonding | Biology, Biochemistry, Biophysics | 3         | 19.95 |
| Audrey Bartlett (G)                       | C    | Massachusetts Institute of Technology                            | Chemistry                                              | NSF                                    | CHE - Chemistry                      | CHE2350466        |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Eun Sang Choi (S)                         | C    | National High Magnetic Field Laboratory                          | Physics Department                                     |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Neil Harrison (S)                         | C    | National High Magnetic Field Laboratory                          | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Jakub Hruby (P)                           | C    | National High Magnetic Field Laboratory                          | EMR                                                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Emi Ito (T)                               | C    | University of California, Berkeley                               | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Mak Kirkman-Davis (G)                     | C    | Massachusetts Institute of Technology                            | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Hyunchul Kwon (G)                         | C    | University of California, Berkeley                               | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Danh Ngo (G)                              | C    | University of California, Berkeley                               | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Mykhaylo Ozerov (S)                       | C    | National High Magnetic Field Laboratory                          | Condensed Matter Science, DC Field CMS                 |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Stanley Tozer (S)                         | C    | National High Magnetic Field Laboratory                          | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Minhyea Lee (S)                           | PI   | University of Colorado, Boulder                                  | Physics                                                | DOE                                    | BES – Basic Energy Sciences          | DE-SC0021377      | P20695                                                                                                                                                   | Magnetotransport Properties in Rare-Earth Magnetic Materials                           | Condensed Matter Physics          | 6         | 42    |
| Eun Sang Choi (S)                         | C    | National High Magnetic Field Laboratory                          | Physics Department                                     |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Alexander Fix (G)                         | C    | University of Colorado, Boulder                                  | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Elliot Roberts (G)                        | C    | University of Colorado, Boulder                                  | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Hope Whitelock (G)                        | C    | University of Colorado, Boulder                                  | Physics                                                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Jie Xing (P)                              | C    | Oak Ridge National Laboratory                                    | Neutron Scattering Division                            |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Ziling Xue (S)                            | PI   | University of Tennessee, Knoxville                               | Chemistry                                              | NSF                                    | CHE - Chemistry                      | CHE2349345        | P20696                                                                                                                                                   | Studies of Molecular Quantum Materials by Magneto-Spectroscopies                       | Chemistry                         | 1         | 7     |
| Adiat Fakolujo (G)                        | C    | University of Tennessee, Knoxville                               | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Michael Jenkins (G)                       | C    | University of Tennessee, Knoxville                               | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Amangreet Mahmi (G)                       | C    | University of Tennessee, Knoxville                               | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Mykhaylo Ozerov (S)                       | C    | National High Magnetic Field Laboratory                          | Condensed Matter Science, DC Field CMS                 |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Brandon Sanders (G)                       | C    | University of Tennessee, Knoxville                               | Chemistry                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| William Iffe (S)                          | PI * | CCFE STEP                                                        | Confinement Systems                                    | United Kingdom Atomic Energy Authority | Non US Government Lab                | P20698            | Comparison of REBCO coated conductor critical current density measurements between measurement techniques for fusion magnet conductor quality assurance. | Material Science                                                                       | 1                                 | 4.99      |       |
| Omytro Abramov (S)                        | C    | National High Magnetic Field Laboratory                          | The Applied Superconductivity Center                   |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Kirk Adams (G)                            | C    | University of Oxford                                             | Materials                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Yannik Dieudonne (S)                      | C    | UK Atomic Energy Authority                                       | Fusion Technology                                      |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Jan Jaroszynski (S)                       | C    | National High Magnetic Field Laboratory                          | CMS                                                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Joe Peskett (S)                           | C    | UK Atomic Energy Authority                                       | Fusion Technology                                      |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Rastislav Ries (P)                        | C    | Florida State University                                         | ASC                                                    |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Aurobindo Siddarth Swaminathan (S)        | C    | UK Atomic Energy Authority                                       | Fusion technology                                      |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Susannah Speller (S)                      | C    | University of Oxford                                             | Materials                                              |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |
| Stuart Wimbush (S)                        | C    | UK Industrial Fusion Solutions Ltd                               | Spherical Tokamak for Energy Production                |                                        |                                      |                   |                                                                                                                                                          |                                                                                        |                                   |           |       |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                                    |                                                           | Funding Sources<br>(Funding Agency, Division, Award #)              |                                                            |                    | Proposal # | Proposal Title                                                                                                                  | Discipline                       | Exp. # | Days Used |
|-------------------------------------------|----|--------------------------------------------------------------------|-----------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------------------------|--------------------|------------|---------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------|-----------|
| Sara Harawifard (S)                       | PI | Duke University                                                    | Department of Physics                                     | NSF                                                                 | DMR - Division of Materials Research                       | DMR2327555         | P20700     | Investigating Properties of Quantum Materials at High Magnetic Fields                                                           | Condensed Matter Physics         | 2      | 8.41      |
| Rabindranath Bag (P)                      | C  | Duke University                                                    | Physics                                                   | NSF                                                                 | DMR - Division of Materials Research                       | DMR2218058         |            |                                                                                                                                 |                                  |        |           |
| Wesley Collyer (G)                        | C  | Duke University                                                    | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory                            | DC Field / CMS                                            |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Nathan Wang (G)                           | C  | Duke University                                                    | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Pedre Ye (S)                              | PI | Purdue University                                                  | School of Electrical and Computer Engineering             | NSF                                                                 | EFMA - Emerging Frontiers and Multidisciplinary Activities | EFMA1433459        | P20714     | Novel Chirality-dependent Quantum Transport in Weyl-type Spin-orbit Coupling Systems                                            | Condensed Matter Physics         | 1      | 5.88      |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory                            | DC Field / CMS                                            |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Chang Niu (G)                             | C  | Purdue University                                                  | Electrical and Computer Engineering                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Pukun Tan (G)                             | C  | Purdue University                                                  | Electrical Engineering                                    |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Zahid Hasan (S)                           | PI | Princeton University                                               | Physics                                                   | Gordon and Betty Moore Foundation                                   | Other                                                      | GBMF9461           | P20715     | Electrical and thermal transport of Kagome lattice materials                                                                    | Condensed Matter Physics         | 2      | 14        |
| Luis Balicas (S)                          | C  | National High Magnetic Field Laboratory                            | Condensed Matter Experiment                               |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory                            | Physics Department                                        |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory                            | DC Field / CMS                                            |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Md Shafayat Hossain (S)                   | C  | University of California, Los Angeles                              | Materials Science and Engineering                         |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Seng Huat Lee (S)                         | PI | Pennsylvania State University                                      | Physics                                                   | NSF                                                                 | MIP - Materials Innovation Platform                        | DMR-2039351        | P20718     | Seeking for Exotic Quantum State in Intrinsic Antiferromagnetic Topological Insulator Candidate Eu3In2As4                       | Condensed Matter Physics         | 1      | 4.17      |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory                            | DC Field / CMS                                            |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Yingdong Guan (G)                         | C  | Pennsylvania State University                                      | Physics Department                                        |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Zhiqiang Mao (S)                          | C  | Pennsylvania State University                                      | Department of Physics                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Aaron Pearre (G)                          | C  | Pennsylvania State University                                      | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Arbab Banerjee (S)                        | PI | Purdue University                                                  | Physics and Astronomy                                     | DOE                                                                 | Office of Science                                          | DE-SC0022986       | P20720     | Low-Temperature Heat Capacity and AC Magnetic Susceptibility Measurement on a Geometrically Frustrated Triangular Delafossite   | Condensed Matter Physics         | 1      | 17        |
| Bishnu Belbase (G)                        | C  | Purdue University                                                  | Physics and Astronomy                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory                            | Physics Department                                        |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Ajun Unnikrishnan (P)                     | C  | Purdue University                                                  | Physics and Astronomy                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Ines Wyrsta (S)                           | PI | High Temperature Superconductors Inc.                              | High Temperature Superconductors Inc.                     | DOE                                                                 | ARPA-E - Advanced Research Projects Agency- Energy         | DE-AR0001815       | P20722     | Critical current characterization for REBCO coated conductors                                                                   | Material Science                 | 1      | 5.8       |
| Rohit Jain (S)                            | C  | High Temperature Superconductors Inc.                              | HTS                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Fumitake Kametani (S)                     | C  | Florida State University                                           | ASC                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| David Labalester (S)                      | C  | National High Magnetic Field Laboratory                            | ASC                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Silvia Rasi (S)                           | C  | High Temperature Superconductors Inc.                              | R&D                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Rastislav Ries (P)                        | C  | Florida State University                                           | ASC                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Jeremy Weiss (P)                          | C  | High Temperature Superconductors Inc.                              | Engineering                                               |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Aixia Xu (S)                              | C  | Florida State University                                           | ASC                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Ariando Ariando (S)                       | PI | National University of Singapore                                   | Department of Physics                                     | DOE                                                                 | BES - Basic Energy Sciences                                | F10100             | P20723     | Probing Fermi surface and upper critical fields of infinite-layer nickelate superconductors                                     | Condensed Matter Physics         | 2      | 10.3      |
| Lin Er Chow (P)                           | C  | National University of Singapore                                   | Physics                                                   | Ministry of Education, Singapore                                    | Non US Ministry                                            | MOET2EP50121-0018  |            |                                                                                                                                 |                                  |        |           |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory                            | DC Field / CMS                                            | Ministry of Education, Singapore                                    | Non US Ministry                                            | MOE-T2EP50123-0013 |            |                                                                                                                                 |                                  |        |           |
| Neil Harrison (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Kim Rubi (S)                              | C  | Los Alamos National Laboratory                                     | MPA-MAGLAB                                                |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| King Yau Yip (P)                          | C  | National University of Singapore                                   | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Wei Zhang (P)                             | C  | National University of Singapore                                   | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Long Ju (S)                               | PI | Massachusetts Institute of Technology                              | Physics                                                   | NSF                                                                 | DMR - Division of Materials Research                       | DMR2225925         | P20724     | Landau Level Spectroscopy in Two-Dimensional Topological Insulator: Thin Film Cadmium Arsenide                                  | Condensed Matter Physics         | 1      | 7         |
| Dasol Kim (G)                             | C  | Massachusetts Institute of Technology                              | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Zhenguang Lu (S)                          | C  | Florida State University                                           | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Susanne Stemmer (S)                       | C  | University of California, Santa Barbara                            | Materials                                                 |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Danell Schlom (S)                         | PI | Cornell University                                                 | Materials Science                                         | DOE                                                                 | EFRC - Energy Frontier Research Centers                    | DE-SC0023415       | P20725     | Strain Effect on Altermagnetism in Oxide Thin Films                                                                             | Condensed Matter Physics         | 1      | 5.17      |
| Yonck Birkholz (P)                        | C  | Cornell University                                                 | Materials Science & Engineering                           |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Luka Mitrović (G)                         | C  | Cornell University                                                 | Materials Science                                         |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Dmitry Smirnov (S)                        | PI | National High Magnetic Field Laboratory                            | Instrumentation & Operations                              | DOE                                                                 | BES - Basic Energy Sciences                                | DE-FG02-07ER46451  | P20727     | Magneto-Raman Spectroscopy Study of Unconventional Magnetic Phases in 2D Magnetic Lattices                                      | Condensed Matter Physics         | 7      | 34.41     |
| Zhiqiang Jiang (S)                        | C  | Georgia Institute of Technology                                    | School of Physics                                         |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Martin Mourigal (P)                       | C  | Johns Hopkins University                                           | Physics and Astronomy                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Nikolai Simonov (G)                       | C  | Georgia Institute of Technology                                    | School of Physics                                         |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Naipeng Zhang (P)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Haidong Zhou (S)                          | C  | University of Tennessee, Knoxville                                 | Physics and Astronomy                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Dmytro Abramov (S)                        | PI | National High Magnetic Field Laboratory                            | The Applied Superconductivity Center                      | No other support                                                    |                                                            |                    | P20728     | Comparative study of I <sub>c</sub> (B, T, q) for 40T project REBCO conductor by transport and torque magnetometry              | Development of Magnet Technology | 2      | 13.11     |
| Hongyu Bai (S)                            | C  | National High Magnetic Field Laboratory                            | MS&T                                                      |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Jan Jaroszynski (S)                       | C  | National High Magnetic Field Laboratory                            | CMS                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Jonathan Lee (G)                          | C  | National High Magnetic Field Laboratory                            | ASC                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Jeremy Levitan (T)                        | C  | National High Magnetic Field Laboratory                            | MS&T                                                      |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Jun Lu (S)                                | C  | National High Magnetic Field Laboratory                            | MS&T                                                      |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Rastislav Ries (P)                        | C  | Florida State University                                           | ASC                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Aixia Xu (S)                              | C  | Florida State University                                           | ASC                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Audrey Grockowiak (S)                     | PI | Leibniz Institute for Solid State and Materials Research Dresden   | Thermodynamics Team                                       | ct.qmat                                                             | Other                                                      | LU 004203 BB       | P20729     | Pressure induced superconductivity in the quantum spin liquid systems Delafossite                                               | Condensed Matter Physics         | 1      | 7         |
| Bernd Buechner (S)                        | C  | Technical University of Dresden                                    | Institute for Solid State Research                        |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Stanley Tozer (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Lu Li (S)                                 | PI | University of Michigan                                             | Physics                                                   | NSF                                                                 | DMR - Division of Materials Research                       | DMR2317618         | P20745     | Search for novel electronic, magnetic, and thermal properties in intense magnetic fields                                        | Condensed Matter Physics         | 4      | 29.76     |
| Kuan-Wen Chen (P)                         | C  | University of Michigan                                             | Physics                                                   | DOE                                                                 | BES - Basic Energy Sciences                                | DE-SC0020184       |            |                                                                                                                                 |                                  |        |           |
| Kala Jenkins (G)                          | C  | University of Michigan                                             | Department of Physics                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| John Singleton (S)                        | C  | National High Magnetic Field Laboratory                            | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Noah West (G)                             | C  | University of Michigan                                             | Physics Department                                        |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Dechen Zhang (G)                          | C  | University of Michigan                                             | Department of Physics                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Guxin Zheng (G)                           | C  | University of Michigan                                             | Department of Physics                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Yuan Zhu (G)                              | C  | University of Michigan                                             | Department of Physics                                     |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Alannah Hallas (S)                        | PI | University of British Columbia                                     | Quantum Matter Institute                                  | Natural Sciences and Engineering Research Council of Canada (NSERC) | Non US Council                                             |                    | P20753     | Mapping the Cascade of Metamagnetic Transition in Ising Square Lattice of NdRh <sub>2</sub> Ge <sub>2</sub>                     | Condensed Matter Physics         | 1      | 6.51      |
| Samikshya Sahu (G)                        | C  | University of British Columbia                                     | Department of Physics and Astronomy                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Ashutosh Singh (P)                        | C  | University of British Columbia                                     | Stewart Blusson Quantum Matter Institute                  |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Chunyu Guo (S)                            | PI | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | MQM                                                       | European Research Council                                           | Non US Council                                             | 101164280          | P20757     | Investigating unconventional high-field oscillations in Dirac nodal ring metal PtSn <sub>4</sub> with extreme magnetoresistance | Condensed Matter Physics         | 1      | 5.65      |
| Philp Moll (S)                            | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | Max Planck Institute for Structure and Dynamics of Matter |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Carsten Putzke (U)                        | C  | University of Bristol                                              | Physics                                                   |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |
| Ling Zhang (G)                            | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | MQM                                                       |                                                                     |                                                            |                    |            |                                                                                                                                 |                                  |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |      |                                          |                                                               | Funding Sources<br>(Funding Agency, Division, Award #) |                                      |                           | Proposal # | Proposal Title                                                                                                                                        | Discipline                       | Exp. # | Days Used |
|-------------------------------------------|------|------------------------------------------|---------------------------------------------------------------|--------------------------------------------------------|--------------------------------------|---------------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|--------|-----------|
| Stephen Holmes (S)                        | PI   | University of Missouri, St. Louis        | Chemistry and Biochemistry                                    | NSF                                                    | CHE - Chemistry                      | CHE1800578                | P20759     | FRMIS Investigations of Magnetically Anisotropic N-Heterocyclic Carbene Complexes                                                                     | Chemistry                        | 1      | 7         |
| Mykhaylo Ozerov (S)                       | C    | National High Magnetic Field Laboratory  | Condensed Matter Science, DC Field CMS                        |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Mirta Herak (S)                           | PI * | Institute of Physics (Croatia)           | Department for research of materials under extreme conditions | Croatian Ministry of science, education and youth      | Non US Ministry                      | NPOO-PFISTR02             | P20762     | Magnons in applied magnetic field in the 3D magnetoelectric topological antiferromagnet Cu3TeO6                                                       | Condensed Matter Physics         | 1      | 7         |
| Matija Culo (S)                           | C    | Institute of Physics (Croatia)           | Department for research of materials under extreme conditions |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Damir Dominko (S)                         | C    | Institute of Physics (Croatia)           | CAL.T                                                         |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Tomislav Ivek (S)                         | C    | Institute of Physics (Croatia)           | Department for research of materials under extreme conditions |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Xavier Rocquefelte (S)                    | C    | Université de Rennes 1                   | Rennes Institute of Chemical Sciences                         |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Pengcheng Dai (S)                         | PI   | Rice University                          | Physics                                                       | NSF                                                    | DMR - Division of Materials Research | DMR2100741                | P20763     | High magnetic field measurements on a magnetic kagome metal                                                                                           | Condensed Matter Physics         | 2      | 9.24      |
| Rong Cong (S)                             | C    | National High Magnetic Field Laboratory  | Condensed Matter Science                                      |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Zhaoyu Liu (P)                            | C    | Rice University                          | Department of Physics and Astronomy                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Sijie Xu (G)                              | C    | Rice University                          | Physics and Astronomy                                         |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Duminda Liurukara (S)                     | PI   | Oak Ridge National Laboratory            | University of Missouri Research reactor/Chemistry             | NSF                                                    | DMR - Division of Materials Research | DMR2219129                | P20767     | High Field Magnetic Phase Diagram of a Novel Kagome-Strip Lattice: K2Mn3(AsO4)2(OH)2                                                                  | Condensed Matter Physics         | 1      | 1.23      |
| Eun Sang Choi (S)                         | C    | National High Magnetic Field Laboratory  | Physics Department                                            |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Shouvik Chatterjee (P)                    | PI * | Tata Institute of Fundamental Research   | Condensed Matter Physics and Materials Science                | DST, India                                             | Non US Ministry                      |                           | P20768     | High magnetic field measurement of non-Lifshitz-Kosevich quasi-2D Shubnikov-de Haas oscillation of Epitaxial YbSb2 thin film.                         | Condensed Matter Physics         | 1      | 5.22      |
| Enrique Colacio (S)                       | PI   | University of Granada                    | Inorganic Chemistry                                           | No other support                                       |                                      |                           | P20776     | Toward more efficient Co(II) based Single-Molecule Magnets by controlling the trigonal prismatic geometry and magnetic exchange interactions          | Chemistry                        | 1      | 7         |
| Jurek Krzystek (S)                        | C    | National High Magnetic Field Laboratory  | Condensed Matter Science                                      |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Mykhaylo Ozerov (S)                       | C    | National High Magnetic Field Laboratory  | Condensed Matter Science, DC Field CMS                        |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Yifei Zhang (S)                           | PI * | SuperPower, Inc.                         | R&D and Applications                                          | UCGP                                                   |                                      |                           | P20777     | Ic(B, T, theta) testing using transport and torque magnetometry methods for the development of a new REBCO Formula for high-field magnet applications | Development of Magnet Technology | 2      | 10.58     |
| Dmytro Abramov (S)                        | C    | National High Magnetic Field Laboratory  | The Applied Superconductivity Center                          |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Iole Falorio (S)                          | C    | SuperPower, Inc.                         | R&D and Applications                                          |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Jan Jaroszynski (S)                       | C    | National High Magnetic Field Laboratory  | CMS                                                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Rastislav Ries (P)                        | C    | Florida State University                 | ASC                                                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Adam Weiner (T)                           | C    | SuperPower, Inc.                         | Applications and R & D                                        |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Denis Karaskaj (S)                        | PI   | University of South Florida              | Physics                                                       | University of South Florida                            | US College and University            |                           | P20784     | Nature of excitonic coherence in 2D antiferromagnets at very high magnetic fields explored with coherent multidimensional spectroscopy                | Condensed Matter Physics         | 1      | 3.02      |
| David Hilton (S)                          | C    | University of Alabama, Birmingham        | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Sean Knapp (G)                            | C    | University of South Florida              | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Atul Regmi (G)                            | C    | University of Central Florida            | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Chidubem Umeh (G)                         | C    | University of Central Florida            | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Yinning Shao (S)                          | PI * | Pennsylvania State University            | Physics                                                       | Pennsylvania State University                          | US College and University            |                           | P20785     | Magneto-optics and quantum oscillations of novel quasiparticles                                                                                       | Condensed Matter Physics         | 2      | 10.37     |
| David Graf (S)                            | C    | National High Magnetic Field Laboratory  | DC Field / CMS                                                |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Ashfakh Ali Kaniyankandy Meethal (G)      | C    | Pennsylvania State University            | Department of Physics                                         |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Seng Huat Lee (S)                         | C    | Pennsylvania State University            | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Zhiqiang Mao (S)                          | C    | Pennsylvania State University            | Department of Physics                                         |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Mykhaylo Ozerov (S)                       | C    | National High Magnetic Field Laboratory  | Condensed Matter Science, DC Field CMS                        |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Dmitry Smimov (S)                         | C    | National High Magnetic Field Laboratory  | Instrumentation & Operations                                  |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Shizhe Zhou (G)                           | C    | Pennsylvania State University            | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Alex Eaton (S)                            | PI   | University of Cambridge                  | Physics                                                       | EPSRC - UK                                             | Non US Council                       |                           | P20786     | Diagnosing allernagnet candidates                                                                                                                     | Condensed Matter Physics         | 1      | 6.13      |
| Hanyi Chen (G)                            | C    | University of Cambridge                  | Physics quantum matter                                        |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| David Graf (S)                            | C    | National High Magnetic Field Laboratory  | DC Field / CMS                                                |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Mengmeng Long (G)                         | C    | University of Cambridge                  | Department of Physics                                         |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Theo Weinberger (G)                       | C    | University of Cambridge                  | Cavendish Laboratory                                          |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Zheyu Wu (S)                              | C    | National High Magnetic Field Laboratory  | Condensed Matter Science, DC field                            |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Peng Xiong (S)                            | PI   | Florida State University                 | Physics                                                       | NSF                                                    | DMR - Division of Materials Research | DMR2204466                | P20795     | Effect of pressure on magnetic properties of low dimensional organic metal halide hybrids                                                             | Material Science                 | 1      | 6         |
| David Graf (S)                            | C    | National High Magnetic Field Laboratory  | DC Field / CMS                                                |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Md Sazedul Islam (G)                      | C    | Florida State University                 | Chemistry and Biochemistry                                    |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Benny Schundelmer (G)                     | C    | Florida State University                 | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Shivani Sharma (S)                        | PI * | National High Magnetic Field Laboratory  | CMS                                                           | No other support                                       |                                      |                           | P20796     | Probing the origin of magnetic transitions in Ba1-xMn1-xAs0.16 Hollandite's (A = Mn, Co, Fe, Cu, Ni)                                                  | Condensed Matter Physics         | 1      | 14        |
| Benny Schundelmer (G)                     | C    | Florida State University                 | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Kaya Wei (S)                              | C    | National High Magnetic Field Laboratory  | CMS                                                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Tim Murphy (S)                            | PI   | National High Magnetic Field Laboratory  | DC Field Facility                                             | No other support                                       |                                      |                           | P20815     | Testing of DCFE magnets, infrastructure and instrumentation.                                                                                          | Condensed Matter Physics         | 2      | 17.5      |
| Alimamy Bangura (S)                       | C    | National High Magnetic Field Laboratory  | CMS                                                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Julia Smith (S)                           | C    | National High Magnetic Field Laboratory  | DC Field                                                      |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Kaya Wei (S)                              | C    | National High Magnetic Field Laboratory  | CMS                                                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Madalynn Marshall (S)                     | PI   | Kennesaw State University                | Chemistry and Biochemistry                                    | Kennesaw State University                              | US College and University            | N/A                       | P20827     | Investigating the Magnetocaloric Effect in CuAlCr4-2Se8                                                                                               | Chemistry                        | 1      | 7         |
| Rupali Mangotra (G)                       | C    | Kennesaw State University                | Department of Chemistry and Biochemistry                      |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Shivani Sharma (S)                        | PI * | National High Magnetic Field Laboratory  | CMS                                                           | No other support                                       |                                      |                           | P20841     | Origin of magnetic transitions in Pr0.5La0.5CoO3 and PrCrO3                                                                                           | Condensed Matter Physics         | 1      | 7         |
| Benny Schundelmer (G)                     | C    | Florida State University                 | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Theo Siegrist (S)                         | C    | National High Magnetic Field Laboratory  | Chemical and Biomedical Engineering                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Kaya Wei (S)                              | C    | National High Magnetic Field Laboratory  | CMS                                                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Tsachi Tserashima (S)                     | PI   | National Institute for Materials Science | Quantum Material Properties Group                             | Japan Society for the Promotion of Science             | Other Non US Federal Agency          | JP22K03537                | P20859     | Fermiology of Unconventional Antiferromagnetic Materials and Other Quantum Materials                                                                  | Condensed Matter Physics         | 1      | 5.12      |
| David Graf (S)                            | C    | National High Magnetic Field Laboratory  | DC Field / CMS                                                |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Vijaya Hattori (P)                        | C    | National Institute for Materials Science | Center for Basic Research on Materials                        |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Maheswaran Shanmugam (S)                  | PI * | Indian Institute of Technology, Bombay   | Chemistry                                                     | No other support                                       |                                      |                           | P20860     | Phase memory time - Co and Fe metal complexes                                                                                                         | Condensed Matter Physics         | 1      | 7         |
| Stephen Hill (S)                          | C    | National High Magnetic Field Laboratory  | EMR                                                           |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Mykhaylo Ozerov (S)                       | C    | National High Magnetic Field Laboratory  | Condensed Matter Science, DC Field CMS                        |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Kavipriya Thangavel (P)                   | C    | Florida State University                 | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Benjamin Lawson (S)                       | PI * | Taylor University                        | Physics                                                       | American Physical Society                              | Other                                | APS-Simons2024-3060279234 | P20861     | Quantum oscillations in topological thin films                                                                                                        | Condensed Matter Physics         | 1      | 7         |
| Andrew AbdelMatak (G)                     | C    | University of Virginia                   | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Tomoya Asaba (S)                          | C    | University of Virginia                   | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Jui-Lin Chin (G)                          | C    | University of Virginia                   | physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Paul Corbue (P)                           | C    | University of California, Santa Barbara  | ECER/Materials                                                |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Gabriel Foss (U)                          | C    | Taylor University                        | Physics and Engineering                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Mark Lee (U)                              | C    | Taylor University                        | Mathematics                                                   |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |
| Nianen Lin (U)                            | C    | Taylor University                        | Physics                                                       |                                                        |                                      |                           |            |                                                                                                                                                       |                                  |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |      |                                                 |                                                      | Funding Sources<br>(Funding Agency, Division, Award #) |                                         |                                                                              | Proposal # | Proposal Title                                                                                                  | Discipline                       | Exp. # | Days Used |
|-------------------------------------------|------|-------------------------------------------------|------------------------------------------------------|--------------------------------------------------------|-----------------------------------------|------------------------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------------|----------------------------------|--------|-----------|
| Gabriel Silva Freitas (P)                 | PI * | Los Alamos National Laboratory                  | National High Magnetic Field Laboratory              | DOE                                                    | LDRD - Laboratory Directed R&D          | DE-AA00-00AA00000                                                            | P20863     | High field measurements in triangular-lattice using magnets                                                     | Condensed Matter Physics         | 2      | 14        |
| Minseong Lee (S)                          | C    | National High Magnetic Field Laboratory         | MPA-MAG                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Hari Nair (P)                             | C    | Cornell University                              | Department of Materials Science and Engineering      |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Vivien Zapf (S)                           | C    | National High Magnetic Field Laboratory         | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Rongying Jin (S)                          | PI   | University of South Carolina                    | Department of Physics and Astronomy                  | DOE                                                    | BES – Basic Energy Sciences             | DE-SC0024501                                                                 | P20866     | Exploration of New Quantum Phenomena in Intrinsically Ferromagnetic MnB2Te4                                     | Condensed Matter Physics         | 1      | 4.4       |
| Daniel Duong (G)                          | C    | University of South Carolina                    | Department of physics and astronomy                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Abhinna Rajbanshi (G)                     | C    | University of South Carolina                    | Department of Physics and Astronomy                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Maximilian Hirschberger (S)               | PI   | University of Tokyo                             | Department of Applied Physics, School of Engineering | Japan Science and Technology Agency                    | Non US Ministry                         | Adopting Sustainable Partnerships for Innovative Research Ecosystem (ASPIRE) | P20868     | Enhanced thermoelectric effect by quasi-one-dimensional correlated Dirac electrons in the extreme quantum limit | Condensed Matter Physics         | 1      | 6.22      |
| Leslie Schoop (S)                         | C    | Princeton University                            | Chemistry                                            |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Yuki Tanaka (G)                           | C    | University of Tokyo                             | Department of Applied Physics                        |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Rinsuke Yamada (S)                        | C    | University of Tokyo                             | Department of applied physics                        |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Chiara Tarantini (S)                      | PI   | National High Magnetic Field Laboratory         | ASC                                                  | DOE                                                    | HEP – High Energy Physics               | DE-SC0012083                                                                 | P20869     | High field characterizations of Nb3Sn with enhanced superconducting properties                                  | Condensed Matter Physics         | 1      | 8.31      |
| David Larbalestier (S)                    | C    | National High Magnetic Field Laboratory         | ASC                                                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Peter Lee (S)                             | C    | Florida State University                        | ASC                                                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Manish Mandal (G)                         | C    | Florida State University                        | NHML                                                 |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| William Starch (S)                        | C    | Florida State University                        | ASC                                                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Jian Liu (S)                              | PI   | University of Tennessee, Knoxville              | Physics                                              | DOE                                                    | BES – Basic Energy Sciences             | DE-SC0020254                                                                 | P20871     | Proximitized Magneto-transport in Geometrically Frustrated Quantum Magnet Heterostructures                      | Condensed Matter Physics         | 2      | 14        |
| Eun Sang Choi (S)                         | C    | National High Magnetic Field Laboratory         | Physics Department                                   |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Seunghoon Song (G)                        | C    | University of Tennessee, Knoxville              | Department of Physics and Astronomy                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Aaron Lindenberg (S)                      | PI * | Stanford University                             | Materials Science and Engineering                    | DOE                                                    | MSE - Materials Science and Engineering | DE-SC7600515                                                                 | P20875     | Revealing terahertz field-induced giant modulations of symmetry in vdW antiferromagnet MnPS3                    | Condensed Matter Physics         | 1      | 5         |
| Tony Heinz (S)                            | C    | Stanford University                             | Department of Physics                                |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Mykhaylo Ozerov (S)                       | C    | National High Magnetic Field Laboratory         | Condensed Matter Science, DC Field CMS               |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Dmitry Smirnov (S)                        | C    | National High Magnetic Field Laboratory         | Instrumentation & Operations                         |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Thao Tran (S)                             | PI   | Clemson University                              | Chemistry                                            | Beckman Foundation                                     | US Foundation                           | 2023 BY1                                                                     | P20877     | Investigating the Field-induced Tunability of Magnetic States in New Diamond-lattice Antiferromagnet CuCo2TeO6  | Material Science                 | 1      | 3.96      |
| James Analytis (S)                        | C    | University of California, Berkeley              | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Xudong Hui (P)                            | C    | Clemson University                              | Chemistry                                            |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Luke Pritchard Cairns (P)                 | C    | University of California, Berkeley              | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Michal Winiarski (S)                      | C    | Gdansk University of Technology                 | Faculty of Applied Physics and Mathematics           |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Gang Qiu (S)                              | PI * | University of Minnesota, Twin Cities            | Electrical and Computer Engineering                  | University of Minnesota                                | Other                                   | Startup funds                                                                | P20879     | Electron Hydrodynamic Magneto-transport of Delafossite Materials in the Two-Dimensional Limit                   | Condensed Matter Physics         | 1      | 5.14      |
| Junghyun Koo (G)                          | C    | University of Minnesota, Twin Cities            | Electrical and Computer Engineering                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Chris Leighton (S)                        | C    | University of Minnesota, Twin Cities            | Chemical Engineering and Materials Science           |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Chengyu Zhu (G)                           | C    | University of Minnesota, Twin Cities            | Electrical and Computer Engineering                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Peng Xiong (S)                            | PI   | Florida State University                        | Physics                                              | NSF                                                    | DMR - Division of Materials Research    | DMR2204466                                                                   | P20880     | Investigation of magnetic anisotropy in one-dimensional organic metal halide hybrids using torque magnetometry  | Material Science                 | 1      | 7         |
| Christiane Beekman (S)                    | C    | National High Magnetic Field Laboratory         | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Md Sazedul Islam (G)                      | C    | Florida State University                        | Chemistry and Biochemistry                           |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Dillon McNamara (G)                       | C    | Florida State University                        | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Jennifer Reid (P)                         | C    | National High Magnetic Field Laboratory         | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Amar Karki (S)                            | PI * | Scientific Instruments                          | Research and Development                             | No other support                                       |                                         |                                                                              | P20881     | Evaluating the Magnetic Field Response of Zirconium Oxynitride Thin Films for Advanced Sensing Applications     | Condensed Matter Physics         | 3      | 26.55     |
| Jared Phillips (S)                        | C    | Scientific Instruments                          | R&D                                                  | Scientific Instruments Inc                             | Other                                   |                                                                              |            |                                                                                                                 |                                  |        |           |
| Benny Schundelmier (G)                    | C    | Florida State University                        | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Kaye Wei (S)                              | C    | National High Magnetic Field Laboratory         | CMS                                                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Mansour Shayegan (S)                      | PI   | Princeton University                            | Department of Electrical and Computer Engineering    | NSF                                                    | DMR - Division of Materials Research    | DMR2104771                                                                   | P20882     | Correlated States of Two-dimensional Electron and Hole Systems in Ultrahigh-quality GaAs Quantum Wells          | Condensed Matter Physics         | 1      | 14        |
| Kirk Baldwin (S)                          | C    | Princeton University                            | Electrical Engineering                               |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Adibut Gupta (P)                          | C    | Princeton University                            | Electrical and Computer Engineering                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Loren Pfeiffer (S)                        | C    | Princeton University                            | Electrical Engineering                               |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Siddharth Kumar Singh (G)                 | C    | Princeton University                            | Electrical Engineering                               |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Chia-Tse Tai (G)                          | C    | Princeton University                            | Electrical and Computer Engineering                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Nop Toemtrina (G)                         | C    | Princeton University                            | Electrical and Computer Engineering                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Chengyu Wang (G)                          | C    | Princeton University                            | Electrical and Computer Engineering                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Pawel Peczkowski (S)                      | PI * | Cardinal Stefan Wyszyński University            | Department of Physics                                | Cardinal Stefan Wyszyński University Warsaw            | Non US College and University           |                                                                              | P20883     | Research on the impact of irradiation on REBCO superconducting tapes.                                           | Development of Magnet Technology | 1      | 4.99      |
| Jan Jaroszynski (S)                       | C    | National High Magnetic Field Laboratory         | CMS                                                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Rastislav Ries (P)                        | C    | Florida State University                        | ASC                                                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Piotr Zachariasz (S)                      | C    | Institute for Microelectronics and Microsystems | LTC Technology Research Group                        |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Mykhaylo Ozerov (S)                       | PI   | National High Magnetic Field Laboratory         | Condensed Matter Science, DC Field CMS               | No other support                                       |                                         |                                                                              | P20886     | Far-infrared magneto-spectroscopy at DC-facility, Development of the IR set-ups                                 | Condensed Matter Physics         | 2      | 9         |
| Alex Eaton (S)                            | PI   | University of Cambridge                         | Physics                                              | EPSRC - UK                                             | Non US Council                          |                                                                              | P20889     | Unconventional superconductivity in high magnetic fields                                                        | Condensed Matter Physics         | 1      | 5.91      |
| Hanyi Chen (G)                            | C    | University of Cambridge                         | Physics quantum matter                               |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| David Graf (S)                            | C    | National High Magnetic Field Laboratory         | DC Field / CMS                                       |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Mengmeng Long (G)                         | C    | University of Cambridge                         | Department of Physics                                |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Theo Weinberger (G)                       | C    | University of Cambridge                         | Cavendish Laboratory                                 |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Zheyu Wu (S)                              | C    | National High Magnetic Field Laboratory         | Condensed Matter Science, DC field                   |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Yasu Takano (S)                           | PI   | University of Florida                           | Physics                                              | NSF                                                    | DMR - Division of Materials Research    | DMR1944975                                                                   | P20890     | Magnetic and thermal properties of quantum spin-liquid candidates                                               | Condensed Matter Physics         | 1      | 15        |
| Eun Sang Choi (S)                         | C    | National High Magnetic Field Laboratory         | Physics Department                                   |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Yasuyuki Nakajima (S)                     | C    | University of Central Florida                   | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Rahil Shaik (U)                           | C    | University of Florida                           | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Christos Panagopoulos (S)                 | PI   | Nanyang Technological University                | Division of Physics and Applied Physics              | Singapore Ministry of Education (MOE)                  | Non US Ministry                         | MOE-MOET02406-00001                                                          | P20891     | A thermal Hall effect study of La2-xSrxCuO4 and La2-xSrxNiO4                                                    | Condensed Matter Physics         | 1      | 7         |
| Minseong Lee (S)                          | C    | National High Magnetic Field Laboratory         | MPA-MAG                                              | Singapore Ministry of Education (MOE)                  | Non US Ministry                         | MOE-MOET32023-0003                                                           |            |                                                                                                                 |                                  |        |           |
| Pinaki Sengupta (S)                       | C    | Nanyang Technological University                | Physics and Applied Physics                          |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Xinyang Zhang (P)                         | C    | Nanyang Technological University                | Physics and Applied Physics                          |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Suchitra Sebastian (S)                    | PI   | University of Cambridge                         | Physics                                              | ERC                                                    | Non US Council                          |                                                                              | P20892     | Unveiling field-induced magnetic transitions using dilatometry                                                  | Condensed Matter Physics         | 1      | 3.16      |
| Alimamy Bangura (S)                       | C    | National High Magnetic Field Laboratory         | CMS                                                  |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Theremozi Elango (G)                      | C    | University of Cambridge                         | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Siya Vilechha (U)                         | C    | University of Durham                            | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |
| Yunjin Xie (U)                            | C    | University of Cambridge                         | Physics                                              |                                                        |                                         |                                                                              |            |                                                                                                                 |                                  |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                               |                                         | Funding Sources<br>(Funding Agency, Division, Award #) |                                        | Proposal #   | Proposal Title                                                                                                        | Discipline                                                                                         | Exp. #                           | Days Used |        |
|-------------------------------------------|----|-----------------------------------------------|-----------------------------------------|--------------------------------------------------------|----------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------|-----------|--------|
| Geetha Balakrishnan (S)                   | PI | University of Warwick                         | Physics                                 | ERC                                                    | Non US Council                         | P20893       | Quantum Oscillations in New Families of Correlated Insulators                                                         | Condensed Matter Physics                                                                           | 1                                | 3.9       |        |
| Therenzhi Elango (G)                      | C  | University of Cambridge                       | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Nicholas Popiel (G)                       | C  | University of Cambridge                       | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Suchitra Sebastian (S)                    | C  | University of Cambridge                       | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Siya Vatecha (U)                          | C  | University of Durham                          | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Yunyun Xie (U)                            | C  | University of Cambridge                       | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Alexey Suslov (S)                         | PI | National High Magnetic Field Laboratory       | Condensed Matter Science                | UCGP                                                   | 5216                                   | P20895       | Cryogenic Preamplifiers: Enhancing NIMFL DC Fields Facility                                                           | Condensed Matter Physics                                                                           | 1                                | 7         |        |
| Jia Li (S)                                | PI | University of Texas, Austin                   | Department of Physics                   | NSF                                                    | OIA - Office of Integrative Activities | 2327206      | P20896                                                                                                                | Composite fermions, fractional excitons, and non-trivial topology in quantum Hall graphene bilayer | Condensed Matter Physics         | 1         | 3.46   |
| Sarah Alkdim (G)                          | C  | Brown University                              | Department of Physics                   |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Harshadeep Maddali (G)                    | C  | University of Texas, Austin                   | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Nhanvan Nguyen (G)                        | C  | Brown University                              | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Naiyuan Zhang (P)                         | C  | University of Washington                      | Department of Physics                   |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Rosario Gerhardt (S)                      | PI | * Georgia Institute of Technology             | Materials Science and Engineering       | Honeywell Corporation subcontract from DARPA           | AWD-006960                             | P20897       | Characterization of magnetoelectric properties in piezoelectric-magnetic composites                                   | Engineering                                                                                        | 1                                | 7         |        |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory       | Physics Department                      |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Dragana Popovic (S)                       | PI | National High Magnetic Field Laboratory       | Condensed Matter Science / Experimental | NSF                                                    | DMR - Division of Materials Research   | DMR2104193   | P20898                                                                                                                | Electrical Transport Studies of Quasi-Two-Dimensional Strongly Correlated Materials II             | Condensed Matter Physics         | 3         | 19.53  |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory       | Physics Department                      |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Charuni Dissanayake (P)                   | C  | National High Magnetic Field Laboratory       | Condensed Matter Science, DC Field CMS  |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Martin Dressel (S)                        | C  | University of Stuttgart                       | Physikalisches Institut                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Rodolfo Marquez Tavera (G)                | C  | National High Magnetic Field Laboratory       | CMS                                     |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Andrei Pustogow (P)                       | C  | University of California, Los Angeles         | Physics and Astronomy                   |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Yohel Saito (S)                           | C  | Goethe University Frankfurt                   | Department of physics                   |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Yun Wang (G)                              | C  | Florida State University                      | CMS                                     |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Tomoya Asaba (S)                          | PI | * University of Virginia                      | Physics                                 | Japan Science and Technology Agency                    | Non US Foundation                      | P20901       | High-field phase transitions of unconventional superconductors                                                        | Condensed Matter Physics                                                                           | 1                                | 2.53      |        |
| Andrew AbdelMalak (G)                     | C  | University of Virginia                        | Physics                                 | UVA startup                                            | Other                                  |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jui-Lin Chin (G)                          | C  | University of Virginia                        | physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Siguru Hosoi (P)                          | C  | Los Alamos National Laboratory                | MPA-Q                                   |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Alexey Suslov (S)                         | PI | National High Magnetic Field Laboratory       | Condensed Matter Science                | No other support                                       |                                        | P20914       | Improvement and Development of Experimental Techniques at the NIMFL DC Field Facility; 2025                           | Condensed Matter Physics                                                                           | 4                                | 36        |        |
| Samaneesh Guchhait (S)                    | PI | * Howard University                           | Physics and Astronomy                   | DOE                                                    | BES - Basic Energy Sciences            | DE-SC0013599 | P20930                                                                                                                | Study of Heisenberg and Ising-like Phase Transitions in Vector Spin Glass                          | Condensed Matter Physics         | 1         | 13     |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory       | DC Field / CMS                          |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Christianne Beekman (S)                   | PI | National High Magnetic Field Laboratory       | Physics                                 | NSF                                                    | DMR - Division of Materials Research   | DMR1847887   | P20935                                                                                                                | Investigating the effect of strain and disorder on quantum spin ices                               | Condensed Matter Physics         | 3         | 28     |
| Robert Hill (S)                           | C  | University of Waterloo                        | Physics and Astronomy                   |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jezreel Hinson (U)                        | C  | Florida State University                      | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Alysia Bella Lake (S)                     | C  | Helmholtz Zentrum-Berlin                      | QM-IQM                                  |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Dillon McNamara (G)                       | C  | Florida State University                      | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jennifer Reid (P)                         | C  | National High Magnetic Field Laboratory       | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jun Lu (S)                                | PI | National High Magnetic Field Laboratory       | MS&T                                    | NSF                                                    | DMR - Division of Materials Research   | DMR2131790   | P20939                                                                                                                | IC measurement of REBCO tapes for 40 T project using torque magnetometry                           | Development of Magnet Technology | 1         | 107.98 |
| Dmytro Abramov (S)                        | C  | National High Magnetic Field Laboratory       | The Applied Superconductivity Center    |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jeeseok Bang (S)                          | C  | National High Magnetic Field Laboratory       | ASC                                     |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jon Jarczyński (S)                        | C  | National High Magnetic Field Laboratory       | CMS                                     |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jeremy Levitan (T)                        | C  | National High Magnetic Field Laboratory       | MS&T                                    |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Rastislav Ries (P)                        | C  | Florida State University                      | ASC                                     |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Sergei Zyuganin (S)                       | PI | Helmholtz Zentrum Dresden-Rossendorf          | Dresden High Magnetic Field Laboratory  | DFG                                                    | Other Non US Federal Agency            | P20953       | Magnetic Properties of Low-Dimensional and Frustrated Spin Systems                                                    | Condensed Matter Physics                                                                           | 1                                | 7         |        |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory       | DC Field / CMS                          |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Mark Turnbull (S)                         | C  | Clark University                              | Chemistry                               |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Denis Karasikaj (S)                       | PI | University of South Florida                   | Physics                                 | Funded by the principal investigator, rebate funds     | Other                                  | P20958       | Measuring the effect of the isotopic disorder in the quantum Hall effects                                             | Condensed Matter Physics                                                                           | 1                                | 7         |        |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory       | CMS                                     |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Alexandra Dickinson-Lomas (S)             | PI | * UK Atomic Energy Authority                  | Materials,                              | UK Atomic Energy Authority                             | Non US Government Lab                  | P20962       | Impact of high magnetic field and high temperatures on microstructural stability of fusion relevant structural steels | Material Science                                                                                   | 1                                | 9.34      |        |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory       | CMS                                     |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| David Bowden (S)                          | C  | UK Atomic Energy Authority                    | Materials                               |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory       | Physics Department                      |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Amy Gandy (S)                             | C  | UK Atomic Energy Authority                    | Materials                               |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jack Haley (S)                            | C  | UK Atomic Energy Authority                    | Materials                               |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| John Singleton (S)                        | C  | National High Magnetic Field Laboratory       | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jak Chakhalian (S)                        | PI | Rutgers University                            | physics                                 | DOE                                                    | BES - Basic Energy Sciences            | DE-SC0022160 | P20965                                                                                                                | Magnetotransport study on Weyl semimetal and spin ice interfaces                                   | Condensed Matter Physics         | 1         | 7      |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory       | Physics Department                      |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory       | DC Field / CMS                          |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Michael Terill (G)                        | C  | Rutgers University                            | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Tsung-Chi Wu (G)                          | C  | Rutgers University                            | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Christian Zaprianov (G)                   | C  | Rutgers University                            | Physics and Astronomy                   |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Hanwei Guo (S)                            | PI | * Florida State University                    | Physics                                 | NSF                                                    | DMR - Division of Materials Research   | DMR2110814   | P20966                                                                                                                | Magneto optics for 2D hybrid perovskite                                                            | Condensed Matter Physics         | 1         | 7      |
| Zhengguang Lu (S)                         | C  | Florida State University                      | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Stephen McGill (S)                        | C  | National High Magnetic Field Laboratory       | Condensed Matter Science                |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Dmitry Smirnov (S)                        | C  | National High Magnetic Field Laboratory       | Instrumentation & Operations            |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Wei Pan (S)                               | PI | Sandia National Laboratories                  | Materials Physics Department            | Sandia National Labs                                   | US Government Lab                      | P20968       | Electronic transport studies in high-mobility low-density InAs quantum wells                                          | Condensed Matter Physics                                                                           | 2                                | 14        |        |
| Kent Smith (S)                            | C  | Sandia National Laboratories                  | 8351                                    |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Henry Trivaglini (P)                      | C  | Sandia National Laboratories                  | Materials Physics                       |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Dmitry Smirnov (S)                        | PI | National High Magnetic Field Laboratory       | Instrumentation & Operations            | No other support                                       |                                        | P20978       | Testing new probes and techniques for high-field optical magnetospectroscopy                                          | Condensed Matter Physics                                                                           | 1                                | 14        |        |
| Dmitry Serenov (T)                        | C  | National High Magnetic Field Laboratory       | DC Field                                |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Naipeng Zhang (P)                         | C  | National High Magnetic Field Laboratory       | Physics                                 |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Kenneth Knappenberger (S)                 | PI | Pennsylvania State University University Park | Chemistry                               | NSF                                                    | CHE - Chemistry                        | CHE2204190   | P20980                                                                                                                | Electronic Spin Dynamics in Supramolecular Clusters                                                | Chemistry                        | 1         | 4.41   |
| Daniel Heintzelman (G)                    | C  | Pennsylvania State University                 | Chemistry                               |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Stephen McGill (S)                        | C  | National High Magnetic Field Laboratory       | Condensed Matter Science                |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Aaron Oakes (G)                           | C  | Pennsylvania State University                 | Chemistry                               |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Jeffrey Long (S)                          | PI | University of California, Berkeley            | Chemistry                               | DOE                                                    | BES - Basic Energy Sciences            | DE-SC0025176 | P20981                                                                                                                | Far-Infrared Magnetospectroscopic Study of Erbium-based Molecular Qubits                           | Chemistry                        | 1         | 7      |
| David Harris (S)                          | C  | University of California, Berkeley            | Chemistry                               |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Leander Held (G)                          | C  | University of California, Berkeley            | College of Chemistry                    |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |
| Verner Saask (G)                          | C  | University of California, Berkeley            | College of Chemistry                    |                                                        |                                        |              |                                                                                                                       |                                                                                                    |                                  |           |        |

2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                         |                                   | Funding Sources<br>(Funding Agency, Division, Award #) |                           | Proposal # | Proposal Title                                                                           | Discipline                       | Exp. # | Days<br>Used |              |       |  |  |
|-------------------------------------------|----|-----------------------------------------|-----------------------------------|--------------------------------------------------------|---------------------------|------------|------------------------------------------------------------------------------------------|----------------------------------|--------|--------------|--------------|-------|--|--|
| Ashleigh Francis (S)                      | PI | Commonwealth Fusion Systems             | R&D                               | Commonwealth Fusion Systems                            |                           | P20984     | High field characterization of REBCO high temperature superconductors for fusion magnets | Development of Magnet Technology | 1      | 6,021        |              |       |  |  |
| Ji, (Jie Lee-Ling) Cheng (S)              | C  | Commonwealth Fusion Systems             | Research & Development            |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Jan Jaroszynski (S)                       | C  | National High Magnetic Field Laboratory | CMS                               |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Maise Shepard (S)                         | C  | Commonwealth Fusion Systems             | R&D                               |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Fnu Tushar (G)                            | C  | Ohio State University                   | Material Science and Engineering  |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Xander Wang (S)                           | C  | Commonwealth Fusion Systems             | R&D                               |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Md Shafayat Hossain (S)                   | PI | University of California, Los Angeles   | Materials Science and Engineering | UCLA startup grant                                     | Other                     | P20997     | Electrical and thermal transport of quantum materials with multiple competing orders     | Condensed Matter Physics         | 4      | 36           |              |       |  |  |
| Luis Balicas (S)                          | C  | National High Magnetic Field Laboratory | Condensed Matter Experiment       | UCLA startup grant                                     | US College and University |            |                                                                                          |                                  |        |              |              |       |  |  |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory | CMS                               |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory | Physics Department                |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| David Graf (S)                            | C  | National High Magnetic Field Laboratory | DC Field / CMS                    |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Danilo Roberto Ratkovski (O)              | C  | National High Magnetic Field Laboratory | CMS                               |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Eric Yeh (G)                              | C  | University of California, Los Angeles   | Material Science and Engineering  |                                                        |                           |            |                                                                                          |                                  |        |              |              |       |  |  |
| Total Proposals:                          |    |                                         |                                   |                                                        |                           |            |                                                                                          |                                  |        |              | Experiments: | Days: |  |  |
| 155                                       |    |                                         |                                   |                                                        |                           |            |                                                                                          |                                  |        |              | 265          | 1,911 |  |  |



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|-------------------------------------------|----|------------------------------------------------|------------------------------------------|---------------------------------------------------------------------------------------|-----------------------------------------|----------------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------|-----------|
| Natia Frank (S)                           | PI | University of Nevada Reno                      | Chemistry                                | NSF                                                                                   | CHE - Chemistry                         | CHE1956301           | P20070     | EPR Investigation of Optically Gated Spin State Switching in Photochromic Cobalt Dioxolenes for Quantum Information Science                           | Chemistry                | 1      | 3         |
| Anitha Alanthadka (P)                     | C  | University of Nevada Reno                      | Department of Chemistry                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Subrata Ghosh (P)                         | C  | University of Nevada Reno                      | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Brittany Grimm (G)                        | C  | Florida State University                       | Physics                                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Stephen Hill (S)                          | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Johan van Tol (S)                         | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Daniel Mindiola (S)                       | PI | University of Pennsylvania                     | Chemistry                                | NSF                                                                                   | CHE - Chemistry                         | CHE0848248           | P20072     | Applying High-Frequency and -Field EPR Spectroscopy of High-Spin First Row Transition Metal Ions that Hold Relevance as Catalysts for Cyclic Polymers | Chemistry                | 1      | 3         |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory        | EMR                                      | NSF                                                                                   | CHE - Chemistry                         | CHE1152123           |            |                                                                                                                                                       |                          |        |           |
| Joshua Teiser (S)                         | C  | Roosevelt University                           | Biological, Physical and Health Sciences |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Samuel Veroneau (P)                       | C  | University of Pennsylvania                     | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Xiaoling Wang (S)                         | PI | California State University, East Bay          | Chemistry                                | DOE                                                                                   | Office of Science                       | DE-SC0025712         | P20077     | Investigation of Magnetic Properties of Quantum Spin Ice Candidates using High Field EPR                                                              | Condensed Matter Physics | 3      | 13        |
| Manoj Vinayaka Hanabe Subramanya (P)      | C  | Florida State University                       | Physics                                  | Laboratory Directed Research and Development Program of Oak Ridge National Laboratory | US Government Lab                       |                      |            |                                                                                                                                                       |                          |        |           |
| Anthony Ma (U)                            | C  | California State University, East Bay          | Biochemistry                             |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory        | Electron Magnetic Resonance              |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Johan van Tol (S)                         | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Alina Bienko (S)                          | PI | University of Wroclaw                          | Faculty of Chemistry                     | Wroclaw University, Poland                                                            | Non US College and University           |                      | P20080     | Toward "better" molecular magnets. Correlation between structure and magnetic anisotropy.                                                             | Chemistry                | 2      | 14        |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Piotr Garbacz (S)                         | PI | University of Warsaw                           | Faculty of Chemistry                     | National Science Centre, Poland                                                       | Other                                   | 2018/31/B/ ST4/02570 | P20121     | Chirality-sensitive effects in electron paramagnetic resonance spectroscopy                                                                           | Chemistry                | 2      | 11        |
| Thierry Dubroca (S)                       | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Johan van Tol (S)                         | PI | National High Magnetic Field Laboratory        | EMR                                      | No other support                                                                      | UCGP                                    |                      | P20140     | Maintenance and testing                                                                                                                               | Condensed Matter Physics | 7      | 47.5      |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory        | Electron Magnetic Resonance              |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| George Christou (S)                       | PI | University of Florida                          | Chemistry                                | DOE                                                                                   | BES – Basic Energy Sciences             | DE-SC0019330         | P20172     | EPR Investigation of 3d Transition Metal Complexes as Molecular Qubits                                                                                | Chemistry                | 6      | 45        |
| ChristiAnna Brantley (P)                  | C  | University of Florida                          | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Alexander Diodati (G)                     | C  | University of Florida                          | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Ethan Fisher (G)                          | C  | University of Florida                          | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Stephen Hill (S)                          | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Jakub Hruby (P)                           | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory        | Electron Magnetic Resonance              |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Danna Freedman (S)                        | PI | Northwestern University                        | Chemistry                                | DOE                                                                                   | BES – Basic Energy Sciences             | DE-SC0019356         | P20197     | Developing the next generation of optically addressable molecular qubits                                                                              | Chemistry                | 3      | 27        |
| Rianna Greer (G)                          | C  | Massachusetts Institute of Technology          | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Manoj Vinayaka Hanabe Subramanya (P)      | C  | Florida State University                       | Physics                                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Stephen Hill (S)                          | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Cindy Serena Ngombe Massado (G)           | C  | Massachusetts Institute of Technology          | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Kavipriya Thangavel (P)                   | C  | Florida State University                       | Physics                                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Andreas Danopoulos (S)                    | PI | National and Kapodistrian University of Athens | Chemistry                                | National and Kapodistrian University of Athens                                        | Non US College and University           |                      | P20208     | Zero-field splitting in mononuclear 3-coordinate S = 2 Cr(II) and oligonuclear lower oxidation state chromium complexes, probed by HF-EPR             | Chemistry                | 2      | 12        |
| Jurek Krzystek (S)                        | C  | National High Magnetic Field Laboratory        | Condensed Matter Science                 |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Panayotis Kyritsis (S)                    | C  | National and Kapodistrian University of Athens | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Selvan Demir (S)                          | PI | Michigan State University                      | Department of Chemistry                  | No other support                                                                      |                                         |                      | P20218     | Magnetic Properties of Radical-Bridged Lanthanide Complexes                                                                                           | Chemistry                | 2      | 12        |
| Florian Benner (G)                        | C  | Michigan State University                      | Department of Chemistry                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Saroshan Deshapriya (G)                   | C  | Michigan State University                      | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Manoj Vinayaka Hanabe Subramanya (P)      | C  | Florida State University                       | Physics                                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Stephen Hill (S)                          | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Jakub Hruby (P)                           | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Linda Doerner (S)                         | PI | Boston University                              | Chemistry Department                     | NSF                                                                                   | CHE - Chemistry                         | CHE1800313           | P20278     | Dimeric (MnII)2(·2-CO3) Compound, Mixed-valent (MnII) Cluster and Related MnIV Species                                                                | Chemistry                | 2      | 10.5      |
| Jessica Elinburg (G)                      | C  | Boston University                              | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Shawn Moore (G)                           | C  | Boston University                              | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory        | Electron Magnetic Resonance              |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Léa Toubiana (G)                          | C  | Boston University                              | Department of Chemistry                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Mary Ellen Zvanut (S)                     | PI | University of Alabama, Birmingham              | Physics                                  | No other support                                                                      |                                         |                      | P20280     | Field Dependence of Electron Spin Lattice Relaxation in Spin Qubit Candidates                                                                         | Condensed Matter Physics | 1      | 8         |
| Johan van Tol (S)                         | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Kirill Kovnir (S)                         | PI | Iowa State University                          | Chemistry                                | NSF                                                                                   | DMR - Division of Materials Research    | DMR2003783           | P20296     | EPR investigation of the metastable 3d transition metal layered compounds                                                                             | Chemistry                | 1      | 2         |
| Yao Abusa (G)                             | C  | Iowa State University                          | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Michael Shatruk (S)                       | PI | National High Magnetic Field Laboratory        | Department of Chemistry and Biochemistry | DOE                                                                                   | EFRC - Energy Frontier Research Centers | DESC0019330          | P20300     | Crystal Structure of Valence Tautomeric Cobalt Complex in High Magnetic Fields                                                                        | Material Science         | 9      | 45        |
| Ferdous Ara (P)                           | C  | National High Magnetic Field Laboratory        | NHMF                                     | DOE                                                                                   | BES – Basic Energy Sciences             | DE-SC0019330         |            |                                                                                                                                                       |                          |        |           |
| Shubham Bhat (G)                          | C  | Florida State University                       | Chemistry and Biochemistry               | NSF                                                                                   | CHE - Chemistry                         | CHE2300779           |            |                                                                                                                                                       |                          |        |           |
| Miguel Gakiya (G)                         | C  | Florida State University                       | Chemistry and Biochemistry               |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Eduardo Hernandez Requejo (G)             | C  | Florida State University                       | Chemistry and Biochemistry               |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Stephen Hill (S)                          | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Jakub Hruby (P)                           | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Divya Kumar (G)                           | C  | Florida State University                       | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Divya Mondal (P)                          | C  | Florida State University                       | Chemistry and Biochemistry               |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory        | Electron Magnetic Resonance              |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory        | Condensed Matter Science, DC Field CMS   |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Rachel Perez Roque (G)                    | C  | Florida State University                       | Chemistry and Biochemistry               |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Theo Siegrist (S)                         | C  | National High Magnetic Field Laboratory        | Chemical and Biomedical Engineering      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Alexey Suslov (S)                         | C  | National High Magnetic Field Laboratory        | Condensed Matter Science                 |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Kavipriya Thangavel (P)                   | C  | Florida State University                       | Physics                                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Johan van Tol (S)                         | C  | National High Magnetic Field Laboratory        | EMR                                      |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| James Wampler (P)                         | C  | Los Alamos National Laboratory                 | MPA-MAGLAB                               |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Ronghe Wang (G)                           | C  | Florida State University                       | Physics                                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Sandugash Yergeshbayeva (S)               | C  | University of Southern California              | Chemistry                                |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |
| Vivien Zapf (S)                           | C  | National High Magnetic Field Laboratory        | Physics                                  |                                                                                       |                                         |                      |            |                                                                                                                                                       |                          |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org. Dept.)   |    |                                          |                                                                          | Funding Sources<br>(Funding Agency, Division, Award #) |                                                        |              | Proposal # | Proposal Title                                                                                                                                                             | Discipline                        | Exp. # | Days Used |  |
|--------------------------------------------|----|------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|--|
| Thierry Dubroca (S)                        | PI | National High Magnetic Field Laboratory  | EMR                                                                      | NSF                                                    | DMR - Division of Materials Research                   | DMR2128556   | P20301     | Hardware development, upgrades and maintenance of Electron Magnetic Resonance spectrometers                                                                                | Engineering                       | 13     | 95        |  |
| Brittany Grimm (G)                         | C  | Florida State University                 | Physics                                                                  | NSF                                                    | DMR - Division of Materials Research                   | DMR1644779   |            |                                                                                                                                                                            |                                   |        |           |  |
| Manoj Vinayaka Hanabe Subramanya (P)       | C  | Florida State University                 | Physics                                                                  |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Ilya Litvak (S)                            | C  | National High Magnetic Field Laboratory  | CIMAR/NMR                                                                |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Jenica Lumata (P)                          | C  | National High Magnetic Field Laboratory  | NMR/CIMAR                                                                |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Kavipriya Thangavel (P)                    | C  | Florida State University                 | Physics                                                                  |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Bianca Trociewitz (S)                      | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| E. Carolina Sañudo (S)                     | PI | University of Barcelona                  | Inorganic and Organic Chemistry                                          | No other support                                       |                                                        |              | P20305     | Phase-Memory Time of Large Area Arrays of Qubits                                                                                                                           | Material Science                  | 1      | 1         |  |
| Guillem Gabarró-Riera (G)                  | C  | University of Barcelona                  | Inorganic and Organic Chemistry department. Inorganic Chemistry Section. |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Manoj Vinayaka Hanabe Subramanya (P)       | C  | Florida State University                 | Physics                                                                  |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Stephen Hill (S)                           | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Jakub Hruby (P)                            | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Jiasong Li (S)                             | PI | University of Texas, San Antonio         | Chemistry                                                                | NIH                                                    | NIHMS - National Institute of General Medical Sciences | GM108988     | P20342     | High frequency high-resolution EPR studies of the crosslinked cofactor radical intermediate in bifunctional enzyme KatG from Mycobacterium tuberculosis                    | Biology, Biochemistry, Biophysics | 1      | 5         |  |
| Ran Duan (G)                               | C  | University of Texas, San Antonio         | Chemistry                                                                | NSF                                                    | CHE - Chemistry                                        | CHE2204225   |            |                                                                                                                                                                            |                                   |        |           |  |
| Thierry Dubroca (S)                        | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Jurek Krzystek (S)                         | C  | National High Magnetic Field Laboratory  | Condensed Matter Science                                                 |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Aimin Liu (S)                              | C  | University of Texas, San Antonio         | Chemistry                                                                |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Tomas Orlando (S)                          | C  | National High Magnetic Field Laboratory  | Electron Magnetic Resonance                                              |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Grace Morgan (S)                           | PI | University College Dublin                | School of Chemistry and Chemical Biology                                 | No other support                                       |                                                        |              | P20360     | High Field EPR Analysis of Redox and Spin State in Spin Crossover Complexes                                                                                                | Chemistry                         | 2      | 31.5      |  |
| Francesca Adami (G)                        | C  | University College Dublin                | School of Chemistry                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Emmelyne Cuza (P)                          | C  | University College Dublin                | Chemistry                                                                |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Brittany Grimm (G)                         | C  | Florida State University                 | Physics                                                                  |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Stephen Hill (S)                           | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Jurek Krzystek (S)                         | C  | National High Magnetic Field Laboratory  | Condensed Matter Science                                                 |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Zoi Lada (P)                               | C  | University College Dublin                | School of Chemistry                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Andrew Ozarowski (S)                       | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Mykhaylo Ozerov (S)                        | C  | National High Magnetic Field Laboratory  | Condensed Matter Science, DC Field CMS                                   |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Johan van Tol (S)                          | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Henry La Pierre (S)                        | PI | Georgia Institute of Technology          | School of Chemistry and Biochemistry                                     | DOE                                                    | BES – Basic Energy Sciences                            | DE-SC0023455 | P20424     | Measuring and Tuning the Effects of Crystal Field and Vibrational Degrees of Freedom on the Static and Dynamic Properties of Lanthanide and Actinide Molecular Nanomagnets | Chemistry                         | 1      | 14        |  |
| Maximilian Bernbeck (P)                    | C  | Georgia Institute of Technology          | Chemistry                                                                |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Rasmus Tang Christensen (P)                | C  | Georgia Institute of Technology          | School of Physics and School of Chemistry and Biochemistry               |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Thierry Dubroca (S)                        | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Manoj Vinayaka Hanabe Subramanya (P)       | C  | Florida State University                 | Physics                                                                  |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Kavipriya Thangavel (P)                    | C  | Florida State University                 | Physics                                                                  |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Grant Wilkinson (G)                        | C  | Georgia Institute of Technology          | School of Chemistry                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Tomas Orlando (S)                          | PI | National High Magnetic Field Laboratory  | Electron Magnetic Resonance                                              | UCGP                                                   |                                                        |              | P20433     | Characterization of EPR properties of organic radicals in liquids at high frequencies                                                                                      | Chemistry                         | 3      | 8.5       |  |
| Jhensie Cabigting (U)                      | C  | California State University, East Bay    | Chemistry/Biochemistry                                                   | UCGP                                                   |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Rachel Clark (G)                           | C  | Florida State University                 | Chemistry & Biochemistry                                                 |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Thierry Dubroca (S)                        | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Angeliki Giannoulis (S)                    | C  | Weizmann Institute of Science            | Chemical and biological physics                                          |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Stephen Hill (S)                           | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Natalie Ibbetson (U)                       | C  | California State University, East Bay    | Chemistry                                                                |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Frederic Mentink (S)                       | C  | National High Magnetic Field Laboratory  | CIMAR                                                                    |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Johan van Tol (S)                          | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Maynor Zeron (U)                           | C  | Florida State University                 | Chemistry and Biochemistry                                               |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Hui Xiong (S)                              | PI | Boise State University                   | Materials Science and Engineering                                        | DOE                                                    | ASCR - Advanced Scientific Computing Research          | DE-SC0019121 | P20451     | Understanding the synergy of anion and transition metal redox in in P2-type cathodes for sodium-ion batteries using EPR spectroscopy.                                      | Material Science                  | 2      | 14.5      |  |
| Megan Burill (G)                           | C  | Northwestern University                  | Materials Science and Engineering                                        |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Dewen Hou (P)                              | C  | Boise State University                   | Department of Materials Science and Engineering                          |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Yan-Yan Hu (S)                             | C  | Florida State University                 | Chemistry & Biochemistry                                                 |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Islamiyat Ojelade (G)                      | C  | Florida State University                 | Chemistry and Biochemistry                                               |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Ifoluwa Oyekunle (G)                       | C  | Florida State University                 | Chemistry                                                                |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Erica Truong (G)                           | C  | Florida State University                 | Chemistry and Biochemistry                                               |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Claudia Avalos (S)                         | PI | New York University                      | Chemistry                                                                | New York University                                    | US College and University                              |              | P20459     | Optically induced spin polarization in strongly-coupled chromophore-radical systems studied via transient electron magnetic resonance                                      | Chemistry                         | 2      | 11        |  |
| Martin Kirk (S)                            | C  | University of New Mexico                 | Department of Chemistry                                                  |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| David Shultz (S)                           | C  | North Carolina State University          | Chemistry                                                                |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Johan van Tol (S)                          | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Wen Zhu (S)                                | PI | Florida State University                 | Chemistry and Biochemistry                                               | NSF                                                    | CHE - Chemistry                                        | CHE2320338   | P20508     | Dissecting the Reaction Mechanism of Radical SAM Enzymes                                                                                                                   | Biology, Biochemistry, Biophysics | 1      | 2         |  |
| Lilly Cheek (G)                            | C  | Florida State University                 | Chemistry and Biochemistry                                               |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Tomas Orlando (S)                          | C  | National High Magnetic Field Laboratory  | Electron Magnetic Resonance                                              |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Snorri Sigurdsson (S)                      | PI | University of Iceland                    | Chemistry                                                                | NIH                                                    | NIHMS - National Institute of General Medical Sciences | GM148766     | P20530     | Improving biradicals for MAS-DNP at high fields: a combined approach of Spin-Dynamics theory, DFT and high-field EPR                                                       | Biology, Biochemistry, Biophysics | 2      | 8         |  |
| Satyaki Chatterjee (G)                     | C  | University of Iceland                    | Department of Chemistry                                                  |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Thierry Dubroca (S)                        | C  | National High Magnetic Field Laboratory  | EMR                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Frederic Mentink (S)                       | C  | National High Magnetic Field Laboratory  | CIMAR                                                                    |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Faith Scott (P)                            | C  | National High Magnetic Field Laboratory  | Biochemistry & Molecular Biology                                         |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Andrew Ozarowski (S)                       | PI | National High Magnetic Field Laboratory  | EMR                                                                      | No other support                                       |                                                        |              | P20555     | CALIBRATION AND MAINTENANCE OF THE 15/17 T EPR INSTRUMENT                                                                                                                  | Development of Magnet Technology  | 1      | 25.5      |  |
| Robert Stanton (O)                         | C  | National High Magnetic Field Laboratory  | MS&T - Resistive Magnets                                                 |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Muniyandi Sankaralingam (S)                | PI | National Institute of Technology Calicut | Chemistry                                                                | No other support                                       |                                                        |              | P20558     | Solid State Structural Characterization of Nickel(II) Complexes                                                                                                            | Chemistry                         | 1      | 6.5       |  |
| Malitha Chathuranga Dickwella Widanage (P) | C  | National Renewable Energy Laboratory     | DOE                                                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Tomas Orlando (S)                          | C  | National High Magnetic Field Laboratory  | Electron Magnetic Resonance                                              |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |
| Ayulusamy Ramamoorthy (S)                  | C  | Florida State University                 | Chemical and Biomedical Engineering                                      |                                                        |                                                        |              |            |                                                                                                                                                                            |                                   |        |           |  |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                         |                                                   | Funding Sources<br>(Funding Agency, Division, Award #)      |                                                        |                  | Proposal # | Proposal Title                                                                                                                                                                                                           | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|----|-----------------------------------------|---------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------|------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Xavier Roy (S)                            | PI | * Columbia University                   | Chemistry                                         | DOE                                                         | BES – Basic Energy Sciences                            | DE-SC0023406     | P20634     | Tunable Electron Correlations in 2D and Quasi-2D Materials                                                                                                                                                               | Condensed Matter Physics          | 2      | 12.5      |
| Anna Champ (G)                            | C  | Columbia University                     | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Christie Koaoy (G)                        | C  | Columbia University                     | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Jiayi Li (P)                              | C  | Columbia University                     | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Jeffrey McNeill (P)                       | C  | Columbia University                     | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory | Electron Magnetic Resonance                       |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Arun Ramanathan (P)                       | C  | Columbia University                     | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Johan van Tol (S)                         | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Michael Ziebel (P)                        | C  | Columbia University                     | Chemistry and Physics                             |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Thao Tran (S)                             | PI | Clemson University                      | Chemistry                                         | NSF                                                         | OIA - Office of Integrative Activities                 | NSF-OIA-2227933  | P20648     | Understanding the Spin Dynamics of Eu2+ for Molecular Qubit Design                                                                                                                                                       | Chemistry                         | 1      | 3.5       |
| Uchenna Chinaegbomkpa (G)                 | C  | Clemson University                      | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory | Electron Magnetic Resonance                       |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Michal Winiarski (S)                      | C  | Gdansk University of Technology         | Faculty of Applied Physics and Mathematics        |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Abhijit Biswas (S)                        | PI | Rice University                         | Materials Science and Nanoengineering             | No other support                                            |                                                        |                  | P20662     | Investigation of defects in h-BN thin films as a source of quantum emitters                                                                                                                                              | Condensed Matter Physics          | 3      | 17        |
| Pulickel Ajayan (S)                       | C  | Rice University                         | Materials Science and Nano Engineering            |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Arika Chatterjee (G)                      | C  | Rice University                         | Department of Electrical and Computer Engineering |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Manoj Vinayaka Hanabe Subramanya (P)      | C  | Florida State University                | Physics                                           |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Stephen Hill (S)                          | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Jakub Hruby (P)                           | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Quang Nguyen (G)                          | C  | Florida State University                | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Jeffrey Long (S)                          | PI | University of California, Berkeley      | Chemistry                                         | No other support                                            |                                                        |                  | P20690     | Hard Permanent Magnetism from Mixed-Valence Dilanthanide Complexes with Metal-Metal Bonding                                                                                                                              | Biology, Biochemistry, Biophysics | 1      | 3         |
| Audrey Bartlett (G)                       | C  | Massachusetts Institute of Technology   | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Eun Sang Choi (S)                         | C  | National High Magnetic Field Laboratory | Physics Department                                |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Neil Harrison (S)                         | C  | National High Magnetic Field Laboratory | Physics                                           |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Jakub Hruby (P)                           | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Emi Ito (T)                               | C  | University of California, Berkeley      | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Hyunchul Kwon (G)                         | C  | University of California, Berkeley      | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Danh Ngo (G)                              | C  | University of California, Berkeley      | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory | Condensed Matter Science, DC Field CMS            |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Ziling Xue (S)                            | PI | University of Tennessee, Knoxville      | Chemistry                                         | NSF                                                         | CHE - Chemistry                                        | CHE2349345       | P20696     | Studies of Molecular Quantum Materials by Magneto-Spectroscopies                                                                                                                                                         | Chemistry                         | 3      | 17        |
| Adiat Fakolujo (G)                        | C  | University of Tennessee, Knoxville      | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Michael Jenkins (G)                       | C  | University of Tennessee, Knoxville      | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Jurek Krzystek (S)                        | C  | National High Magnetic Field Laboratory | Condensed Matter Science                          |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Amanpreet Mahmi (G)                       | C  | University of Tennessee, Knoxville      | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory | Condensed Matter Science, DC Field CMS            |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Brandon Sanders (G)                       | C  | University of Tennessee, Knoxville      | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Johan van Tol (S)                         | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Igor Alabugin (S)                         | PI | Florida State University                | Department of Chemistry & Biochemistry            | NSF                                                         | CHE - Chemistry                                        | CHE2102579       | P20726     | Synthesis and Characterization of Polyaromatic Diradicals with Tunable Electronic and Spin Properties                                                                                                                    | Chemistry                         | 1      | 10        |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory | CMAR                                              |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory | Electron Magnetic Resonance                       |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Michael Shatruk (S)                       | C  | National High Magnetic Field Laboratory | Department of Chemistry and Biochemistry          |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Nicholas Chilton (S)                      | PI | Australian National University          | Research School of Chemistry                      | Australian National University                              | Non US College and University                          |                  | P20733     | Narrow linewidth Gd(III) spin labels                                                                                                                                                                                     | Chemistry                         | 1      | 5         |
| Thierry Dubroca (S)                       | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Jurek Krzystek (S)                        | C  | National High Magnetic Field Laboratory | Condensed Matter Science                          |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| David Parker (S)                          | C  | University of Durham                    | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Thomas Gunnoe (S)                         | PI | University of Virginia                  | Chemistry                                         | DOE                                                         | BES – Basic Energy Sciences                            | DE-SC00234430    | P20734     | EPR Spectroscopy to Characterize 1st Row Transition Metal Complexes                                                                                                                                                      | Chemistry                         | 1      | 12        |
| Macarena González Alferez (P)             | C  | University of Virginia                  | chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory | Electron Magnetic Resonance                       |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Amrit Venkatesh (S)                       | C  | University of Virginia                  | Department of Chemistry                           |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| David Herbert (S)                         | PI | University of Manitoba                  | Department of Chemistry                           | Natural Sciences and Engineering Research Council of Canada | Other Non US Federal Agency                            | RGPIN-04501-2022 | P20747     | High-Frequency /-Field EPR and FRIMS Spectroscopy of Structurally Distorted High-Spin Fe(II) Complexes and High-Low-Spin Fe(II) Complexes of Methylated Pincer-Type Amido Ligands With Complicated Electronic Structures | Chemistry                         | 1      | 2         |
| Amelia Kacperkiewicz (G)                  | C  | University of Manitoba                  | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Jurek Krzystek (S)                        | C  | National High Magnetic Field Laboratory | Condensed Matter Science                          |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory | Condensed Matter Science, DC Field CMS            |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Baldeep Sidhu (G)                         | C  | University of Manitoba                  | Chemistry                                         |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Joshua Teiser (S)                         | C  | Roosevelt University                    | Biological, Physical and Health Sciences          |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Enrique Colacio (S)                       | PI | University of Granada                   | Inorganic Chemistry                               | No other support                                            |                                                        |                  | P20776     | Toward more efficient Co(II) based Single-Molecule Magnets by controlling the trigonal prismatic geometry and magnetic exchange interactions                                                                             | Chemistry                         | 1      | 2         |
| Jurek Krzystek (S)                        | C  | National High Magnetic Field Laboratory | Condensed Matter Science                          |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Mykhaylo Ozerov (S)                       | C  | National High Magnetic Field Laboratory | Condensed Matter Science, DC Field CMS            |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Piotr Kulik (S)                           | PI | * University of Central Florida         | ECE                                               | No other support                                            |                                                        |                  | P20801     | Double Sided Thin Film Ferrimagnetic Materials                                                                                                                                                                           | Engineering                       | 1      | 2         |
| Daniel hedlund (P)                        | C  | University of Central Florida           | Electrical Engineering                            |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Johan van Tol (S)                         | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Joseph Zadrozny (S)                       | PI | Ohio State University                   | Chemistry and Biochemistry                        | NIH                                                         | NIGMS - National Institute of General Medical Sciences | GM150894         | P20842     | Determination of zero-field splitting and spin relaxation in metal complexes                                                                                                                                             | Chemistry                         | 1      | 1         |
| Srikanth Dasari (P)                       | C  | Ohio State University                   | Chemistry and Biochemistry                        |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Andrew Ozarowski (S)                      | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Maheswaran Shanmugam (S)                  | PI | Indian Institute of Technology, Bombay  | Chemistry                                         | No other support                                            |                                                        |                  | P20860     | Phase memory time - Co and Fe metal complexes                                                                                                                                                                            | Condensed Matter Physics          | 6      | 59.5      |
| Stephen Hill (S)                          | C  | National High Magnetic Field Laboratory | EMR                                               |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Kavipriya Thangavel (P)                   | C  | Florida State University                | Physics                                           |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Stephen Hill (S)                          | PI | National High Magnetic Field Laboratory | EMR                                               | Florida State University                                    | US College and University                              |                  | P20905     | Multiphoton magnetic resonance experiment on a Gd3+-YVO4 single crystal towards demonstration of Grover's algorithm                                                                                                      | Condensed Matter Physics          | 2      | 57.67     |
| Sebastian Aboud (P)                       | C  | National High Magnetic Field Laboratory | Electron Magnetic Resonance Facility              |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Manoj Vinayaka Hanabe Subramanya (P)      | C  | Florida State University                | Physics                                           |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |
| Tomas Orlando (S)                         | C  | National High Magnetic Field Laboratory | Electron Magnetic Resonance                       |                                                             |                                                        |                  |            |                                                                                                                                                                                                                          |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org. Dept.) |    |                                                     | Funding Sources<br>(Funding Agency, Division, Award #) |                                    |                                                        | Proposal #   | Proposal Title | Discipline                                                                                                                                              | Exp. #                            | Days Used |      |
|------------------------------------------|----|-----------------------------------------------------|--------------------------------------------------------|------------------------------------|--------------------------------------------------------|--------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------|------|
| Andrew Stephen (S)                       | PI | * Frederick National Laboratory for Cancer Research | Cancer Research Technology Program                     | NIH                                | NCI - National Cancer Institute                        | CA000____    | P20918         | Using EPR to decipher the mechanistic details of Rapidly Accelerated Fibrosarcoma (RAF) activation at the membrane by Rat Sarcoma (RAS)                 | Biology, Biochemistry, Biophysics | 3         | 20   |
| Thierry Dubroca (S)                      | C  | National High Magnetic Field Laboratory             | EMR                                                    |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Angeliki Giannoulis (S)                  | C  | Weizmann Institute of Science                       | Chemical and biological physics                        |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Tomas Orlando (S)                        | C  | National High Magnetic Field Laboratory             | Electron Magnetic Resonance                            |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Que Van (S)                              | C  | Frederick National Laboratory for Cancer Research   | Cancer Research Technology Program                     |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Sungsool Wi (S)                          | PI | National High Magnetic Field Laboratory             | NMR                                                    | NSF                                | CHE - Chemistry                                        | CHE2203405   | P20931         | Solution-State 1H and 19F DNP NMR via Particle-Mediated or Third-Spin-Assisted Cross-Relaxation                                                         | Chemistry                         | 1         | 3    |
| Thierry Dubroca (S)                      | C  | National High Magnetic Field Laboratory             | EMR                                                    |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Lucio Frydman (S)                        | C  | National High Magnetic Field Laboratory             | NMR                                                    |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Jenica Lumata (P)                        | C  | National High Magnetic Field Laboratory             | NMR/CIMAR                                              |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Tomas Orlando (S)                        | C  | National High Magnetic Field Laboratory             | Electron Magnetic Resonance                            |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Tomas Orlando (S)                        | PI | National High Magnetic Field Laboratory             | Electron Magnetic Resonance                            | NSF                                | CHE - Chemistry                                        | CHE2320338   | P20948         | Bruker XQ E580 installation and maintenance                                                                                                             | Development of Magnet Technology  | 1         | 12   |
| Adam Fiedler (S)                         | PI | Marquette University                                | Chemistry                                              | NSF                                | CHE - Chemistry                                        | CHE2204023   | P20972         | Probing Magnetic Anisotropy and Exchange Interaction in High-Spin Co and Ni Complexes Supported by Scorpionate Ligands                                  | Chemistry                         | 1         | 3    |
| Jurek Krzystek (S)                       | C  | National High Magnetic Field Laboratory             | Condensed Matter Science                               |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Mykhaylo Ozerov (S)                      | C  | National High Magnetic Field Laboratory             | Condensed Matter Science, DC Field CMS                 |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Joshua Teiser (S)                        | C  | Roosevelt University                                | Biological, Physical and Health Sciences               |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Eugenio Coronado (S)                     | PI | University of Valencia                              | Institute of Molecular Science (ICMol)                 | University of Valencia             | Non US College and University                          |              | P20993         | A Deep-Dive into Decoherence Mechanisms at Conventional andElectro-Nuclear Clock Transitions                                                            | Chemistry                         | 1         | 6.33 |
| Stephen Hill (S)                         | C  | National High Magnetic Field Laboratory             | EMR                                                    |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Tomas Orlando (S)                        | C  | National High Magnetic Field Laboratory             | Electron Magnetic Resonance                            |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Sherwood Weaver (G)                      | C  | Florida State University                            | Chemistry                                              |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Xiaoling Wang (S)                        | PI | California State University, East Bay               | Chemistry                                              | DOE                                | BES - Basic Energy Sciences                            | DE-SC0025712 | P20996         | Creating quantum spin liquids by disrupting the magnetic order in conjugated metal-organic nanosheets - high-frequency EMR Investigations               | Condensed Matter Physics          | 1         | 14   |
| Brittany Grimm (G)                       | C  | Florida State University                            | Physics                                                | DOE                                | NNSA - National Nuclear Security Administration        | DE-NA0003525 |                |                                                                                                                                                         |                                   |           |      |
| Manoj Vinayaka Hanabe Subramanya (P)     | C  | Florida State University                            | Physics                                                |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Jurek Krzystek (S)                       | C  | National High Magnetic Field Laboratory             | Condensed Matter Science                               |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Andrew Ozarowski (S)                     | C  | National High Magnetic Field Laboratory             | EMR                                                    |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Mohana Shivanna (P)                      | C  | Sandia National Laboratories                        | Energy Nanomaterials                                   |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Stefan Stoll (S)                         | PI | University of Washington                            | Department of Chemistry                                | NIH                                | NIGMS - National Institute of General Medical Sciences | GM151956     | P21000         | Mechanism and active-site structure of an unusual manganese-dependent enzyme                                                                            | Biology, Biochemistry, Biophysics | 1         | 3    |
| David Langelaan (S)                      | C  | Dalhousie University                                | Department of Biochemistry and Molecular Biology       |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Andrew Ozarowski (S)                     | C  | National High Magnetic Field Laboratory             | EMR                                                    |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Jennifer Shepherd (S)                    | C  | Gonzaga University                                  | School of Engineering & Applied Science                |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Rachelle Stowell (G)                     | C  | University of Washington                            | Chemistry                                              |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Srinivasa Rao Singamaneni (S)            | PI | University of Texas, El Paso                        | Physics                                                | NSF                                | DMR - Division of Materials Research                   | DMR2105109   | P21002         | Magnetic anisotropy and exchange interactions in exfoliable layered quasi-2D Actinide (7-UTe3): High Frequency Electron Paramagnetic Resonance Probing. | Condensed Matter Physics          | 1         | 1.5  |
| Priscila Rosa (S)                        | C  | Los Alamos National Laboratory                      | MPA-Q                                                  |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Johan van Tol (S)                        | C  | National High Magnetic Field Laboratory             | EMR                                                    |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Andreas Pöppl (S)                        | PI | * Leipzig University                                | Felix Bloch Institute of Solid State Physics           | No other support                   |                                                        |              | P21007         | Probing Adsorption - Induced Local Structural Changes in Metal-Organic Frameworks by EPR Spectroscopy                                                   | Condensed Matter Physics          | 2         | 10.5 |
| Stephen Hill (S)                         | C  | National High Magnetic Field Laboratory             | EMR                                                    |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Kavipriya Thangavel (P)                  | C  | Florida State University                            | Physics                                                |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Sami Jannin (S)                          | PI | * Claude Bernard University Lyon 1                  | CRMIN                                                  | Research Foundation - Flanders FWO | Non US Foundation                                      | 12A9C26N     | P21018         | Broadband Pulsed EPR Observation of Dipolar Line Inversion in Thermal Mixing Conditions                                                                 | Chemistry                         | 1         | 4    |
| Thierry Dubroca (S)                      | C  | National High Magnetic Field Laboratory             | EMR                                                    | European Research Council (ERC)    | Non US Foundation                                      | 101044726    | P21020         | Creation of facility for photoexcited EPR                                                                                                               | Material Science                  | 1         | 5    |
| Johan van Tol (S)                        | PI | National High Magnetic Field Laboratory             | EMR                                                    | No other support                   |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Haochuan Mao (S)                         | C  | Florida State University                            | Chemistry and Biochemistry                             |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Tomas Orlando (S)                        | C  | National High Magnetic Field Laboratory             | Electron Magnetic Resonance                            |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Lola Poe (U)                             | C  | Florida State University                            | College of Arts and Sciences                           |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Elsa Theodoros (U)                       | C  | Florida State University                            | College of Arts and Sciences                           |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Johan van Tol (S)                        | PI | National High Magnetic Field Laboratory             | EMR                                                    | No other support                   |                                                        |              | P21090         | Upgrades, Maintenance, and Repair                                                                                                                       | Material Science                  | 1         | 4    |
| Tomas Orlando (S)                        | C  | National High Magnetic Field Laboratory             | Electron Magnetic Resonance                            |                                    |                                                        |              |                |                                                                                                                                                         |                                   |           |      |
| Total Proposals:                         |    |                                                     |                                                        |                                    |                                                        |              |                |                                                                                                                                                         | Experiments:                      | Days:     |      |
| 52                                       |    |                                                     |                                                        |                                    |                                                        |              |                |                                                                                                                                                         | 112                               | 766       |      |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |      |                                         |                                        | Funding Sources<br>(Funding Agency, Division, Award #) |                                      |              | Proposal # | Proposal Title                                                                                                                                                 | Discipline                        | Exp.<br>#    | Days<br>Used |
|-------------------------------------------|------|-----------------------------------------|----------------------------------------|--------------------------------------------------------|--------------------------------------|--------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------------|--------------|
| Dominique Laroche (S)                     | PI   | University of Florida                   | Physics                                | NSF                                                    | DMR - Division of Materials Research | DMR2518016   | P20507     | Coulomb drag of spin-polarized Luttinger liquids at ultra-low temperatures - continuation of NHMFL-UCGP due to pandemic                                        | Biology, Biochemistry, Biophysics | 1            | 60           |
| Sadhvikas Addamane (S)                    | C    | Sandia National Laboratories            | Center for Integrated Nanotechnologies |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Alexander Donald (G)                      | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Rasul Gazizulin (S)                       | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Guillaume Gervais (S)                     | C    | McGill University                       | Physics department                     |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Chao Huan (S)                             | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Sangyun Lee (S)                           | C    | National High Magnetic Field Laboratory | Department of Physics                  |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Chris Ollmann (T)                         | C    | University of Florida                   | High B/T                               |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Nicolas Silva (P)                         | C    | University of Florida                   | High B/T                               |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Mingyang Zheng (G)                        | C    | University of Florida                   | Physics Department                     |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Allen Scheie (S)                          | PI   | Los Alamos National Laboratory          | MPA-Q                                  | DOE                                                    | Office of Science                    | DE-SC0000000 | P20517     | Quantum spin liquid phase in rare-earth triangular lattice antiferromagnets                                                                                    | Condensed Matter Physics          | 1            | 127          |
| Chao Huan (S)                             | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Minseong Lee (S)                          | C    | National High Magnetic Field Laboratory | MPA-MAG                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Sangyun Lee (S)                           | C    | National High Magnetic Field Laboratory | Department of Physics                  |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Nicolas Silva (P)                         | C    | University of Florida                   | High B/T                               |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Vivien Zapf (S)                           | C    | National High Magnetic Field Laboratory | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Rasul Gazizulin (S)                       | PI   | University of Florida                   | Physics                                | UCGP                                                   |                                      |              | P20605     | Enhancing the Temperature Range of the Cryogen-free Dilution Cryostat at High B/T Facility: Assessing the Viability of Copper Powder Demagnetization Technique | Condensed Matter Physics          | 3            | 175          |
| Alexander Donald (G)                      | C    | University of Florida                   | Physics                                | UCGP                                                   |                                      | 2128556      |            |                                                                                                                                                                |                                   |              |              |
| Richard Haley (S)                         | C    | University of Lancaster                 | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Chao Huan (S)                             | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Sangyun Lee (S)                           | C    | National High Magnetic Field Laboratory | Department of Physics                  |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Mark Meisel (S)                           | C    | University of Florida                   | Department of Physics                  |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Nicolas Silva (P)                         | C    | University of Florida                   | High B/T                               |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Rongying Jin (S)                          | PI * | University of South Carolina            | Department of Physics and Astronomy    | NSF                                                    | DMR - Division of Materials Research | DMR2128556   | P20686     | Study on gap symmetry for unconventional superconductivity and nontrivial topology with magnetic field                                                         | Condensed Matter Physics          | 3            | 118          |
| Alexander Donald (G)                      | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Daniel Duong (G)                          | C    | University of South Carolina            | Department of physics and astronomy    |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Rasul Gazizulin (S)                       | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Chao Huan (S)                             | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Silu Huang (G)                            | C    | Louisiana State University              | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Sangyun Lee (S)                           | C    | National High Magnetic Field Laboratory | Department of Physics                  |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Md Shafayat Hossain (S)                   | PI * | University of California, Los Angeles   | Materials Science and Engineering      | UCLA startup grant                                     | US College and University            |              | P21021     | Superconductivity in kagome materials                                                                                                                          | Condensed Matter Physics          | 1            | 91           |
| Chao Huan (S)                             | C    | University of Florida                   | Physics                                |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Eric Yeh (G)                              | C    | University of California, Los Angeles   | Material Science and Engineering       |                                                        |                                      |              |            |                                                                                                                                                                |                                   |              |              |
| Total Proposals:                          |      |                                         |                                        |                                                        |                                      |              |            |                                                                                                                                                                |                                   | Experiments: | Days:        |
| 5                                         |      |                                         |                                        |                                                        |                                      |              |            |                                                                                                                                                                |                                   | 9            | 571          |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                         | Funding Sources<br>(Funding Agency, Division, Award #)                       |                                                                                       |                                                 | Proposal #                           | Proposal Title                                                                                                                                              | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|----|-----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Thomas Borch (S)                          | PI | Colorado State University               | Soil and Crop Science                                                        | Cultivate Juices - FL                                                                 |                                                 | P19905                               | Compositional Changes of Soil Organic Matter in Response to Agricultural Management Practices                                                               | Chemistry                         | 1      | 0.5       |
| Jim Ippolito (S)                          | C  | Colorado State University               | Soil and Crop Sciences                                                       |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Merritt Logan (G)                         | C  | Colorado State University               | Chemistry                                                                    |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Sylvia Long (U)                           | C  | Florida State University                | NHMF/ FSU                                                                    |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Sean Stokes (G)                           | C  | Colorado State University               | Soil & Crop Science                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Pankaj Trivedi (S)                        | C  | Colorado State University               | Agricultural Biology                                                         |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Christine Foreman (S)                     | PI | Montana State University                | Center for Biomim Engineering & Dept. of Chemical and Biological Engineering | NASA                                                                                  | 80NSSC18K0814                                   | P20175                               | Opening the black box of glacial carbon cycling—providing fundamental insight into impacts of a changing climate                                            | Biology, Biochemistry, Biophysics | 1      | 3         |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                   | NSF                                                                                   | OPP - Office of Polar Programs                  | OPP2037963                           |                                                                                                                                                             |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                      |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Markus Dierker (G)                        | C  | Montana State University                | Environmental Sciences                                                       |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Lea Molacek (G)                           | C  | Montana State University                | Chemistry and Biochemistry                                                   |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Heidi Smith (G)                           | C  | Montana State University                | Environmental Sciences                                                       |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Madelyne Willis (G)                       | C  | Montana State University                | Land Resources and Env Sciences, Center for Biomim Engineering               |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Yang Lin (S)                              | PI | University of Florida                   | Soil and Water Sciences                                                      | USDA - Department of Agriculture                                                      |                                                 | P20201                               | Chemical characterization of water-extractable organic carbon in soils from long-term agricultural systems                                                  | Chemistry                         | 1      | 5         |
| Franky Celestin (G)                       | C  | University of Florida                   | Department of Soil Sciences                                                  | US College and University                                                             |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Ryan Champigny (G)                        | C  | University of Florida                   | Soil and Water Sciences                                                      |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                      |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Silvia Córdova (S)                        | C  | University of Nebraska-Lincoln          | Agronomy and Horticulture                                                    |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Swarnali Mahmood (G)                      | C  | University of Florida                   | Soil, Water, and Ecosystem Sciences                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Christine Sprunger (S)                    | C  | Michigan State University               | W.K. Kellogg Biological Station                                              |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Alex Chow (S)                             | PI | Chinese University of Hong Kong         | Earth and Environmental Sciences                                             | DOE                                                                                   | BER - Biological & Environmental Research       | DE-SC0023311                         | Characteristics and Treatability of Pyrogenic Organic Carbon and Nitrogen                                                                                   | Engineering                       | 1      | 2.33      |
| Jeffery Atkins (S)                        | C  | USDA Forest Service                     | DOE Savannah River Site                                                      | NSF                                                                                   | EAR - Earth Sciences                            | EAR1852020                           |                                                                                                                                                             |                                   |        |           |
| Scott Brooks (S)                          | C  | Oak Ridge National Laboratory           | Savannah River Site                                                          | National Institute of Food Agriculture Bioenergy                                      | US Government Lab                               | 2020-67019-31002 / 2021-670119-33682 |                                                                                                                                                             |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                      |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Huan Chen (S)                             | C  | Clemson University                      | Department of Environment Engineering and Earth Science                      |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Peijia Ku (S)                             | C  | Oak Ridge National Laboratory           | ORNL                                                                         |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Xiaohan Mo (G)                            | C  | Chinese University of Hong Kong         | Earth and Environmental Sciences                                             |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Scott Painter (S)                         | C  | Oak Ridge National Laboratory           | ORNL                                                                         |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Carl Trettin (S)                          | C  | USDA Forest Service                     | Santee Experimental Forest, SC                                               |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Yuhua Zheng (G)                           | C  | Clemson University                      | Forestry and Environmental Conservation                                      |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Ayla Sant'Ana da Silva (S)                | PI | National Institute of Technology        | Biocatalysis Laboratory                                                      | Serra-Pilheira Institute                                                              | Non US Foundation                               | Serra-1708-15009                     | Identification of bioactive fractions of açai (Euterpe oleracea Mart.) seed extract                                                                         | Chemistry                         | 1      | 7         |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                   | Coordination for the Improvement of Higher Education Personnel                        | Non US Foundation                               | CAPES, AUXPE 0415/2016               |                                                                                                                                                             |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                      | Carlos Chagas Filho Foundation for Supporting Research in the State of Rio de Janeiro | Non US Foundation                               | FAPERJ, JCNE-SEI-260003/004754/2021  |                                                                                                                                                             |                                   |        |           |
| Mariana M. G. Mattos (G)                  | C  | National Institute of Technology        | Biocatalysis Laboratory                                                      | Carlos Chagas Filho Foundation for Supporting Research in the State of Rio de Janeiro | Non US Foundation                               | E-26/210.694/2021                    |                                                                                                                                                             |                                   |        |           |
| Gabriel Rocha Martins (S)                 | C  | University of San Paulo                 | Department of Pharmacy (FBF)                                                 |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Renrong Liang (S)                         | PI | Princeton University                    | Department of Geosciences                                                    | DOE                                                                                   | BER - Biological & Environmental Research       | DE-SC0020369                         | Microbial degradation of organic carbon and associated greenhouse gas production during long-term warming of intact cores from High Arctic Svalbard, Norway | Chemistry                         | 1      | 0.5       |
| Martha Aguilera (S)                       | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                      |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Robert Hettich (S)                        | C  | Oak Ridge National Laboratory           | Biosciences Division                                                         |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Karen Lloyd (S)                           | C  | University of Tennessee, Knoxville      | Microbiology                                                                 |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Devan Nisson (G)                          | C  | Princeton University                    | Geosciences                                                                  |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Ryan Rodgers (S)                          | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Andrew Steen (S)                          | C  | University of Tennessee Space Institute | Microbiology                                                                 |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Michael Sento (S)                         | PI | Thermo Fisher Scientific                | R&D                                                                          | No other support                                                                      |                                                 | P20232                               | Hardware Upgrade to 21T FT-ICR Mass Analyzer                                                                                                                | Chemistry                         | 4      | 133.83    |
| Greg Blakney (S)                          | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Jesse Canterbury (T)                      | C  | Thermo Fisher Scientific                | LSMS R&D                                                                     |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Nathan Kaiser (S)                         | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Marek Polak (P)                           | C  | National High Magnetic Field Laboratory | ICR group                                                                    |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| John Quinn (T)                            | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance Program                                              |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Chad Weissbrod (S)                        | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Martha Aguilera (S)                       | PI | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                      | No other support                                                                      |                                                 | P20331                               | REU Project - Summer 2023Molecular-Level Characterization of Leached Chemicals from Food Packaging                                                          | Chemistry                         | 1      | 3.5       |
| Rachel White (U)                          | C  | Florida State University                | Chemistry                                                                    |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Brett Poulin (S)                          | PI | University of California, Davis         | Environmental Toxicology                                                     | NSF                                                                                   | EAR - Earth Sciences                            | EAR1945388                           | Resolving the Molecular Nature of Dissolved Organic Sulfur                                                                                                  | Chemistry                         | 1      | 1.5       |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                   | DOE                                                                                   | BES - Basic Energy Sciences                     | DE-AC02-76SF00515                    |                                                                                                                                                             |                                   |        |           |
| Thomas Borch (S)                          | C  | Colorado State University               | Soil and Crop Science                                                        | NSF                                                                                   | AFRI - Agriculture and Food Research Initiative | 2114868                              |                                                                                                                                                             |                                   |        |           |
| Anna Hermes (G)                           | C  | University of Colorado, Boulder         | Institute of Arctic and Alpine Research                                      | USDA - Department of Agriculture                                                      |                                                 | .2021-67019034608                    |                                                                                                                                                             |                                   |        |           |
| Eve-Lyn Hinckley (S)                      | C  | University of Colorado, Boulder         | Cooperative Institute for Research in Environmental Sciences                 |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Martin Kurek (P)                          | C  | Florida State University                | Earth, Ocean, and Atmospheric Science                                        |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Andrew Wozniak (S)                        | PI | University of Delaware                  | School of Marine Science and Policy                                          | NSF                                                                                   | OCE - Ocean Sciences                            | OCE2123368                           | Comprehensive insights into surfactant dynamics in seawater and the sea surface microlayer of the North Atlantic                                            | Chemistry                         | 2      | 1.33      |
| Felix Aghleymanyo (G)                     | C  | University of Delaware                  | School of Marine Science and Policy                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                   |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Amanda Frossard (S)                       | C  | University of Georgia                   | Chemistry                                                                    |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Puspita Adhikari (S)                      | PI | Florida Gulf Coast University           | Marine and Earth Sciences                                                    | NSF                                                                                   | OCE - Ocean Sciences                            | OCE2309659                           | Remineralization effects of enhanced allochthonous dissolved organic matter in the West Florida Shelf impacted by Hurricane Ian                             | Chemistry                         | 3      | 4.33      |
| Adam Catusas (S)                          | C  | Florida Gulf Coast University           | The Water School                                                             |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                      |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                          |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Isabel Romero (S)                         | C  | University of South Florida             | College of Marine Science                                                    |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |
| Marlin Smith (G)                          | C  | Florida Gulf Coast University           | Marine and Earth Sciences                                                    |                                                                                       |                                                 |                                      |                                                                                                                                                             |                                   |        |           |



## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                                                           |                                                            | Funding Sources<br>(Funding Agency, Division, Award #) |                                         |                                | Proposal # | Proposal Title                                                                                                       | Discipline | Exp. # | Days Used |        |                                                                                                           |           |   |      |
|-------------------------------------------|----|-------------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------|-----------------------------------------|--------------------------------|------------|----------------------------------------------------------------------------------------------------------------------|------------|--------|-----------|--------|-----------------------------------------------------------------------------------------------------------|-----------|---|------|
| Robert Spencer (S)                        | PI | Florida State University                                                                  | Earth, Ocean & Atmospheric Science                         | NASA                                                   |                                         |                                | P20434     | Chemical Signatures of Change in the Arctic: A Study of Terigenous Dissolved Organic Matter in the Yukon River Delta | Chemistry  | 3      | 8         |        |                                                                                                           |           |   |      |
| Alyssa Burns (G)                          | C  | University of California, Davis                                                           | Land, Air and Water Resources                              | NASA                                                   |                                         | 80NSSC18K0492                  |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Jeffrey Chanton (S)                       | C  | Florida State University                                                                  | Department of Earth, Ocean and Atmospheric Science         | NASA                                                   |                                         | 80NSSC22K0152                  |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Amey Holt (G)                             | C  | Florida State University                                                                  | EAOS                                                       |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Anne Kellerman (S)                        | C  | Florida State University                                                                  | Earth, Ocean and Atmospheric Science                       |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Antonio Mannino (S)                       | C  | NASA Goddard Space Flight Center                                                          | Ocean Ecology Laboratory                                   |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory                                                   | ICR                                                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Madelyn Miller (G)                        | C  | Rensselaer Polytechnic Institute                                                          | Department of Earth and Environmental Sciences             |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Alexis Slentz (G)                         | C  | Florida State University                                                                  | Earth, Ocean, & Atmospheric Sciences                       |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Harrison Smith (S)                        | C  | NASA Goddard Space Flight Center                                                          | Ocean Ecology Laboratory                                   |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Maria Tzortziou (S)                       | C  | City College of New York                                                                  | Earth and Atmospheric Sciences                             |                                                        |                                         |                                | P20437     | How Does Glacial Melt Affect Dissolved Organic Matter Composition and Transformations in the Amundsen Sea Polynya?   | Chemistry  | 1      | 5.5       |        |                                                                                                           |           |   |      |
| Sasha Wagner (S)                          | C  | Rensselaer Polytechnic Institute                                                          | Earth and Environmental Sciences                           |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Orlane Yvin (G)                           | C  | Florida State University                                                                  | Earth,Ocean,and Atmospheric Science                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Patricia Medeiros (S)                     | PI | University of Georgia                                                                     | Marine Sciences                                            | NSF                                                    | OPP - Office of Polar Programs          | OPP1941483                     |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Giovana Bataglion (P)                     | C  | Federal University of Amazonas                                                            | Chemistry Department                                       |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Renato Castelao (S)                       | C  | University of Georgia                                                                     | Marine Sciences                                            |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory                                                   | ICR                                                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Giovanna Utsumi (G)                       | C  | University of Georgia                                                                     | Marine Sciences                                            |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Thomas Borch (S)                          | PI | Colorado State University                                                                 | Soil and Crop Science                                      | CSU ARC-BIO facility                                   |                                         | SCR_021758                     |            |                                                                                                                      |            |        |           | P20439 | Assessing biodegradability of water-extracted, burned soil organic matter                                 | Chemistry | 3 | 1.17 |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory                                                   | CIMAR, ICR                                                 |                                                        | CHE - Chemistry                         | CHE2114868                     |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Claudia Boot (S)                          | C  | Colorado State University                                                                 | Chemistry                                                  | USDA - Department of Agriculture                       |                                         | 2021-67019-34608               |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Corey Broeckling (S)                      | C  | Colorado State University                                                                 | Bioanalysis and Omics Center: Analytical Resources Core    | NSF                                                    | DEB - Division of Environmental Biology | DEB1637686                     |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Timothy Fegel (S)                         | C  | USDA Forest Service                                                                       | Rocky Mountain Research Station                            | NSF                                                    | DEB - Division of Environmental Biology | DEB2224439                     |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Sean Feltrow (P)                          | C  | Colorado State University                                                                 | Soil and Crop Sciences                                     |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory                                                   | ICR                                                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Charles Rhoades (S)                       | C  | U.S. Department of Agriculture                                                            | Rocky Mountain Research Station                            |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Holly Roth (G)                            | C  | Colorado State University                                                                 | Chemistry                                                  |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Kya Sparks (G)                            | C  | Colorado State University                                                                 | Soil and Crop Sciences                                     |                                                        |                                         |                                | P20441     | El Niño Event Impacts on Organic Matter Export and Composition in the Amazon and Tapajós River                       | Chemistry  | 2      | 5.25      |        |                                                                                                           |           |   |      |
| Mike Wilkins (S)                          | C  | Colorado State University                                                                 | College of Agricultural Sciences                           |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Robert Spencer (S)                        | PI | Florida State University                                                                  | Earth, Ocean & Atmospheric Science                         | NSF                                                    | OCE - Ocean Sciences                    | OCE2333961                     |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory                                                   | CIMAR, ICR                                                 | NSF                                                    | Other                                   | 2333961                        |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory                                                   | Ion Cyclotron Resonance                                    |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Robert Holmes (S)                         | C  | Unknown                                                                                   | Scientific Staff                                           |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Martin Kurek (P)                          | C  | Florida State University                                                                  | Earth, Ocean, and Atmospheric Science                      |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Ali Malik (G)                             | C  | Florida State University                                                                  | Earth Ocean and Atmospheric Sciences                       |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory                                                   | ICR                                                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Rafael Muniz (G)                          | C  | Federal University of Western Pará                                                        | INSTITUTE OF BIODIVERSITY AND FORESTS                      |                                                        |                                         |                                |            |                                                                                                                      |            |        |           | P20470 | Investigating lignocellulose degradation by salt marsh sediment fungi                                     | Chemistry | 2 | 1.75 |
| Xuefeng Peng (S)                          | PI | University of South Carolina                                                              | School of Earth, Ocean and Environment                     | NSF                                                    | DEB - Division of Environmental Biology | DEB2303089                     |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory                                                   | Ion Cyclotron Resonance                                    | DOE                                                    | Other                                   | 508539                         |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Birch Lazo-Murphy (G)                     | C  | University of South Carolina                                                              | School of Earth, Ocean, and Environment                    |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Lihini Aluwihare (S)                      | PI | University of California, San Diego                                                       | Scripps Institution of Oceanography                        | Simons Foundation, SCOPE award to D.J.R.               | Other                                   | 329108                         | P20471     | Uncovering the chemical composition of the ocean's oldest reservoir of reduced carbon                                | Chemistry  | 3      | 8.33      |        |                                                                                                           |           |   |      |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory                                                   | CIMAR, ICR                                                 | Simons Foundation Life Sciences award to B.N.G.        | Other                                   | 990989                         |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Rene Boiteau (S)                          | C  | University of Minnesota, Twin Cities                                                      | Chemistry                                                  | Simons Foundation Life Sciences award to L.I.A.        | Other                                   | 994973                         |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Lucia Cancelada (G)                       | C  | Scripps Institution of Oceanography                                                       | Scripps Institution of Oceanography                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Benjamin Granzow (P)                      | C  | Scripps Institution of Oceanography                                                       | Geosciences Research Division                              |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Irina Koester (G)                         | C  | Scripps Institution of Oceanography                                                       | Scripps Institution of Oceanography                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Daniel Repeta (S)                         | C  | Woods Hole Oceanographic Institution                                                      | Marine Chemistry                                           |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Kathleen Rutterberg (S)                   | PI | University of Hawaii                                                                      | Oceanography                                               | NSF                                                    | OCE - Ocean Sciences                    | OCE1756337                     |            |                                                                                                                      |            |        |           | P20473 | Using ultra-high-resolution MS to probe the molecular composition of aquatic dissolved organic phosphorus | Chemistry | 3 | 4    |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory                                                   | CIMAR, ICR                                                 | NSF                                                    | OCE - Ocean Sciences                    | OCE1756964                     |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Sonya Dyhman (S)                          | C  | Columbia University                                                                       | Earth and Environmental Science                            |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Sheean Haley (T)                          | C  | Columbia University                                                                       | LDEO                                                       |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory                                                   | ICR                                                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Ellen Laik (P)                            | PI | U.S. Geological Survey (Headquarter)                                                      | Woods Hole Coastal and Marine Science Center               | NSF                                                    | OCE - Ocean Sciences                    | OCE2049517                     | P20489     | Transformations of methane-fueled and petroleum-fueled seep-DOC in marine bottomwaters of the Cascadia Margin        | Chemistry  | 1      | 0.67      |        |                                                                                                           |           |   |      |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory                                                   | CIMAR, ICR                                                 | USGS                                                   | Other US Federal Agency                 | Mendenhall Research Fellowship |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory                                                   | ICR                                                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| John Pohlman (S)                          | C  | U.S. Geological Survey (Headquarter)                                                      | Woods Hole Coastal & Marine Science Center                 |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Brice Bouysiere (S)                       | PI | University of Pau and the Adour Region                                                    | IPREM                                                      | DOE                                                    | Other                                   | DE-EE0010457                   |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Carlos Atonso (S)                         | C  | Normandy University                                                                       | Chemistry                                                  | NSF                                                    | DMR - Division of Materials Research    | DMR2128556                     |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Martha Aguilera (S)                       | C  | National High Magnetic Field Laboratory                                                   | Ion Cyclotron Resonance                                    |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| David Dayton (T)                          | C  | Research Triangle Institute International                                                 | Biofuels                                                   |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| German Gascon (T)                         | C  | University of Pau and the Adour Region                                                    | IPREM                                                      |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Pierre Giusti (S)                         | C  | TotalEnergies                                                                             | OneTech DPP                                                |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Caroline Mangote (S)                      | C  | TotalEnergies                                                                             | Research & Technology                                      |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Charlotte Mase (G)                        | C  | University of Rouen                                                                       | Seine maritime                                             |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Winston Robbins (T)                       | C  | Win Consulting Services                                                                   | Petroleum Separations                                      |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Ryan Rodgers (S)                          | C  | National High Magnetic Field Laboratory                                                   | ICR                                                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Christopher Rueger (S)                    | C  | University of Rostock                                                                     | Interdisciplinary Faculty, Department Life, Light & Matter |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Wladimir Ruiz (G)                         | C  | Institute of Analytical Sciences and Physical Chemistry for the Environment and Materials | IPREM                                                      |                                                        |                                         |                                | P20494     | Analyzing larger molecular weight fractions of DOM by 21 T FT-ICR MS                                                 | Chemistry  | 1      | 12.5      |        |                                                                                                           |           |   |      |
| Germain Salvato Valverde (S)              | C  | University De Pau Et Des Pays De L'adour                                                  | IC2MC                                                      |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Alvaro Tello Rodriguez (U)                | C  | Florida State University                                                                  | Computer Science/ Statistics                               |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Natalia Malina (P)                        | PI | Auburn University                                                                         | Geosciences                                                | No other support                                       |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory                                                   | ICR                                                        |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |
| Ann Ojeda (S)                             | C  | Auburn University                                                                         | Geosciences                                                |                                                        |                                         |                                |            |                                                                                                                      |            |        |           |        |                                                                                                           |           |   |      |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |      |                                                |                                                                                            | Funding Sources<br>(Funding Agency, Division, Award #)                                                              |                                                        |                | Proposal # | Proposal Title                                                                                                                 | Discipline                        | Exp. # | Days Used |                                                                                                                                                                                                                   |                                   |   |      |
|-------------------------------------------|------|------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------|------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---|------|
| Jon Hawkins (S)                           | PI   | University of Pennsylvania                     | Earth and Environmental Science                                                            | NSF                                                                                                                 | PLR - Division of Polar Programs                       | 2232980        | P20548     | Seasonal and spatial trends in the dissolved organic matter of glacial meltwater and glacier-fed fjords                        | Biology, Biochemistry, Biophysics | 3      | 5.5       |                                                                                                                                                                                                                   |                                   |   |      |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory        | CIMAR, ICR                                                                                 | NSF                                                                                                                 | DEB - Division of Environmental Biology                | DEB1145932     |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Eva Doting (P)                            | C    | University of Pennsylvania                     | Earth and Environmental Science                                                            | ERC Synergy Grant DEEP Purple                                                                                       |                                                        | 856416         |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Jade Hutton (P)                           | C    | Charles University, Prague, Czechia            | Department of Ecology                                                                      | Aarhus University Research Foundation                                                                               |                                                        | AUFF-2018      |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Amy Holt (G)                              | C    | Florida State University                       | EAOS                                                                                       | Danish Agency for Science and Higher Education                                                                      |                                                        | 9096-00101B    |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Leah Hopf (U)                             | C    | University of Pennsylvania                     | Earth and Environmental Science                                                            | Helmholtz Recruiting Initiative                                                                                     |                                                        | I-044-16-01    |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Anne Kellerman (S)                        | C    | Florida State University                       | Earth, Ocean and Atmospheric Science                                                       |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Petra Klimová (P)                         | C    | Charles University, Prague, Czechia            | Ecology                                                                                    |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Emma Kook (G)                             | C    | University of Pennsylvania                     | Earth & Environmental Sciences                                                             |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Guillaume Lamarche-Gagnon (P)             | C    | UiT, The Arctic University of Norway           | IG - Geosciences                                                                           |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Carl Lamborg (S)                          | C    | University of California, Santa Cruz           | Ocean Science                                                                              |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| David McCabe (U)                          | C    | University of Pennsylvania                     | Earth and Environmental Science                                                            |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory        | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Robert Spencer (S)                        | C    | Florida State University                       | Earth, Ocean & Atmospheric Science                                                         |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Anna Stehler Polášková (G)                | C    | Charles University, Prague, Czechia            | Department of Ecology                                                                      |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Marek Štíbal (S)                          | C    | Charles University, Prague, Czechia            | Department of Ecology                                                                      |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Jemma Wadham (S)                          | C    | UiT, The Arctic University of Norway           | Department of Geoscience                                                                   |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Jacob Yde (S)                             | C    | Western Norway University of Applied Sciences  | Department of Environmental Sciences                                                       |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Amina Youssef (G)                         | C    | University of Pennsylvania                     | Earth and Environmental Sciences                                                           |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Jakub Zarsky (P)                          | C    | Charles University, Prague, Czechia            | Department of Ecology                                                                      |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Trinity Hamilton (S)                      | PI * | University of Minnesota, Twin Cities           | Plant and Microbial Biology                                                                | No other support                                                                                                    |                                                        |                | P20586     | Novel Insights from Beneath the Greenland Ice Sheet: Seasonal and Spatial Controls on CH <sub>4</sub> Production and Oxidation | Chemistry                         | 1      | 0.83      |                                                                                                                                                                                                                   |                                   |   |      |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory        | CIMAR, ICR                                                                                 |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Joel Barker (S)                           | C    | University of Minnesota, Twin Cities           | Earth and Environmental Science                                                            |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Christopher Hansen (G)                    | C    | University of Minnesota, Twin Cities           | Plant and Microbial Biology                                                                |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory        | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Andrew Wozniak (S)                        | PI   | University of Delaware                         | School of Marine Science and Policy                                                        | NSF                                                                                                                 | OCE - Ocean Sciences                                   | OCE2123402     | P20588     | The effects of soil organic matter composition on DOM adsorption by iron oxides in the rice rhizosphere                        | Chemistry                         | 3      | 2.33      |                                                                                                                                                                                                                   |                                   |   |      |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory        | CIMAR, ICR                                                                                 | NSF                                                                                                                 | OCE - Ocean Sciences                                   | OCE2148471     |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Huan Chen (S)                             | C    | National High Magnetic Field Laboratory        | Ion Cyclotron Resonance                                                                    |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Samuel Katz (P)                           | C    | University of Delaware                         | School of Marine Science and Policy                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Franklin Linam (G)                        | C    | University of Delaware                         | Plant and Soil Science                                                                     |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory        | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Angelia Seyffert (S)                      | C    | University of Delaware                         | Plant and Soil Sciences                                                                    |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Alexandre Shvartsburg (S)                 | PI   | Wichita State University                       | Chemistry and Biochemistry                                                                 | NSF                                                                                                                 | CHE - Chemistry                                        | CHE2105182     | P20589     | Evaluation of High-Definition FAIMS on the 21 Tesla FTICR Platform                                                             | Chemistry                         | 2      | 12        |                                                                                                                                                                                                                   |                                   |   |      |
| Steven DeFiguia (P)                       | C    | Florida State University                       | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Hayden Thurman (G)                        | C    | Wichita State University                       | Chemistry and Biochemistry                                                                 |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Chad Weisbrod (S)                         | C    | National High Magnetic Field Laboratory        | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Jared Kafader (S)                         | PI   | Northwestern University                        | Chemistry                                                                                  | NIH                                                                                                                 | NIHMS - National Institute of General Medical Sciences | GM108569       | P20594     |                                                                                                                                |                                   |        |           | High Resolution and Charge Detection Studies Utilizing the FT-ICR Platform                                                                                                                                        | Chemistry                         | 2 | 8.33 |
| Ryan Fellers (S)                          | C    | Northwestern University                        | Departments of Chemistry and Molecular Biosciences and the Proteomics Center of Excellence |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Nickolas Fisher (G)                       | C    | Northwestern University                        | Chemistry                                                                                  |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Michael Hollas (T)                        | C    | Northwestern University                        | Proteomics Center of Excellence                                                            |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Neil Kelleher (S)                         | C    | Northwestern University                        | Department of Biochemistry, Molecular Biology, and Cell Biology                            |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Chad Weisbrod (S)                         | C    | National High Magnetic Field Laboratory        | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Geert Hensgens (P)                        | PI * | Vrije Universiteit                             | Earth and Climate                                                                          | Vrije Universiteit Amsterdam                                                                                        | Non US College and University                          |                | P20601     | Methane production from organic matter in Arctic environments: the link between dissolved organic chemistry and methane fluxes | Chemistry                         | 3      | 2         |                                                                                                                                                                                                                   |                                   |   |      |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory        | CIMAR, ICR                                                                                 |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Amy Holt (G)                              | C    | Florida State University                       | EAOS                                                                                       |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Anne Kellerman (S)                        | C    | Florida State University                       | Earth, Ocean and Atmospheric Science                                                       |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory        | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Robert Spencer (S)                        | C    | Florida State University                       | Earth, Ocean & Atmospheric Science                                                         |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Jorien Vonk (S)                           | C    | Utrecht University                             | Earth Sciences/Geochemistry                                                                |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Thomas Manning (S)                        | PI   | Valdosta State University                      | Chemistry                                                                                  | National Institute of Allergy and Infectious Disease                                                                | Other                                                  | 75N93019D00016 | P20609     | High Mass/Charge Accuracy Study for new Cancer Drugs, Antibiotics, and Neurological Drugs                                      | Biology, Biochemistry, Biophysics | 1      | 1         |                                                                                                                                                                                                                   |                                   |   |      |
| Huan Chen (S)                             | C    | National High Magnetic Field Laboratory        | Ion Cyclotron Resonance                                                                    | National Institute of Allergy and Infectious Disease                                                                | Other                                                  | 75N93023F00001 |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Joseph Frye-Jones (P)                     | C    | Woods Hole Oceanographic Institution           | Marine Chemistry and Geochemistry                                                          | In kind services (NIH tested dozens of our compounds). On going for over a decade (ex. 24 compounds tested at NCI). | Other                                                  |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory        | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Mirabel Akongwet (S)                      | PI * | University of Buea                             | Organic Chemistry                                                                          | No other support                                                                                                    |                                                        |                | P20610     |                                                                                                                                |                                   |        |           | Search for novel compounds from a Cameroonian medicinal plants Garcinia brevipedunculata (Clusiaceae), Psorospermum guineense and Garcinia manni, in vitro and in vivo molluscicidal anti-schistosomal evaluation | Biology, Biochemistry, Biophysics | 1 | 0.5  |
| Lissa Anderson (S)                        | C    | National High Magnetic Field Laboratory        | ICR                                                                                        |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Huan Chen (S)                             | PI   | National High Magnetic Field Laboratory        | Ion Cyclotron Resonance                                                                    | NSF                                                                                                                 | OCE - Ocean Sciences                                   | OCE1948758     | P20647     | Impact of micropredators on the microbial loop: metabolomic insights from bacterial lysis                                      | Chemistry                         | 2      | 12.5      |                                                                                                                                                                                                                   |                                   |   |      |
| Binda Andongma (G)                        | C    | Florida Agricultural and Mechanical University | Environmental Science                                                                      |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory        | CIMAR, ICR                                                                                 |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Grisel Fierros Romero (P)                 | C    | Florida Agricultural and Mechanical University | School of the environment                                                                  |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Brittany Lindsay (G)                      | C    | Florida Agricultural and Mechanical University | School of the Environment                                                                  |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |
| Henry Williams (S)                        | C    | Florida Agricultural and Mechanical University | School of the Environment                                                                  |                                                                                                                     |                                                        |                |            |                                                                                                                                |                                   |        |           |                                                                                                                                                                                                                   |                                   |   |      |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                         |                                                                               | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                                            |                                                                                                                                  | Proposal # | Proposal Title                                                                                                                                             | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|----|-----------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Thomas Borch (S)                          | PI | Colorado State University               | Soil and Crop Science                                                         | NOAA                                                   | Other US Federal Agency                                                                    | NOAA (National Oceanic and Atmospheric Administration), CRDA # 11.431, Funding # NOAAOAR-CPO-2022-2006799, Competition # 2943820 | P20649     | Non-target analysis of structural fires for identification of organohalogenes, PFAS, and PAHs using FT-ICR-MS                                              | Chemistry                         | 2      | 2.67      |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                    |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Srinidhi Lokesh (P)                       | C  | Colorado State University               | Soil and Crop Sciences                                                        |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Christian L'Orange (S)                    | C  | Colorado State University               | Mechanical Engineering                                                        |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Adam Norris (G)                           | C  | Colorado State University               | Soil and Crop Sciences                                                        |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Jacob VanderRoest (G)                     | C  | Colorado State University               | Chemistry                                                                     |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Yael Zvulunov (P)                         | C  | Colorado State University               | Soil and Crop Sciences                                                        |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Sharon Bone (S)                           | PI | SLAC National Accelerator Laboratory    | Stanford Synchrotron Radiation Lightsource                                    | NSF                                                    | CBET - Chemical, Bioengineering, Environmental, and Transport Systems<br>US Government Lab | CBET2339308                                                                                                                      | P20659     | Dissolved organic matter fate during electrochemical ammonia recovery from wastewater                                                                      | Chemistry                         | 1      | 1         |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                    | SLAC                                                   |                                                                                            | Rational Design for mitigating fouling on ion exchange membranes during electrochemical nutrient recovery techniques FY24        |            |                                                                                                                                                            |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                       |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Johanna Nelson Weker (S)                  | C  | SLAC National Accelerator Laboratory    | SSRL                                                                          |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Neha Sharma (P)                           | C  | SLAC National Accelerator Laboratory    | Stanford Synchrotron Radiation Lightsource                                    |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Maya Engel (S)                            | PI | Hebrew University of Jerusalem          | Soil and Water Sciences                                                       | Hebrew University Start-up package for Maya Engel      | Non US College and University                                                              |                                                                                                                                  | P20668     | Impact of Terrestrial Organic Matter Burial on the Composition of Marine Organic Matter in Anoxic Seawater                                                 | Chemistry                         | 1      | 2.5       |
| Thomas Borch (S)                          | C  | Colorado State University               | Soil and Crop Science                                                         |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                       |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Malak Tilly (S)                           | C  | University of Arizona                   | Environmental Science                                                         |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| David Butcher (S)                         | PI | National High Magnetic Field Laboratory | ICR                                                                           | FSU office of sponsored research                       | US Foundation                                                                              |                                                                                                                                  | P20669     | FSU Computer Science Collaboration with the ICR facility                                                                                                   | Chemistry                         | 1      | 1         |
| Lissa Anderson (S)                        | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Zhenhai Duan (S)                          | C  | Florida State University                | Computer Science                                                              |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Mason Hagan (T)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Krishna Saketh Kamadana (G)               | C  | Florida State University                | Computer Science                                                              |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Xian Mallory (S)                          | C  | Florida State University                | Department of Computer Science                                                |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Brian Poblete (T)                         | C  | Florida State University                | Natl High Magnetic Field Lab                                                  |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Teja Potu (G)                             | C  | Florida State University                | Computer Science                                                              |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Ryan Rodgers (S)                          | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Gary Tyson (S)                            | C  | Florida State University                | Computer Science                                                              |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Blaženka Gasparovic (S)                   | PI | Institut Ruder Boškovic                 | Division for Marine and Environmental Research                                | No other support                                       |                                                                                            |                                                                                                                                  | P20670     | The ocean of the future: Will changed phytoplankton composition positively impact the biological carbon pump?                                              | Chemistry                         | 1      | 26        |
| Martha Aguilera (S)                       | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                       |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                       |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Jackson Webster (S)                       | PI | California State University, Chico      | Civil Engineering                                                             | NSF                                                    | CBET - Chemical, Bioengineering, Environmental, and Transport Systems<br>US Government Lab | CBET1917165                                                                                                                      | P20699     | 21 Tesla FT-ICR MS to evaluate wildfire-induced increased metal contributions to stormwater runoff in Paradise, California at the wildland-urban interface | Engineering                       | 1      | 1         |
| Martha Aguilera (S)                       | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                       | United State Geological Survey                         |                                                                                            | U. S. Geological Survey Environmental Health Program of the Ecosystems Mission Area                                              |            |                                                                                                                                                            |                                   |        |           |
| Mahbub Alan (G)                           | C  | University of South Carolina            | Department of Environmental Health Sciences                                   |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Mohammed Baalousha (S)                    | C  | University of South Carolina            | Center for Environmental NanoScience and Risk, Arnold School of Public Health |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                    |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Jeffrey Chanton (S)                       | PI | Florida State University                | Department of Earth, Ocean and Atmospheric Science                            | DOE                                                    | BER - Biological & Environmental Research                                                  | DE-SC0012088                                                                                                                     | P20738     | Molecular controls on greenhouse gas production in high-latitude peatlands: novel method for extraction of polyphenolic compounds from peat porewater      | Biology, Biochemistry, Biophysics | 3      | 2.5       |
| Joel Kostka (S)                           | C  | Georgia Institute of Technology         | Biological Sciences                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Castlin Petro (P)                         | C  | Georgia Institute of Technology         | Biological Sciences                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Christopher Schadt (S)                    | C  | Oak Ridge National Laboratory           | Biosciences Division                                                          |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Alexis Sientz (G)                         | C  | Florida State University                | Earth, Ocean, & Atmospheric Sciences                                          |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Robert Spencer (S)                        | C  | Florida State University                | Earth, Ocean & Atmospheric Science                                            |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Malak Tilly (S)                           | C  | University of Arizona                   | Environmental Science                                                         |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Rachel Wilson (S)                         | C  | Florida State University                | EOAS                                                                          |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Pierre Guisti (S)                         | PI | TotalEnergies                           | OneTech DPP                                                                   | IC2MC - Total Energies                                 | Other                                                                                      |                                                                                                                                  | P20739     | Study of Complex Degradation Pathways in Fuel Cell Proton Exchange Membranes by 21T FT-ICR MS                                                              | Chemistry                         | 1      | 2.5       |
| Martha Aguilera (S)                       | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                       |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Brice Bouysiere (S)                       | C  | University of Pau and the Adour Region  | IPREM                                                                         |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Caroline Mangione (G)                     | C  | University of New Mexico                | Chemistry and Chemical Biology                                                |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Ryan Rodgers (S)                          | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Mengqiang Zhu (S)                         | PI | University of Maryland, College Park    | Geology                                                                       | NSF                                                    | EAR - Earth Sciences                                                                       | EAR2411592                                                                                                                       | P20740     | Chemical Composition of Calcium-bound Dissolved Organic Matter in Soils at the Continental Scale                                                           | Chemistry                         | 2      | 3         |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                    | NSF                                                    | EAR - Earth Sciences                                                                       | EAR2409879                                                                                                                       |            |                                                                                                                                                            |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                       | NSF                                                    | DEB - Division of Environmental Biology                                                    | DEB2411362                                                                                                                       |            |                                                                                                                                                            |                                   |        |           |
| Hongfei Liu (P)                           | C  | University of Maryland, College Park    | Department of Geology                                                         |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Mengqiang Zhu (S)                         | PI | University of Maryland, College Park    | Geology                                                                       | NSF                                                    | EAR - Earth Sciences                                                                       | EAR2411592                                                                                                                       | P20741     | Chemical Composition of Dissolved Organic Matter in Soils of a Semi-arid Ecosystem                                                                         | Chemistry                         | 1      | 2         |
| Lydia Babcock-Adams (P)                   | C  | National High Magnetic Field Laboratory | CIMAR, ICR                                                                    | NSF                                                    | EAR - Earth Sciences                                                                       | EAR2409879                                                                                                                       |            |                                                                                                                                                            |                                   |        |           |
| Huan Chen (S)                             | C  | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                                       | NSF                                                    | DEB - Division of Environmental Biology                                                    | DEB2411362                                                                                                                       |            |                                                                                                                                                            |                                   |        |           |
| Jung-Chen Liu (G)                         | C  | University of Maryland, College Park    | Environmental Science and Technology                                          |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |
| Amy McKenna (S)                           | C  | National High Magnetic Field Laboratory | ICR                                                                           |                                                        |                                                                                            |                                                                                                                                  |            |                                                                                                                                                            |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |      |                                                              |                                                  | Funding Sources<br>(Funding Agency, Division, Award #) |                                         |            | Proposal # | Proposal Title                                                                                                                                           | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|------|--------------------------------------------------------------|--------------------------------------------------|--------------------------------------------------------|-----------------------------------------|------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Robert Spencer (S)                        | PI   | Florida State University                                     | Earth, Ocean & Atmospheric Science               | Belmont-Forum                                          | Other                                   |            | P20743     | An Ecosystem Exhale? Assessing the bioavailability of an organic carbon and nutrient repository within Western Siberian lowland peat ice using FT-ICR MS | Chemistry                         | 3      | 8.5       |
| James Anderson (G)                        | C    | Florida State University                                     | Earth, Ocean, Atmospheric Science                |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Huan Chen (S)                             | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance                          |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Eva Dotting (P)                           | C    | University of Pennsylvania                                   | Earth and Environmental Science                  |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Geert Hensgens (P)                        | C    | Vrije Universiteit                                           | Earth and Climate                                |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Martin Kurek (P)                          | C    | Florida State University                                     | Earth, Ocean, and Atmospheric Science            |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Ali Malik (G)                             | C    | Florida State University                                     | Earth Ocean and Atmospheric Sciences             |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Alexis Slentz (G)                         | C    | Florida State University                                     | Earth, Ocean, & Atmospheric Sciences             |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Orlane Yvnn (G)                           | C    | Florida State University                                     | Earth,Ocean,and Atmospheric Science              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Robert Spencer (S)                        | PI   | Florida State University                                     | Earth, Ocean & Atmospheric Science               | NSF                                                    | DEB - Division of Environmental Biology | DEB1545288 | P20744     | Investigating Dissolved Organic Matter (DOM) Persistence Across Land-to-Ocean Gradients in High-Latitude, Temperate and Sub-Tropical Regions             | Chemistry                         | 2      | 7.5       |
| John Kominoski (S)                        | C    | Florida International University                             | Biological Sciences                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| James McClelland (S)                      | C    | Marine Biological Laboratory                                 | Ecosystems Center                                |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Orlane Yvnn (G)                           | C    | Florida State University                                     | Earth,Ocean,and Atmospheric Science              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Colin Ward (S)                            | PI   | Woods Hole Oceanographic Institution                         | Department of Marine Chemistry and Geochemistry, | US Coast Guard Oil Spill Center of Excellence          | Other US Federal Agency                 |            | P20748     | Towards a predictive understanding of crude oil photo-oxidation in the visible light region.                                                             | Engineering                       | 2      | 10        |
| Martha Aguilera (S)                       | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance                          |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Joseph Frye-Jones (P)                     | C    | Woods Hole Oceanographic Institution                         | Marine Chemistry and Geochemistry                |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Kristina Hakansson (S)                    | PI   | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance                          | NSF                                                    | CHE - Chemistry                         | CHE2404064 | P20754     | Remaining Unknowns in Ion-Electron Reactions for Tandem Mass Spectrometry                                                                                | Chemistry                         | 4      | 76.5      |
| Lissa Anderson (S)                        | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Steven DeFaglia (P)                       | C    | Florida State University                                     | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Nathan Kaiser (S)                         | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Neven Mikaway (P)                         | C    | National High Magnetic Field Laboratory                      | Chemistry and Biochemistry                       |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Daniel Repeta (S)                         | PI   | Woods Hole Oceanographic Institution                         | Marine Chemistry                                 | NSF                                                    | OCE - Ocean Sciences                    | OCE2045223 | P20787     | Spectral characterization of trace metal-ligands in seawater                                                                                             | Chemistry                         | 1      | 2         |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory                      | CIMAR, ICR                                       | NSF                                                    | OCE - Ocean Sciences                    | OCE2048510 |            |                                                                                                                                                          |                                   |        |           |
| Rene Boiteau (S)                          | C    | University of Minnesota, Twin Cities                         | Chemistry                                        | NSF                                                    | OCE - Ocean Sciences                    | OCE2422713 |            |                                                                                                                                                          |                                   |        |           |
| Jingxuan Li (S)                           | C    | Woods Hole Oceanographic Institution                         | Watson Laboratory                                | NSF                                                    | OCE - Ocean Sciences                    | OCE2410011 |            |                                                                                                                                                          |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Julia Streanga (G)                        | C    | Woods Hole Oceanographic Institution                         | Marine Chemistry and Geochemistry                |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Jens Bielevoegel (S)                      | PI   | Commonwealth Scientific and Industrial Research Organization | Environment                                      | DOD                                                    | ER - Environmental Research Program     | ER21-3550  | P20788     | High-Field 21 Tesla FT-ICR Mass Spectrometry for Forensic Identification of PFAS                                                                         | Chemistry                         | 4      | 26.33     |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory                      | CIMAR, ICR                                       | DOD                                                    | ER - Environmental Research Program     | ER20-1265  |            |                                                                                                                                                          |                                   |        |           |
| William Bahureksa (P)                     | C    | New Mexico State University, Main Campus                     | Chemistry                                        | DOD                                                    | ER - Environmental Research Program     | ER-2718    |            |                                                                                                                                                          |                                   |        |           |
| Fuhar Datt (P)                            | C    | University of California, Berkeley                           | Civil and Environmental Engineering              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Christopher Higgins (S)                   | C    | Colorado School of Mines                                     | Civil and Environmental Engineering              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Emily Hughes (U)                          | C    | Florida State University                                     | Ion Cyclotron Resonance                          |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| John Komuc (S)                            | C    | U.S. Naval Research Laboratory                               | Emerging contaminants, site characterization     |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Sylvia Long (U)                           | C    | Florida State University                                     | NHMF, FSU                                        |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Wenchao Lu (S)                            | C    | Commonwealth Scientific and Industrial Research Organization | Environment                                      |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Hamidreza Sharifan (P)                    | C    | Colorado State University                                    | Civil and Environmental Engineering              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Hamidreza Sharifan (S)                    | C    | University of Texas, El Paso                                 | Chemistry and Biochemistry                       |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Robert Young (S)                          | C    | Commonwealth Scientific and Industrial Research Organization | CSIRO Environment                                |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Luis González López (P)                   | PI * | University of Antioquia                                      | Chemistry                                        | Colciencias, Universidad de Antioquia                  | Other                                   |            | P20792     | Advanced Metabolite Profiling of Eucalyptus teretifolia Extracts Using 21T FT-ICR MS for Metabolic Health Applications                                   | Biology, Biochemistry, Biophysics | 1      | 2         |
| Martha Aguilera (S)                       | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance                          |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Norman Balcazar (S)                       | C    | University of Antioquia                                      | Physiology and Biochemistry                      |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Jagos Radovic (S)                         | PI * | University of Houston                                        | Earth and Atmospheric Sciences                   | No other support                                       |                                         |            | P20793     | 21T FT-ICR MS Analysis of Organic Matter Transformation during Hydrous Pyrolysis of Coal: Insights into Oil and Water Solubles Generation                | Biology, Biochemistry, Biophysics | 1      | 3         |
| Martha Aguilera (S)                       | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance                          |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Poorna Srinivasan (G)                     | C    | University of Houston                                        | Earth and Atmospheric Sciences                   |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Boniek Gontijo Vaz (S)                    | PI * | Federal University of Goias                                  | Chemistry                                        | No other support                                       |                                         |            | P20794     | Comprehensive Analysis of Nitrogen and Oxygen-containing Compounds in Bio-oils, Diesel R, and Produced Waters using 21 T FT-ICR MS                       | Biology, Biochemistry, Biophysics | 1      | 10        |
| Martha Aguilera (S)                       | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance                          |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Deborah Victoria de Aguiar (P)            | C    | Federal University of Goias                                  | Chemistry Institute                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Iris Medeiros Junior (S)                  | C    | Cenpes Petrobras R&D Centre                                  | R&D - Chemistry Division                         |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Markus Huettel (S)                        | PI   | Florida State University                                     | Earth, Ocean & Atmospheric Sciences              | NSF                                                    | OCE - Ocean Sciences                    | OCE2049177 | P20803     | Using the Molecular Signatures of Sargassum Leachates to Decipher Their Role in the Cycles of Carbon and Nutrients in the Gulf of Mexico                 | Biology, Biochemistry, Biophysics | 1      | 2         |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Eva Mustian (G)                           | C    | Florida State University                                     | EOAS                                             |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Alexis Slentz (G)                         | C    | Florida State University                                     | Earth, Ocean, & Atmospheric Sciences             |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Robert Spencer (S)                        | C    | Florida State University                                     | Earth, Ocean & Atmospheric Science               |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Sommer Starr (P)                          | PI * | Trent University                                             | Environmental Science                            | No other support                                       |                                         |            | P20813     | Linking lake geochemistry to ecological function across a North American climate gradient                                                                | Biology, Biochemistry, Biophysics | 1      | 5         |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory                      | CIMAR, ICR                                       |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Huan Chen (S)                             | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance                          |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Robert Spencer (S)                        | C    | Florida State University                                     | Earth, Ocean & Atmospheric Science               |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Andrew Tanentzap (S)                      | C    | Trent University                                             | School of the Environment                        |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Chad Weisbrod (S)                         | PI   | National High Magnetic Field Laboratory                      | ICR                                              | NSF                                                    | DMR - Division of Materials Research    | DMR2128556 | P20817     | Instrument Software/Hardware Upgrade and Maintenance/Repair                                                                                              | Chemistry                         | 3      | 56.83     |
| Lissa Anderson (S)                        | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory                      | CIMAR, ICR                                       |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Greg Blakney (S)                          | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Huan Chen (S)                             | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance                          |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Christopher Hendrickson (S)               | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance Program                  |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Nathan Kaiser (S)                         | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| John Quinn (T)                            | C    | National High Magnetic Field Laboratory                      | Ion Cyclotron Resonance Program                  |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |
| Marek Polak (P)                           | PI * | National High Magnetic Field Laboratory                      | ICR group                                        | No other support                                       |                                         |            | P20818     | Studying changes in gas-phase protein structure pre/post ion-ion reaction via tandem MS                                                                  | Biology, Biochemistry, Biophysics | 4      | 24.83     |
| Lissa Anderson (S)                        | C    | National High Magnetic Field Laboratory                      | ICR                                              | NSF                                                    | DMR - Division of Materials Research    | DMR2128556 |            |                                                                                                                                                          |                                   |        |           |
| Chad Weisbrod (S)                         | C    | National High Magnetic Field Laboratory                      | ICR                                              |                                                        |                                         |            |            |                                                                                                                                                          |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |      |                                           |                                                                 | Funding Sources<br>(Funding Agency, Division, Award #)          |                                                               |                                                                 | Proposal # | Proposal Title                                                                                                                                                               | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|------|-------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Ni-Bin Chang (S)                          | PI   | University of Central Florida             | Department of Civil Environmental, and Construction Engineering | State of Florida                                                | Other                                                         | INW05                                                           | P20829     | Exploring Green Sorption Media for Simultaneous Removal of Per- and Polyfluoroalkyl Substances (PFAS) and Endocrine Disrupting Chemicals from Wastewater Effluent            | Engineering                       | 1      | 0.25      |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory   | CIMAR, ICR                                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Huan Chen (S)                             | C    | National High Magnetic Field Laboratory   | Ion Cyclotron Resonance                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Thomas Borch (S)                          | PI   | Colorado State University                 | Soil and Crop Science                                           | U.S. Geological Survey                                          | US Government Lab                                             | Energy Resource Program in the Energy and Minerals Mission Area | P20830     | The Role of the Organic Matter Molecular Composition in the Recovery of Critical Minerals from Coal Mine Discharges                                                          | Chemistry                         | 3      | 3.5       |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory   | CIMAR, ICR                                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Huan Chen (S)                             | C    | National High Magnetic Field Laboratory   | Ion Cyclotron Resonance                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Sean Feltrow (P)                          | C    | Colorado State University                 | Soil and Crop Sciences                                          |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Bonnie McDewitt (S)                       | C    | U.S. Geological Survey (Headquarter)      | Geology Energy and Minerals Science Center                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Amelia Skinner (G)                        | C    | Colorado State University                 | Chemistry                                                       |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Elizabeth Tomaszewski (S)                 | C    | U.S. Geological Survey (Headquarter)      | Geology, Energy and Minerals Science Center                     |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Lauren Burrows (S)                        | PI * | National Energy Technology Laboratory     | Geological and Environmental Systems                            | U.S. Department of Energy's Fossil Energy and Carbon Management | US Foundation                                                 | DE-FE0M1610260                                                  | P20845     | Investigation of organic analytes in produced water throughout membrane distillation treatment                                                                               | Biology, Biochemistry, Biophysics | 1      | 8         |
| Martha Aguilera (S)                       | C    | National High Magnetic Field Laboratory   | Ion Cyclotron Resonance                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Regina Baglia (S)                         | C    | National Energy Technology Laboratory     | Fossil Energy and Carbon Management                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Changcheng Pu (P)                         | C    | National Energy Technology Laboratory     | ORISE                                                           |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Kristina Hakansson (S)                    | PI   | National High Magnetic Field Laboratory   | Ion Cyclotron Resonance                                         | NIH                                                             | NIH/MS - National Institute of General Medical Sciences       | GM139916                                                        | P20846     | Enabling Mass Spectrometry Analysis of the Sulfoproteome                                                                                                                     | Biology, Biochemistry, Biophysics | 1      | 26.33     |
| Lissa Anderson (S)                        | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Juhyu Bonilla (G)                         | C    | Florida State University                  | Chemistry                                                       |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Neven Mikaway (P)                         | C    | National High Magnetic Field Laboratory   | Chemistry and Biochemistry                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Chad Weisbrod (S)                         | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Kuan-Lu Wu (G)                            | C    | Florida State University                  | ICR program                                                     |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Chad Weisbrod (S)                         | PI   | National High Magnetic Field Laboratory   | ICR                                                             | No other support                                                |                                                               |                                                                 | P20849     | ICR Electronics Upgrades and Developments with GAA Custom Electronics, LLC                                                                                                   | Chemistry                         | 2      | 16.5      |
| Gordon Anderson (S)                       | C    | GAA Custom Electronics LLC                | GAA Custom Electronics LLC                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Ryan Rodgers (S)                          | PI   | National High Magnetic Field Laboratory   | ICR                                                             | DOE                                                             | EERE - Energy Efficiency and Renewable Energy                 | DE-EE0010457                                                    | P20852     | Chromatographic and Multi-Mode Ionization Strategies for Resolving Molecular Complexity, Isomer Diversity, and Functional Group Chemistry in Pyrolysis Biooils via FT-ICR MS | Chemistry                         | 1      | 41        |
| Martha Aguilera (S)                       | C    | National High Magnetic Field Laboratory   | Ion Cyclotron Resonance                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| David Dayton (T)                          | C    | Research Triangle Institute International | Biofuels                                                        |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Robert Spencer (S)                        | PI   | Florida State University                  | Earth, Ocean & Atmospheric Science                              | Florida State University                                        | US College and University                                     |                                                                 | P20909     | Impacts of Land Cover and Land-use Change on Carbon Cycling in the Congo Basin                                                                                               | Chemistry                         | 1      | 1.5       |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory   | CIMAR, ICR                                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Pascal Boeckx (S)                         | C    | Ghent University                          | Applied analytical and physical chemistry                       |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Martin Kurek (P)                          | C    | Florida State University                  | Earth, Ocean, and Atmospheric Science                           |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Ali Malik (G)                             | C    | Florida State University                  | Earth Ocean and Atmospheric Sciences                            |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Kristof Van Oost (S)                      | C    | Catholic University Leuven                | Earth Sciences                                                  |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Robert Spencer (S)                        | PI   | Florida State University                  | Earth, Ocean & Atmospheric Science                              | NASA                                                            |                                                               |                                                                 | P20911     | Detecting long-term shifts in Yukon River DOM composition during spring and summer hydroperiods using 21 T FT-ICR MS                                                         | Biology, Biochemistry, Biophysics | 1      | 2.25      |
| James Anderson (G)                        | C    | Florida State University                  | Earth, Ocean, Atmospheric Science                               |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory   | CIMAR, ICR                                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Alexis Sienitz (G)                        | C    | Florida State University                  | Earth, Ocean, & Atmospheric Sciences                            |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Francisco Fernandez-Lima (S)              | PI   | Florida International University          | Chemistry and Biochemistry                                      | NSF                                                             | CHE - Chemistry                                               | CHE2304837                                                      | P20912     | Graph-DOM validation using ESI(+)-FT ICR MS/MS                                                                                                                               | Chemistry                         | 1      | 5         |
| Rudolf Jaffe (S)                          | C    | Florida International University          | Chemistry and Biochemistry                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Pablo Oliveira (P)                        | C    | Florida International University          | Chemistry and Biochemistry                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Aron Stubbins (S)                         | C    | Northeastern University                   | Marine and Environmental Science                                |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Ever Herrera Rios (G)                     | PI * | National University of Colombia, Medellin | ANTIOQUIA                                                       | Universidad Nacional de Colombia - Antioquia                    | Non US College and University                                 |                                                                 | P20920     | Electrodegradation of Crude Oil and Surfactants in Produced Waters: Byproduct Profiling by 21 T FT-ICR MS during Green Hydrogen Electrolysis                                 | Chemistry                         | 1      | 6         |
| Martha Aguilera (S)                       | C    | National High Magnetic Field Laboratory   | Ion Cyclotron Resonance                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Fariel B. Cortes (S)                      | C    | National University of Colombia, Medellin | Procesos y Energía                                              |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Camilo Franco (S)                         | C    | National University of Colombia, Medellin | Procesos y energía                                              |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Juan David Guzmán Calle (G)               | C    | National University of Colombia, Medellin | Petroleum Engineering                                           |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Ryan Rodgers (S)                          | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Karol Zapata (P)                          | C    | National University of Colombia, Medellin | Faculty of Mines                                                |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Robert Spencer (S)                        | PI   | Florida State University                  | Earth, Ocean & Atmospheric Science                              | NSF                                                             | Other                                                         | 1914081                                                         | P20921     | Examining differences in the composition and lability of dissolved organic matter derived from distinct permafrost end-members using 21 T FT-ICR MS                          | Biology, Biochemistry, Biophysics | 1      | 0.5       |
| James Anderson (G)                        | C    | Florida State University                  | Earth, Ocean, Atmospheric Science                               |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory   | CIMAR, ICR                                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Kim Lewis (S)                             | PI * | Northeastern University                   | Biology                                                         | NIH                                                             | NIAID - National Institute of Allergy and Infectious Diseases | AJ52210_                                                        | P20922     | An Efficient Platform for Antibiotic Discovery                                                                                                                               | Chemistry                         | 1      | 1         |
| Martha Aguilera (S)                       | C    | National High Magnetic Field Laboratory   | Ion Cyclotron Resonance                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Lissa Anderson (S)                        | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Akira Iinishi (S)                         | C    | Northeastern University                   | Biology                                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Mengqiang Zhu (S)                         | PI   | University of Maryland, College Park      | Geology                                                         | NSF                                                             | EAR - Earth Sciences                                          | EAR2409879                                                      | P20955     | Assessing Wildlife Impacts on Soil Organic Carbon Chemistry Across a Rainfall Gradient                                                                                       | Chemistry                         | 1      | 2.5       |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory   | CIMAR, ICR                                                      |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Huan Chen (S)                             | C    | National High Magnetic Field Laboratory   | Ion Cyclotron Resonance                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Yewon Lee (G)                             | C    | University of Maryland, College Park      | Geology                                                         |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Amy McKenna (S)                           | C    | National High Magnetic Field Laboratory   | ICR                                                             |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Amy Holt (G)                              | PI * | Florida State University                  | EAOS                                                            | NSF                                                             | DEB - Division of Environmental Biology                       | DEB2506415                                                      | P20991     | Dissolved Organic Matter Bioavailability and Stream Productivity in Alaskan Glacier Watersheds                                                                               | Chemistry                         | 1      | 2         |
| Ryan Bellmore (S)                         | C    | USDA Forest Service                       | Pacific Northwest Research Station                              | NSF                                                             | OIA - Office of Integrative Activities                        | 2344553                                                         |            |                                                                                                                                                                              |                                   |        |           |
| Jeffrey Chanton (S)                       | C    | Florida State University                  | Department of Earth, Ocean and Atmospheric Science              |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Jason Fellman (S)                         | C    | University of Alaska, Southeast           | Natural Sciences                                                |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Eran Hood (S)                             | C    | University of Alaska, Southeast           | Natural Sciences                                                |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Robert Spencer (S)                        | C    | Florida State University                  | Earth, Ocean & Atmospheric Science                              |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |
| Emily Whitney (T)                         | C    | University of Alaska, Southeast           | Alaska Coastal Rainforest Center                                |                                                                 |                                                               |                                                                 |            |                                                                                                                                                                              |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |      |                                         | Funding Sources<br>(Funding Agency, Division, Award #) |                                                   |                      | Proposal # | Proposal Title                                                                                           | Discipline                        | Exp. #       | Days Used |
|-------------------------------------------|------|-----------------------------------------|--------------------------------------------------------|---------------------------------------------------|----------------------|------------|----------------------------------------------------------------------------------------------------------|-----------------------------------|--------------|-----------|
| Helen Cooper (S)                          | PI * | University of Birmingham                | School of Biosciences                                  | Philanthropic donation to PI's research programme | Other                | P20995     | Probing SOD1 metal deficiency in amyotrophic lateral sclerosis                                           | Biology, Biochemistry, Biophysics | 1            | 3         |
| Lisa Anderson (S)                         | C    | National High Magnetic Field Laboratory | ICR                                                    |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Joseph Beckman (S)                        | C    | Oregon State University                 | Linus Pauling Institute                                |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Kristina Hakansson (S)                    | C    | National High Magnetic Field Laboratory | Ion Cyclotron Resonance                                |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Oliver Hale (P)                           | C    | University of Birmingham                | School of Biosciences                                  |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Christopher Hendrickson (S)               | C    | National High Magnetic Field Laboratory | Ion Cyclotron Resonance Program                        |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Richard Mead (S)                          | C    | University of Sheffield                 | Neuroscience                                           |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Chad Weissbrod (S)                        | C    | National High Magnetic Field Laboratory | ICR                                                    |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Samuel Kutz (P)                           | PI * | University of Delaware                  | School of Marine Science and Policy                    | NSF                                               | OCE - Ocean Sciences | OCE2148471 | DCM characterization of hydrothermal vent fluid and plume water from the East Pacific Rise 9° 50' N site | Chemistry                         | 1            | 1         |
| Lydia Babcock-Adams (P)                   | C    | National High Magnetic Field Laboratory | CIMAR, ICR                                             |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Andrew Wozniak (S)                        | C    | University of Delaware                  | School of Marine Science and Policy                    |                                                   |                      |            |                                                                                                          |                                   |              |           |
| Total Proposals:                          |      |                                         |                                                        |                                                   |                      |            |                                                                                                          |                                   | Experiments: | Days:     |
| 69                                        |      |                                         |                                                        |                                                   |                      |            |                                                                                                          |                                   | 117          | 662       |



## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                         |                                                          | Funding Sources<br>(Funding Agency, Division, Award #)      |                           |                | Proposal # | Proposal Title                                                                                                                                                                       | Discipline                        | Exp. # | Days<br>Used |
|-------------------------------------------|----|-----------------------------------------|----------------------------------------------------------|-------------------------------------------------------------|---------------------------|----------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|--------------|
| Samuel Grant (S)                          | PI | National High Magnetic Field Laboratory | CIMAR                                                    | No other support                                            |                           |                | P17423     | 900 Maintenance Related to MRI                                                                                                                                                       | Biology, Biochemistry, Biophysics | 11     | 94           |
| Ashley Blue (O)                           | C  | National High Magnetic Field Laboratory | NH-MFL                                                   | No other support                                            | GM148766                  |                |            |                                                                                                                                                                                      |                                   |        |              |
| Shinho Cho (S)                            | C  | National High Magnetic Field Laboratory | NMR-MRI                                                  | No other support                                            | DMR2128556                |                |            |                                                                                                                                                                                      |                                   |        |              |
| Thierry Dubroca (S)                       | C  | National High Magnetic Field Laboratory | EMR                                                      | NIH                                                         | NIH                       |                |            |                                                                                                                                                                                      |                                   |        |              |
| Malathy Elumalai (O)                      | C  | National High Magnetic Field Laboratory | NMR-MRI                                                  |                                                             | NIH                       |                |            |                                                                                                                                                                                      |                                   |        |              |
| Riqiang Fu (S)                            | C  | National High Magnetic Field Laboratory | NMR                                                      |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory | NH-MFL                                                   |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory | NMR                                                      |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory | CIMAR/NMR                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Julia Martin (U)                          | C  | Florida State University                | Bio-medical Engineering department                       |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory | CIMAR                                                    |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory | Biochemistry & Molecular Biology                         |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Sungsoo Wi (S)                            | C  | National High Magnetic Field Laboratory | NMR                                                      |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Hadi Mohammadgoushki (S)                  | PI | Florida State University                | Chemical and Biomedical Engineering                      | NIH                                                         | NIH                       | NIH            | P19875     | Protein spectroscopy in emulsions                                                                                                                                                    | Engineering                       | 34     | 205          |
| Jamini Bhagu (G)                          | C  | Florida State University                | Chemical ENG                                             | NSF                                                         | NSF                       | NSF            |            |                                                                                                                                                                                      |                                   |        |              |
| Malathy Elumalai (O)                      | C  | National High Magnetic Field Laboratory | NMR-MRI                                                  | NSF                                                         | NSF                       | NSF            |            |                                                                                                                                                                                      |                                   |        |              |
| Reza Foudazi (S)                          | C  | University of Oklahoma                  | School of Chemical, Biological and Materials Engineering | MagLab REU                                                  | MagLab REU                | MagLab REU     |            |                                                                                                                                                                                      |                                   |        |              |
| Samuel Grant (S)                          | C  | National High Magnetic Field Laboratory | CIMAR                                                    |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Hussaini Nuhu (G)                         | C  | Florida State University                | Chemical Engineering                                     |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Alfredo Scigliani (G)                     | C  | Florida State University                | Chemical & Biomedical Engineering                        |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Robert Schurko (S)                        | PI | Florida State University                | Chemistry                                                | Florida State University                                    | US College and University | Startup        | P19885     | Multinuclear Solid-State NMR of Quadrupolar Nuclei in Active Pharmaceutical Ingredients: New Pathways for the Characterization of Polymorphs, Hydrates, Cocrystals, and Dosage Forms | Chemistry                         | 19     | 44           |
| Adam Altenhof (P)                         | C  | Los Alamos National Laboratory          | MPA-Q                                                    |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Zach Dowdell (G)                          | C  | Florida State University                | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Carl Fleischer (G)                        | C  | Florida State University                | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory | NH-MFL                                                   |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Sean Holmes (G)                           | C  | Florida State University                | NMR-MRIS                                                 |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory | CIMAR/NMR                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory | CIMAR                                                    |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Jasmine Sanchez (G)                       | C  | Florida State University                | Chemistry and Biochemistry                               |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory | Biochemistry & Molecular Biology                         |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Cameron Vojvodin (G)                      | C  | Florida State University                | Chemistry and Biochemistry                               |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Tuo Wang (S)                              | PI | Michigan State University               | Chemistry                                                | NSF                                                         | NSF                       | NSF            | P19901     | Solid-State NMR and DNP Investigations of Moss Carbohydrates and Biomaterials                                                                                                        | Biology, Biochemistry, Biophysics | 1      | 18           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory | NMR                                                      |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory | CIMAR                                                    |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory | Biochemistry & Molecular Biology                         |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Peng Xiao (P)                             | C  | Michigan State University               | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Gang Wu (S)                               | PI | Queen's University at Kingston          | Chemistry                                                | NSERC of Canada                                             | Non US Council            | Non US Council | P20014     | Probing the hydrogen atom location in short OHN and OHO hydrogen bonds by 17O solid-state NMR                                                                                        | Chemistry                         | 5      | 22           |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory | NH-MFL                                                   |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory | CIMAR/NMR                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Ziyao Peng (G)                            | C  | Queen's University at Kingston          | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Amrit Venkatesh (S)                       | C  | University of Virginia                  | Department of Chemistry                                  |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Michael Harrington (S)                    | PI | Huntington Medical Research Institutes  | Molecular Neurology                                      | NIH                                                         | NIH                       | NIH            | P20016     | CSF Dynamics, 23Na Fluxes and Ventricular Anatomy Interplay Between Migraine and Chord Plexus                                                                                        | Biology, Biochemistry, Biophysics | 21     | 30           |
| Samuel Grant (S)                          | C  | National High Magnetic Field Laboratory | CIMAR                                                    |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Abe Koko (G)                              | C  | University of California, Santa Barbara | Mechanical Engineering                                   |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Linda Petzold (S)                         | C  | University of California, Santa Barbara | Computer Science                                         |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Dayna Richter (G)                         | C  | Florida State University                | Chemical & Biomedical Engineering                        |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Joseph Zadrozny (S)                       | PI | Ohio State University                   | Chemistry and Biochemistry                               | NSF                                                         | NSF                       | NSF            | P20082     | Solid-state NMR characterization of 59Co NMR thermometers                                                                                                                            | Chemistry                         | 9      | 19           |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory | NH-MFL                                                   |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Josef Grundy (G)                          | C  | Colorado State University               | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Sean Holmes (G)                           | C  | Florida State University                | NMR-MRIS                                                 |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory | CIMAR/NMR                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| James Kimball (G)                         | C  | Florida State University                | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Roxanna Martinez (G)                      | C  | Colorado State University               | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Tyler Ozvat (G)                           | C  | Colorado State University               | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Stephanie Sanchez (U)                     | C  | Colorado State University               | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Robert Schurko (S)                        | C  | Florida State University                | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Sara Termos (G)                           | C  | Florida State University                | Department of Chemistry and Biochemistry                 |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Otken Ungor (P)                           | C  | Colorado State University               | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Hui Xiong (S)                             | PI | Boise State University                  | Materials Science and Engineering                        | DOE                                                         | DOE                       | DOE            | P20087     | 7Li and 23Na Solid-State NMR Investigation of High-Performance Cathodes for Na-Ion Batteries                                                                                         | Chemistry                         | 20     | 119          |
| Yan-Yan Hu (S)                            | C  | Florida State University                | Chemistry & Biochemistry                                 |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Yongkang Jin (G)                          | C  | Florida State University                | Chemistry and Biochemistry                               |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Ifeoluwa Oyekunle (G)                     | C  | Florida State University                | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Aaron Wilber (S)                          | PI | Florida State University                | Psychology                                               | NIH                                                         | NIH                       | NIH            | P20099     | DTI and rs-fMRI of TgF344-AD Female Rats as a Model of Alzheimer's Disease                                                                                                           | Biology, Biochemistry, Biophysics | 17     | 17           |
| Samuel Grant (S)                          | C  | National High Magnetic Field Laboratory | CIMAR                                                    |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Choogon Lee (S)                           | C  | Florida State University                | Biomedical Sciences                                      |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| William McCall (S)                        | C  | Augusta University                      | Psychiatry and Health Behavior                           |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Jordan Ogg (T)                            | C  | Florida State University                | Psychology                                               |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Jenna Radovich (G)                        | C  | Florida State University                | Chemical & Biomedical Engineering                        |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Vivek Polshettiwar (S)                    | PI | Tata Institute of Fundamental Research  | Department of Chemical Sciences                          | Tata Institute of Fundamental Research (TIFR), Mumbai INDIA | Other                     | Other          | P20104     | Solid State NMR of Acidic Aluminosilicates (AAS) to Study the Frustrated Lewis Pairs and Their Interactions with CO2 and H2                                                          | Chemistry                         | 2      | 12           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory | NMR                                                      |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory | CIMAR                                                    |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory | Biochemistry & Molecular Biology                         |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Amrit Venkatesh (S)                       | C  | University of Virginia                  | Department of Chemistry                                  |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Rishi Verma (G)                           | C  | Tata Institute of Fundamental Research  | Department of Chemical Sciences                          |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Lymarie Thompson (S)                      | PI | University of Massachusetts             | Chemistry                                                | NIH                                                         | NIH                       | NIH            | P20129     | Solid-state NMR and DNP of protein interactions in functional bacterial chemoreceptor signaling complexes                                                                            | Biology, Biochemistry, Biophysics | 2      | 9            |
| Riqiang Fu (S)                            | C  | National High Magnetic Field Laboratory | NMR                                                      |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |
| Katherine Wahlbeck (G)                    | C  | University of Massachusetts             | Chemistry                                                |                                                             |                           |                |            |                                                                                                                                                                                      |                                   |        |              |

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| Participants<br>(Name, Role, Org., Dept.) |    |                                                     | Funding Sources<br>(Funding Agency, Division, Award #)            |                                  |                                                                          | Proposal #        | Proposal Title | Discipline                                                                                                                                  | Exp. #                            | Days Used |     |  |  |  |  |
|-------------------------------------------|----|-----------------------------------------------------|-------------------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------|-------------------|----------------|---------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------|-----|--|--|--|--|
| Dominik Zehender (G)                      | PI | Heidelberg University                               | Computer Assisted Clinical Medicine                               | German Research Foundation       | Non US Foundation                                                        | 71000643          | P20176         | Chemotherapeutic Response Assessment in Cancer Cells Using a Microcavity Array- Based Bioresator System and Sodium Triple-Quantum MR Signal | Biology, Biochemistry, Biophysics | 5         | 14  |  |  |  |  |
| Eric Gottwald (S)                         | C  | Karlsruhe Institute of Technology                   | Institute for Biological Interfaces (IBG 5)                       |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Samuel Grant (S)                          | C  | National High Magnetic Field Laboratory             | CIMAR                                                             |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Dennis Kleimaier (G)                      | C  | Heidelberg University                               | Computer Assisted Clinical Medicine                               |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Cathy Levenson (S)                        | C  | Florida State University                            | Biomedical Sciences                                               |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Simon Reichert (G)                        | C  | Heidelberg University                               | Medical Faculty Mannheim                                          |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Lothar Schad (S)                          | C  | Heidelberg University                               | Computer Assisted Clinical Medicine                               |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Jochen Autschbach (S)                     | PI | University of Buffalo                               | Chemistry                                                         | DOE                              | BES – Basic Energy Sciences                                              | DE-SC0022310      | P20231         | Unraveling the Mysteries of the Platinum Group Elements with Solid-State NMR Spectroscopy and Quantum Chemical Calculations                 | Chemistry                         | 31        | 110 |  |  |  |  |
| Dominic Chandra (G)                       | C  | Florida State University                            | Department of Chemistry & Biochemistry                            |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Sean Holmes (G)                           | C  | Florida State University                            | NMR-MRUS                                                          |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| James Kimball (G)                         | C  | Florida State University                            | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Adam Phillips (P)                         | C  | University of Buffalo                               | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Robert Schurko (S)                        | C  | Florida State University                            | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Robert Smith (G)                          | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Sara Termos (G)                           | C  | Florida State University                            | Department of Chemistry and Biochemistry                          |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Lilija Vugmeyer (S)                       | PI | University of Colorado, Denver                      | Chemistry                                                         | NIH                              | NIHMS - National Institute of General Medical Sciences                   | GM111681          | P20303         | Characterization of water dynamics in the hydration layers of protein systems and soils using quadrupolar nuclei solid-state NMR methods    | Biology, Biochemistry, Biophysics | 9         | 18  |  |  |  |  |
| Sean Holmes (G)                           | C  | Florida State University                            | NMR-MRUS                                                          | NIH                              | NIHMS - National Institute of General Medical Sciences                   | 1R15GM157635-01A1 |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Dmitry Ostrovsky (S)                      | C  | University of Colorado, Denver                      | Mathematics                                                       |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Zhihua Jiang (S)                          | PI | Auburn University                                   | Chemical Engineering                                              | USDA - Department of Agriculture |                                                                          | G00013538         | P20306         | Investigating interactions between biomolecules in cellulose-based materials using 13C - 1H solid-state NMR                                 | Biology, Biochemistry, Biophysics | 54        | 262 |  |  |  |  |
| Jiaxing Fan (G)                           | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Yan-Yan Hu (S)                            | C  | Florida State University                            | Chemistry & Biochemistry                                          |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Erica Tuong (G)                           | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Ronglu Zhang (P)                          | C  | Florida State University                            | Chemistry and Biochemistry Department                             |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Ryan O'Hare (S)                           | PI | Colorado School of Mines                            | Metallurgical and Materials Engineering                           | DOE                              | EFRC - Energy Frontier Research Centers                                  | DE-SC0023450      | P20313         | Understanding hydrogen local structure, dynamics, and diffusion in BCFZY and analogues using solid-state NMR.                               | Chemistry                         | 41        | 244 |  |  |  |  |
| Megan Burrill (G)                         | C  | Northwestern University                             | Materials Science and Engineering                                 |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Sossina Hale (S)                          | C  | Northwestern University                             | Materials Science and Engineering, and Chemistry                  |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Yan-Yan Hu (S)                            | C  | Florida State University                            | Chemistry & Biochemistry                                          |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Mahinur Islam (G)                         | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Bright Ogbolu (G)                         | C  | Florida State University                            | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Islamiyat Oyelade (G)                     | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Ifekwue Oyekunle (G)                      | C  | Florida State University                            | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Yewon Shin (P)                            | C  | Colorado School of Mines                            | Metallurgical and Materials Engineering                           |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Erica Tuong (G)                           | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Geoffrey Strouse (S)                      | PI | National High Magnetic Field Laboratory             | Chemistry                                                         | NSF                              | DMR - Division of Materials Research                                     | DMR1905757        | P20318         | Multinuclear solid-state NMR investigation of plasmonic andphotoluminescent nanocrystals                                                    | Chemistry                         | 13        | 31  |  |  |  |  |
| Sophie Boglaev (G)                        | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Raul Ortega (G)                           | C  | Florida State University                            | Chemistry & Biochemistry                                          |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Ali Pazoki (G)                            | C  | Florida State University                            | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Robert Schurko (S)                        | C  | Florida State University                            | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Robert Smith (G)                          | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Amrit Venkatesh (S)                       | PI | University of Virginia                              | Department of Chemistry                                           | No other support                 |                                                                          |                   | P20323         | Sensitivity-Enhanced Solid-State NMR at High Magnetic Fields using Fast Magic Angle Spinning and Dynamic Nuclear Polarization               | Chemistry                         | 9         | 37  |  |  |  |  |
| Rigang Fu (S)                             | C  | National High Magnetic Field Laboratory             | NMR                                                               |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory             | NH-MFL                                                            |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory             | NMR                                                               |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Thomas Gunnoe (S)                         | C  | University of Virginia                              | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Sean Holmes (G)                           | C  | Florida State University                            | NMR-MRUS                                                          |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory             | CIMAR/NMR                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Elizabeth Johnson (G)                     | C  | University of Virginia                              | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Charles Machan (S)                        | C  | University of Virginia                              | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Samuel Grant (S)                          | PI | National High Magnetic Field Laboratory             | CIMAR                                                             | NIH                              | NINDS - National Institute of Neurological Disorders and Stroke          | NS102395          | P20452         | 23Na MRI of Ischemic Stroke Under Stem Cell Therapy                                                                                         | Biology, Biochemistry, Biophysics | 20        | 30  |  |  |  |  |
| Arshia Arbabian (G)                       | C  | Florida State University                            | Chemical & Biomedical Engineering                                 |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Janini Bhagu (G)                          | C  | Florida State University                            | Chemical ENG                                                      |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Hannah Bryant (G)                         | C  | Florida State University                            | Chemical and Biomedical Engineering at the College of Engineering |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Dayna Richter (G)                         | C  | Florida State University                            | Chemical & Biomedical Engineering                                 |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Ayyalusamy Ramamoorthy (S)                | PI | Florida State University                            | Chemical and Biomedical Engineering                               | NIH                              | NIDDK - National Institute of Diabetes and Digestive and Kidney Diseases | DK011322          | P20468         | Structural Investigation of Polymorphic Aβ Fibrils                                                                                          | Biology, Biochemistry, Biophysics | 1         | 2   |  |  |  |  |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory             | NMR                                                               |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory             | CIMAR                                                             |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Wei Qiang (S)                             | C  | State University of New York, Binghamton            | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory             | Biochemistry & Molecular Biology                                  |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Feng Lin (S)                              | PI | Virginia Polytechnic Institute and State University | Chemistry                                                         | NSF                              | DMR - Division of Materials Research                                     | DMR2045570        | P20482         | Probing thermally induced evolution of atomic distribution in Li-excess disordered rock salt cathode materials                              | Material Science                  | 2         | 3   |  |  |  |  |
| Changgyu Seok (G)                         | C  | Virginia Polytechnic Institute and State University | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Sungsoo Wi (S)                            | C  | National High Magnetic Field Laboratory             | NMR                                                               |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Xiaolin Li (S)                            | PI | Pacific Northwest National Laboratory               | energy and environment                                            | DOE                              | Other                                                                    | DE-AC05-76RL01830 |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Yan-Yan Hu (S)                            | C  | Florida State University                            | Chemistry & Biochemistry                                          |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Mahinur Islam (G)                         | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   | P20484         | Understanding the role of Li substitution in layered oxide cathode materials for Sodium- Ion batteries                                      | Chemistry                         | 21        | 110 |  |  |  |  |
| Yongkang Jin (G)                          | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Islamiyat Oyelade (G)                     | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Pawan Ojha (G)                            | C  | Florida State University                            | Chemistry and Biochemistry                                        |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Fredrick Omenya (S)                       | C  | Pacific Northwest National Laboratory               | energy and environment                                            |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Ifekwue Oyekunle (G)                      | C  | Florida State University                            | Chemistry                                                         |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Bradley Chmelka (S)                       | PI | University of California, Santa Barbara             | Department of Chemical Engineering                                | BASF                             |                                                                          |                   | P20499         | Characterization of Quadrupolar 43Ca, 25Mg, and Engineering 27Al Nuclei in Nanostructured Solids                                            |                                   | 1         | 7   |  |  |  |  |
| Alyssa McNamey (G)                        | C  | University of California, Santa Barbara             | Chemical Engineering                                              | Chevron                          |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
| Anna Fischer (G)                          | C  | University of California, Santa Barbara             | Chemical Engineering                                              | DOD                              | ARO - Army Research Office                                               | W911NF-19-2-0026  |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
|                                           |    |                                                     |                                                                   | NSF                              | DMR - Division of Materials Research                                     | DMR2308708        |                |                                                                                                                                             |                                   |           |     |  |  |  |  |
|                                           |    |                                                     |                                                                   |                                  |                                                                          |                   |                |                                                                                                                                             |                                   |           |     |  |  |  |  |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                 |                                                 | Funding Sources<br>(Funding Agency, Division, Award #)          |                                                                 |                                            | Proposal # | Proposal Title                                                                                                                                                     | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|----|-------------------------------------------------|-------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Snorri Sigurdsson (S)                     | PI | University of Iceland                           | Chemistry                                       | NIH                                                             | NIHMS - National Institute of General Medical Sciences          | GM148766                                   | P20539     | Improving biradicals for MAS-DNP at high field: a combined approach of Spin-Dynamics theory, DFT and high-field EPR                                                | Biology, Biochemistry, Biophysics | 1      | 5         |
| Satyaki Chatterjee (G)                    | C  | University of Iceland                           | Department of Chemistry                         | Icelandic Research Fund                                         | Other Non US Federal Agency                                     | 239662                                     |            |                                                                                                                                                                    |                                   |        |           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory         | NMR                                             | European Union's Horizon 2020 research and innovation programme | Other Non US Federal Agency                                     | 101008500                                  |            |                                                                                                                                                                    |                                   |        |           |
| Frederic Mentrink (S)                     | C  | National High Magnetic Field Laboratory         | CIMAR                                           |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory         | Biochemistry & Molecular Biology                |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Ancy Wilson (G)                           | C  | University of Iceland                           | Chemistry                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Fang Tian (S)                             | PI | Pennsylvania State University                   | Biochemistry and Molecular Biology              | NIH                                                             | NIHMS - National Institute of General Medical Sciences          | GM127730                                   | P20549     | Membrane Interactions of LC3 for LC3-Phosphatidylethanolamine (PE) Conjugation and Phagophore Expansion during Autophagy                                           | Biology, Biochemistry, Biophysics | 3      | 14        |
| Riqiang Fu (S)                            | C  | National High Magnetic Field Laboratory         | NMR                                             | Four Diamonds Fund Research Program                             | Other                                                           | 4D21_2024_1001                             |            |                                                                                                                                                                    |                                   |        |           |
| Yining Huang (S)                          | PI | University of Western Ontario                   | Chemistry                                       | Western University                                              | Non US College and University                                   |                                            | P20550     | Solid-state NMR Characterization of Local Environments of Framework Halides in MOFs at Ultrahigh Magnetic Field                                                    | Chemistry                         | 10     | 75.5      |
| Tahereh Azzizvahed (G)                    | C  | University of Western Ontario                   | Chemistry                                       | NSERC of Canada                                                 | Other                                                           |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory         | NH-MFL                                          |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory         | CIMAR/NMR                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Shuting Li (G)                            | C  | University of Western Ontario                   | Chemistry                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Jing-Song Wang (G)                        | C  | University of Western Ontario                   | Chemistry                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Jabin Xu (G)                              | C  | University of Western Ontario                   | Chemistry                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Wanli Zhang (G)                           | C  | University of Western Ontario                   | Chemistry                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Sungsoo Wi (S)                            | PI | National High Magnetic Field Laboratory         | NMR                                             | No other support                                                | CHE - Chemistry                                                 | CHE2203405                                 | P20552     | Development of Novel NMR Techniques for Studies at High Magnetic Fields and under Fast Magic-Angle Spinning: Utilization of 1H-detection and Natural 13C Abundance | Biology, Biochemistry, Biophysics | 12     | 55        |
| Ercan Cakmak (S)                          | C  | Oak Ridge National Laboratory                   | Materials Science and Technology                | NSF                                                             |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Nasriddin Dawlati (G)                     | C  | Centre of Biomedical Research                   | Advanced Spectroscopy and Imaging               |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Lucio Frydman (S)                         | C  | National High Magnetic Field Laboratory         | NMR                                             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Riqiang Fu (S)                            | C  | National High Magnetic Field Laboratory         | NMR                                             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Jian Hou (P)                              | C  | Dankook University                              | Energy Engineering                              |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Taigu Joo (G)                             | C  | Massachusetts Institute of Technology           | Chemical Engineering                            |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Samuel Kaser (G)                          | C  | Massachusetts Institute of Technology           | Chemical Engineering                            |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Tae Hoon Lee (G)                          | C  | Massachusetts Institute of Technology           | Chemical Engineering                            |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Jun Hyun Lim (G)                          | C  | Dankook University                              | Energy Engineering Department                   |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Jenica Lumata (P)                         | C  | National High Magnetic Field Laboratory         | NMR/CIMAR                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Bijaylaxmi Patra (G)                      | C  | Centre of Biomedical Research                   | Department of Advanced Spectroscopy and Imaging |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Ayyalusamy Ramamoorthy (S)                | C  | Florida State University                        | Chemical and Biomedical Engineering             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Matthew Ryder (S)                         | C  | Oak Ridge National Laboratory                   | Materials Science and Technology Division       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Neeraj Sinha (S)                          | C  | Centre of Biomedical Research                   | Advanced Spectroscopy and Imaging               |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Zachary Smith (S)                         | C  | Massachusetts Institute of Technology           | Chemical Engineering                            |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Wan-Ni Wu (G)                             | C  | Massachusetts Institute of Technology           | Chemical Engineering                            |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Jing Ying Yeo (G)                         | C  | Massachusetts Institute of Technology           | Chemical Engineering                            |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Samuel Grant (S)                          | PI | National High Magnetic Field Laboratory         | CIMAR                                           | NIH                                                             | NINDS - National Institute of Neurological Disorders and Stroke | NS102395                                   | P20556     | Efficacy of Stem Cell-Derived Therapy for Stroke Evaluated by Ultra-High Field MRI/S                                                                               | Biology, Biochemistry, Biophysics | 38     | 52        |
| Arash Arbabian (G)                        | C  | Florida State University                        | Chemical & Biomedical Engineering               | NIH                                                             | NINDS - National Institute of Neurological Disorders and Stroke | NS115490                                   |            |                                                                                                                                                                    |                                   |        |           |
| Jamini Bhagu (G)                          | C  | Florida State University                        | Chemical ENG                                    |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Bruce Bunnell (S)                         | C  | Tulane University                               | Pharmacology                                    |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Hedi Matoussi (S)                         | C  | Florida State University                        | Chemistry & Biochemistry                        |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Jeff Procidia (G)                         | C  | Florida State University                        | Chemistry & Biochemistry                        |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Fan Lam (S)                               | PI | University of Illinois at Urbana-Champaign      | Bioengineering                                  | NIH                                                             | NIHMS - National Institute of General Medical Sciences          | GM142969                                   | P20584     | Noninvasive Imaging of DNA Methylation in Rodent Brains using Epigenetic MRI                                                                                       | Engineering                       | 13     | 15        |
| Arash Arbabian (G)                        | C  | Florida State University                        | Chemical & Biomedical Engineering               | Chan Zuckerberg Biohub Chicago leadership grant                 | Other                                                           |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Samuel Grant (S)                          | C  | National High Magnetic Field Laboratory         | CIMAR                                           |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Anamika Roy (G)                           | C  | Florida State University                        | Chemical & Biomedical Engineering               |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Juergen Senker (S)                        | PI | University of Bayreuth                          | Inorganic Chemistry III                         | Elitenetzwerk Bayern                                            | Other                                                           | Elite Study Program Macromolecular Science | P20590     | Formation and Degradation of Microplastic under Simulated Environmental Conditions                                                                                 | Chemistry                         | 1      | 10        |
| Pierre Florian (S)                        | C  | French National Center for Scientific Research  | CEMTHI                                          | European research consortium                                    | Other                                                           | 101008500                                  |            |                                                                                                                                                                    |                                   |        |           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory         | NMR                                             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Anika Mauer (G)                           | C  | University of Bayreuth                          | Inorganic Chemistry III                         |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Frederic Mentrink (S)                     | C  | National High Magnetic Field Laboratory         | CIMAR                                           |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory         | Biochemistry & Molecular Biology                |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Aaron Rossini (S)                         | PI | Iowa State University                           | Chemistry                                       | Genentech, Inc.                                                 |                                                                 | No number                                  | P20593     | Structure Determination of Inorganic Materials by High-Resolution Solid-State NMR Spectroscopy of Quadrupolar Nuclei                                               | Biology, Biochemistry, Biophysics | 1      | 3         |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory         | NH-MFL                                          |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Jiahan Mi (G)                             | C  | Iowa State University                           | Chemistry                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Amrit Venkatesh (S)                       | C  | University of Virginia                          | Department of Chemistry                         |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Kendra Frederick (S)                      | PI | University of Texas, Southwestern               | Biophysics                                      | NIH                                                             | NINDS - National Institute of Neurological Disorders and Stroke | NS134921                                   | P20596     | Measurement of 31P-13C distances for a membrane-associated protein under DNP conditions                                                                            | Biology, Biochemistry, Biophysics | 1      | 5         |
| Shoyeb Ansari (P)                         | C  | University of Texas, Southwestern               | Biophysics                                      |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Rania Dumarieh (T)                        | C  | University of Texas Southwestern Medical Center | Biophysics                                      |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory         | NMR                                             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Dominique Lagasca (G)                     | C  | University of Texas, Southwestern               | Biophysics                                      |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Frederic Mentrink (S)                     | C  | National High Magnetic Field Laboratory         | CIMAR                                           |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory         | Biochemistry & Molecular Biology                |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Hadi Mohammadgoushki (S)                  | PI | Florida State University                        | Chemical and Biomedical Engineering             | Rare Earth Initiative/gypstack project                          | Other                                                           |                                            | P20600     | Dynamics and characterization of cluster formation via inhomogeneous NMR spectroscopy                                                                              | Engineering                       | 1      | 1         |
| Jamel Ali (S)                             | C  | Florida Agricultural and Mechanical University  | Chemical and Biomedical Engineering             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Samuel Grant (S)                          | C  | National High Magnetic Field Laboratory         | CIMAR                                           |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Munir Humayun (S)                         | C  | National High Magnetic Field Laboratory         | Earth, Ocean and Atmospheric Science            |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Aidan Lowery (G)                          | C  | Florida State University                        | Chemical and Biomedical Engineering             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Peter Rassolov (P)                        | C  | Florida State University                        | Chemical and Biomedical Engineering             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Theo Siegrist (S)                         | C  | National High Magnetic Field Laboratory         | Chemical and Biomedical Engineering             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Shinho Cho (S)                            | PI | National High Magnetic Field Laboratory         | NMR-MRI                                         | No other support                                                |                                                                 | Shinho Cho Start-up 9107                   | P20646     | Developing functional magnetic resonance imaging: Enhancing Spatial and Temporal Resolution in Ultra-High Field fMRI with 21.1 Tesla (900 MHz)                     | Biology, Biochemistry, Biophysics | 5      | 15        |
| Lucio Frydman (S)                         | C  | National High Magnetic Field Laboratory         | NMR                                             |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Samuel Grant (S)                          | C  | National High Magnetic Field Laboratory         | CIMAR                                           |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |
| Kara Lane-lightfoot (U)                   | C  | Florida State University                        | Chemistry                                       |                                                                 |                                                                 |                                            |            |                                                                                                                                                                    |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                  |                                            | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                          |               | Proposal # | Proposal Title                                                                                                                                     | Discipline                        | Exp. # | Days<br>Used |
|-------------------------------------------|----|--------------------------------------------------|--------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------|---------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|--------------|
| Ayyalasamy Ramamoorthy (S)                | PI | Florida State University                         | Chemical and Biomedical Engineering        | NIH                                                    | NIDDK - National Institute of Diabetes and Digestive and Kidney Diseases | DK132214      | P20663     | Structural Elucidation of Biological Macromolecules Using Novel Nanodiscs and Solid-State NMR Spectroscopy                                         | Biology, Biochemistry, Biophysics | 28     | 259          |
| Nazifa Tasnim Ahmad (G)                   | C  | Florida State University                         | Chemical and Biomedical Engineering        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Ehud Gazit (S)                            | C  | Tel-Aviv University                              | Life Sciences Faculty                      |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Mi Hee Lim (S)                            | C  | Korea Advanced Institute of Science & Technology | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Sam McCalpin (P)                          | C  | Florida State University                         | Biomedical Engineering                     |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Cletus Obi (G)                            | C  | Florida State University                         | Chemical and Biomedical Engineering        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Md Rokunujjaman (P)                       | C  | National High Magnetic Field Laboratory          | NMR                                        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Jhinuk Saha (P)                           | C  | National High Magnetic Field Laboratory          | NMR- College of Engineering                |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Myungwon Lee (S)                          | PI | Drexel University                                | Chemistry                                  | NIH                                                    | NINDS - National Institute of Neurological Disorders and Stroke          | NS139178      | P20673     | Exploring the molecular mechanisms behind membrane-mediated neurodegenerative protein aggregation                                                  | Biology, Biochemistry, Biophysics | 12     | 56           |
| Yoonyoung Baek (G)                        | C  | Drexel University                                | Chemistry                                  | Drexel University                                      | Other                                                                    |               |            |                                                                                                                                                    |                                   |        |              |
| Kwang Hun Lim (S)                         | PI | East Carolina University                         | Chemistry                                  | NIH                                                    | NINDS - National Institute of Neurological Disorders and Stroke          | NS097490      | P20676     | Solid-state NMR studies of toxic misfolded oligomers                                                                                               | Biology, Biochemistry, Biophysics | 2      | 14           |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory          | NH-MFL                                     |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Robert Irving (G)                         | C  | East Carolina University                         | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Sungsoo Wi (S)                            | C  | National High Magnetic Field Laboratory          | NMR                                        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Seungwoo Kang (S)                         | PI | Augusta University                               | Department of Pharmacology and Toxicology  | NIH                                                    | NIMH - National Institute of Mental Health                               | MH137204      | P20750     | Brain-wide signatures of alcohol use disorder and its comorbid psychiatric disorders in cell-type-, circuit-, and age-dependent manners            | Biology, Biochemistry, Biophysics | 2      | 4            |
| Shinho Cho (S)                            | C  | National High Magnetic Field Laboratory          | NMR-MRI                                    |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Gaurav Giri (S)                           | PI | University of Virginia                           | Chemical Engineering                       | NSF                                                    | CBE-T - Chemical, Bioengineering, Environmental, and Transport Systems   | CBE12420733   | P20764     | Solid-state NMR characterization of Polymer-MOF Composites                                                                                         | Material Science                  | 2      | 11.5         |
| Ankit Dhakal (G)                          | C  | University of Virginia                           | Chemical Engineering                       |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Rongfang Fu (S)                           | C  | National High Magnetic Field Laboratory          | NMR                                        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Amit Venkatesh (S)                        | C  | University of Virginia                           | Department of Chemistry                    |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Jayakanth Ravichandran (S)                | PI | University of Southern California                | Chemical Engineering and Materials Science | DOD                                                    | ARO - Army Research Office                                               |               | P20806     | Probing the local structure of non-collinear dipoles in BaTiO3                                                                                     | Material Science                  | 4      | 6            |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory          | NMR                                        | NSF                                                    | DMR - Division of Materials Research                                     | DMR2122071    |            |                                                                                                                                                    |                                   |        |              |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory          | CIMAR                                      |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Robert Schurko (S)                        | C  | Florida State University                         | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Robert Smith (G)                          | C  | Florida State University                         | Chemistry and Biochemistry                 |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Sara Termos (G)                           | C  | Florida State University                         | Department of Chemistry and Biochemistry   |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Myriam Cotten (S)                         | PI | Oregon State University                          | Biochemistry and Biophysics                | Oregon State University                                | US College and University                                                | Startup funds | P20809     | Biological Function at Lipid Membranes: Mechanistic Investigations of Nanopores and Synergistic Host-Defense Agents                                | Biology, Biochemistry, Biophysics | 20     | 80           |
| Ruijia Fu (S)                             | C  | National High Magnetic Field Laboratory          | NMR                                        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory          | NH-MFL                                     |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Evan Goodell (G)                          | C  | College of William and Mary                      | Applied Science                            |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Mary Rooney (G)                           | C  | College of William and Mary                      | Applied Science                            |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Sungsoo Wi (S)                            | C  | National High Magnetic Field Laboratory          | NMR                                        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Rongfu Zhang (P)                          | C  | Florida State University                         | Chemistry and Biochemistry Department      |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Andrea Zorou (G)                          | C  | College of William and Mary                      | Applied Science                            |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Malathy Elumalai (O)                      | PI | National High Magnetic Field Laboratory          | NMR-MRI                                    | No other support                                       |                                                                          |               | P20810     | Micro Imaging RF coil workshop                                                                                                                     | Engineering                       | 1      | 4            |
| Zohab Asahan (G)                          | C  | University of Illinois at Chicago                | Department of Radiology                    |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Arshia Arbabian (G)                       | C  | Florida State University                         | Chemical & Biomedical Engineering          |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Samuel Grant (S)                          | C  | National High Magnetic Field Laboratory          | CIMAR                                      |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Benjamin Kohn (T)                         | C  | Washington University in St. Louis               | Department of Radiology                    |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Yinghe Qi (P)                             | C  | National High Magnetic Field Laboratory          | Condensed Matter Science                   |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Matthew Verber (T)                        | C  | University of North Carolina at Chapel Hill      | Chemistry & Center for Animal MRI (CAMRI)  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Andre Wendlinger (G)                      | C  | University of Cambridge                          | Department of Radiology                    |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| William Brey (S)                          | PI | National High Magnetic Field Laboratory          | NMR                                        | No other support                                       |                                                                          |               | P20811     | 500 Maintenance                                                                                                                                    | Biology, Biochemistry, Biophysics | 2      | 5            |
| Malathy Elumalai (O)                      | C  | National High Magnetic Field Laboratory          | NMR-MRI                                    |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Sabyasachi Sen (S)                        | PI | University of California, Davis                  | Chemical Engineering and Materials Science | NSF                                                    | DMR - Division of Materials Research                                     | DMR2409281    | P20823     | High-Field NMR Investigation of the Structural Evolution of Complex Oxide Glasses during Physical Aging                                            | Material Science                  | 13     | 85           |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory          | NH-MFL                                     |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory          | CIMAR/NMR                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Zhehong Gan (S)                           | PI | National High Magnetic Field Laboratory          | NH-MFL                                     | No other support                                       |                                                                          |               | P20826     | Development and implementation of solid-state NMR methods at ultrahigh magnetic fields                                                             | Biology, Biochemistry, Biophysics | 8      | 48           |
| Frédéric Blanc (S)                        | C  | University of Liverpool                          | Chemistry                                  | NIH                                                    | NIGMS - National Institute of General Medical Sciences                   | GM148766      |            |                                                                                                                                                    |                                   |        |              |
| Robert Griffin (S)                        | C  | Massachusetts Institute of Technology            | Chemistry                                  | Western University                                     | Non US College and University                                            |               |            |                                                                                                                                                    |                                   |        |              |
| Yining Huang (S)                          | C  | University of Western Ontario                    | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory          | CIMAR/NMR                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Danielle Laurencin (S)                    | C  | University of Montpellier                        | Institut Charles Gerhardt de Montpellier   |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Sabyasachi Sen (S)                        | C  | University of California, Davis                  | Chemical Engineering and Materials Science |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Gang Wu (S)                               | C  | Queen's University at Kingston                   | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Ilya Litvak (S)                           | PI | National High Magnetic Field Laboratory          | CIMAR/NMR                                  | NIH                                                    | NIGMS - National Institute of General Medical Sciences                   | GM148766      | P20836     | Improvements and upgrades to 600 Solution NMR instrument                                                                                           | Engineering                       | 4      | 48           |
| William Brey (S)                          | C  | National High Magnetic Field Laboratory          | NMR                                        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Ahalya Mota (U)                           | C  | Florida State University                         | CIMAR/NMR                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Adam Veige (S)                            | PI | University of Florida                            | Chemistry                                  | NSF                                                    | CHE - Chemistry                                                          | CHE2154377    | P20838     | Investigating the In Situ Active Species of a Tungsten Catalyst for Cyclic Polymer Formation                                                       | Chemistry                         | 1      | 6            |
| Christian Ehm (S)                         | C  | University of Naples Federico II                 | Dipartimento di Scienze Chimiche           |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory          | NMR                                        |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory          | CIMAR                                      |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Jack Schlankowitz (G)                     | C  | University of Florida                            | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Robbie Iulucci (S)                        | PI | Washington and Jefferson College                 | Chemistry                                  | NSF                                                    | CHE - Chemistry                                                          | CHE2244151    | P20840     | Continuation of NMR Crystallography of Pharmaceuticals and Biologically Relevant Nanocrystals Augmented by Multinuclear High Field Solid-State NMR | Chemistry                         | 3      | 10           |
| Sean Holmes (G)                           | C  | Florida State University                         | NMR-MRI/S                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Megan Joyce (U)                           | C  | Washington and Jefferson College                 | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Anand Karamcheti (U)                      | C  | Washington and Jefferson College                 | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Deborah Polvani (S)                       | C  | Washington and Jefferson College                 | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Rosalynn Quinones (S)                     | C  | Marshall University                              | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Lilian Schepis (U)                        | C  | Washington and Jefferson College                 | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Robert Schurko (S)                        | C  | Florida State University                         | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |
| Zachary Seaman (U)                        | C  | Washington and Jefferson College                 | Chemistry                                  |                                                        |                                                                          |               |            |                                                                                                                                                    |                                   |        |              |

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| Participants<br>(Name, Role, Org., Dept.) |    |                                                                                        |                                                                                       | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                          |              | Proposal # | Proposal Title                                                                                                     | Discipline                        | Exp. # | Days Used |
|-------------------------------------------|----|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------|--------------|------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------|--------|-----------|
| Robert Schurko (S)                        | PI | Florida State University                                                               | Chemistry                                                                             | NSF                                                    | CHE - Chemistry                                                          | CHE2003854   | P20847     | Multinuclear Solid-State NMR of Active Pharmaceutical Ingredients                                                  | Chemistry                         | 55     | 175       |
| Eric Breynaert (S)                        | C  | Catholic University Leuven                                                             | M2S                                                                                   | Florida State University                               | US College and University                                                | Startup      |            |                                                                                                                    |                                   |        |           |
| Dominic Chantre (G)                       | C  | Florida State University                                                               | Department of Chemistry & Biochemistry                                                |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Zach Dowdell (G)                          | C  | Florida State University                                                               | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Dallas Dukes (G)                          | C  | Florida State University                                                               | Chemistry & Biochemistry                                                              |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Carl Fleischer (G)                        | C  | Florida State University                                                               | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Tomislav Frisic (S)                       | C  | University of Birmingham                                                               | School of Chemistry                                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory                                                | NH-MFL                                                                                |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory                                                | NMR                                                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Sean Holmes (G)                           | C  | Florida State University                                                               | NMR-MRIS                                                                              |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory                                                | CIMAR/NMR                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Robbie Iulucci (S)                        | C  | Washington and Jefferson College                                                       | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Michael Malone (S)                        | C  | Los Alamos National Laboratory                                                         | MPA-Q                                                                                 |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Harris Mason (S)                          | C  | Los Alamos National Laboratory                                                         | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Peyton Osborn (G)                         | C  | Florida State University                                                               | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Jasmine Sanchez (G)                       | C  | Florida State University                                                               | Chemistry and Biochemistry                                                            |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Joel Smith (S)                            | C  | Florida State University                                                               | Chemistry & Biochemistry                                                              |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Robert Smith (G)                          | C  | Florida State University                                                               | Chemistry and Biochemistry                                                            |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Sara Termos (G)                           | C  | Florida State University                                                               | Department of Chemistry and Biochemistry                                              |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Snorri Sigurdsson (S)                     | PI | University of Iceland                                                                  | Chemistry                                                                             | Icelandic Research Fund                                | Other                                                                    | 239662       |            |                                                                                                                    |                                   |        |           |
| Satyaki Chatterjee (G)                    | C  | University of Iceland                                                                  | Department of Chemistry                                                               | European Commission                                    | Non US Council                                                           | PANACEA      |            |                                                                                                                    |                                   |        |           |
| Pierre Florian (S)                        | C  | French National Center for Scientific Research                                         | CEMTHI                                                                                | European Research Council                              | Other                                                                    | 101008500    |            |                                                                                                                    |                                   |        |           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory                                                | NMR                                                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory                                                | CIMAR                                                                                 |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Asif Equbal (S)                           | PI | * New York University                                                                  | Chemistry                                                                             | Tamkeen                                                | Other                                                                    | CG008        | P20853     | High-Field Mg NMR Analysis of Carbonated Reactive Magnesium Oxide Cements (RMC)                                    | Material Science                  | 3      | 18.5      |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory                                                | NMR                                                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory                                                | CIMAR/NMR                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Risal Jabbour (P)                         | C  | New York University                                                                    | New York University Abu Dhabi                                                         |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Tatyana Polenova (S)                      | PI | * University of Delaware                                                               | Chemistry and Biochemistry                                                            | NIH                                                    | NIAID - National Institute of Allergy and Infectious Diseases            | A1541707     | P20856     | MAS NMR and DNP of HIV-1 and SARS-CoV-2 Protein Assemblies and Lipid Nanoparticles: Structure and Dynamics Studies | Biology, Biochemistry, Biophysics | 2      | 20        |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory                                                | NMR                                                                                   | NSF                                                    | MCB - Molecular and Cellular Biosciences                                 | MCB2231099   |            |                                                                                                                    |                                   |        |           |
| Changmao Guo (P)                          | C  | University of Delaware                                                                 | Chemistry and Biochemistry                                                            |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory                                                | CIMAR                                                                                 |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Kumar Tekwani Movellan (P)                | C  | University of Delaware                                                                 | Chemistry and Biochemistry                                                            |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Roman Zadorozhnyi (G)                     | C  | University of Delaware                                                                 | Chemistry and Biochemistry                                                            |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Daniel Lee (S)                            | PI | University of Manchester                                                               | Chemical Engineering                                                                  | PANACEA                                                | Other                                                                    |              | P20915     | Probing the Structural Dynamics of COF-128 Using Hyperpolarized Solid-State NMR                                    | Material Science                  | 1      | 15        |
| Pierre Florian (S)                        | C  | French National Center for Scientific Research                                         | CEMTHI                                                                                |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory                                                | NMR                                                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory                                                | CIMAR                                                                                 |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Sungsoo Wi (S)                            | PI | National High Magnetic Field Laboratory                                                | NMR                                                                                   | NSF                                                    | CHE - Chemistry                                                          | CHE2203405   | P20931     | Solution-State 1H and 19F DNP NMR via Particle-Mediated or Third-Spin-Assisted Cross-Relaxation                    | Chemistry                         | 2      | 10.5      |
| Lucie Frydman (S)                         | C  | National High Magnetic Field Laboratory                                                | NMR                                                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Jenica Lumata (P)                         | C  | National High Magnetic Field Laboratory                                                | NMR/CIMAR                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Joanna Long (S)                           | PI | University of Florida                                                                  | Biochemistry & Molecular Biology                                                      | NIH                                                    | NIGMS - National Institute of General Medical Sciences                   | RM1 GM148766 | P20932     | DNP studies of lipid-modulating peptides                                                                           | Biology, Biochemistry, Biophysics | 2      | 19.5      |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory                                                | NMR                                                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Frederic Mentink (S)                      | C  | National High Magnetic Field Laboratory                                                | CIMAR                                                                                 |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| M Luisa Nogueira (S)                      | C  | University of Florida                                                                  | AMRIS                                                                                 |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Cathrine Pluška (P)                       | C  | University of Florida                                                                  | Biochemistry and Molecular Biology                                                    |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Diana Tymochko (U)                        | C  | University of Florida                                                                  | Biochemistry & Molecular Biology                                                      |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Gang Wu (S)                               | PI | Queen's University at Kingston                                                         | Chemistry                                                                             | NSERC of Canada                                        | Non US Council                                                           |              | P20946     | Probing nuclear quantum effects by solid-state 17O NMR                                                             | Chemistry                         | 4      | 24        |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory                                                | NH-MFL                                                                                |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory                                                | CIMAR/NMR                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Ziyao Peng (G)                            | C  | Queen's University at Kingston                                                         | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Yuanzheng Yue (S)                         | PI | Aalborg University                                                                     | Department of Chemistry and Bioscience                                                | Aalborg University                                     |                                                                          |              | P20947     | Probing the local structure of metal-organic complexes via high-field NMR                                          | Biology, Biochemistry, Biophysics | 2      | 17        |
| Zhehong Gan (S)                           | C  | National High Magnetic Field Laboratory                                                | NH-MFL                                                                                | Aalborg University                                     |                                                                          | P20947       |            |                                                                                                                    |                                   |        |           |
| Ivan Hung (S)                             | C  | National High Magnetic Field Laboratory                                                | CIMAR/NMR                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Zhencai Li (P)                            | C  | Aalborg University                                                                     | Department of Chemistry and Bioscience                                                |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Anne Lesage (S)                           | PI | * French National Center for Scientific Research                                       | CNRS                                                                                  | NIH                                                    | NIGMS - National Institute of General Medical Sciences                   | 148766       | P20950     | Summer 2025 Research Visits to MagLab                                                                              | Biology, Biochemistry, Biophysics | 1      | 12        |
| Krishna Chaudhary (G)                     | C  | Columbia University                                                                    | Chemistry                                                                             | European Reseqarch Council                             | Non US Council                                                           | 101008500    |            |                                                                                                                    |                                   |        |           |
| Isha Gautam (G)                           | C  | Michigan State University                                                              | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Shubha Gunaga (P)                         | C  | National High Magnetic Field Laboratory                                                | NMR                                                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Tomaš Hostinský (G)                       | C  | University of Pardubice                                                                | Department of General and Inorganic Chemistry                                         |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Casper Klinkhamer (U)                     | C  | University of Gothenburg                                                               | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Ondrej Kovar (G)                          | C  | Charles University, Prague, Czechia                                                    | Department of organic and bioorganic chemistry, faculty of pharmacy in Hradec Kralove |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Lucie Leonová (G)                         | C  | Masaryk University                                                                     | Department of Chemistry                                                               |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Erick Morgan (G)                          | C  | Columbia University                                                                    | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Guilherme Rosa (U)                        | C  | University of Aveiro                                                                   | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Faith Scott (P)                           | C  | National High Magnetic Field Laboratory                                                | Biochemistry & Molecular Biology                                                      |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Andrea Simion (G)                         | C  | National Institute for Research and Development of Isotopic and Molecular Technologies | Isotopic and Molecular Technologies                                                   |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Mária Šotťesová (P)                       | C  | University of Gothenburg                                                               | Department of Chemistry and Molecular Biology                                         |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Peng Xiao (P)                             | C  | Michigan State University                                                              | Chemistry                                                                             |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Libin Ye (S)                              | C  | University of South Florida                                                            | Cell Biology, Microbiology and Molecular Biology                                      |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Roman Zadorozhnyi (G)                     | C  | University of Delaware                                                                 | Chemistry and Biochemistry                                                            |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |
| Ayyalusamy Ramamoorthy (S)                | PI | Florida State University                                                               | Chemical and Biomedical Engineering                                                   | NIH                                                    | NIDDK - National Institute of Diabetes and Digestive and Kidney Diseases | DK132214     | P20956     | Probing self-assembly of peptides using HTS Probe                                                                  | Biology, Biochemistry, Biophysics | 1      | 11        |
| Brooks Chandler (G)                       | C  | Florida State University                                                               | CIMAR, NMR                                                                            |                                                        |                                                                          |              |            |                                                                                                                    |                                   |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.)    |    |                                         |                                                | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                          |                   | Proposal # | Proposal Title                                                                                      | Discipline                        | Exp. #           | Days Used   |
|----------------------------------------------|----|-----------------------------------------|------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------|-------------------|------------|-----------------------------------------------------------------------------------------------------|-----------------------------------|------------------|-------------|
| Joseph Zadrozny (S)                          | PI | Ohio State University                   | Chemistry and Biochemistry                     | NSF                                                    | CHE - Chemistry                                                          | CHE2419117        | P20992     | Analyses of 59Co and 57Fe NMR Thermal Sensitivities                                                 | Chemistry                         | 6                | 19          |
| Dominic Chantia (G)                          | C  | Florida State University                | Department of Chemistry & Biochemistry         |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Jasmine Sanchez (G)                          | C  | Florida State University                | Chemistry and Biochemistry                     |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Robert Schurko (S)                           | C  | Florida State University                | Chemistry                                      |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Sara Termos (G)                              | C  | Florida State University                | Department of Chemistry and Biochemistry       |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Tuo Wang (S)                                 | PI | Michigan State University               | Chemistry                                      | NSF                                                    | MCB - Molecular and Cellular Biosciences                                 | MCB2517270        | P21010     | High-Resolution Solid-State NMR and DNP Investigations of Fungal Carbohydrates                      | Biology, Biochemistry, Biophysics | 2                | 15          |
| Ankur Ankur (G)                              | C  | Michigan State University               | Chemistry                                      | NIH                                                    | NIAID - National Institute of Allergy and Infectious Diseases            | A1173270          |            |                                                                                                     |                                   |                  |             |
| Malitha Chathuranga Dickwella Widadanage (P) | C  | National Renewable Energy Laboratory    | DOE                                            |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Frederic Mentink (S)                         | C  | National High Magnetic Field Laboratory | CIMAR                                          |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Priya Sahu (G)                               | C  | Michigan State University               | Chemistry                                      |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Faith Scott (P)                              | C  | National High Magnetic Field Laboratory | Biochemistry & Molecular Biology               |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Kapana Singh (G)                             | C  | Michigan State University               | Chemistry                                      |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Peng Xiao (P)                                | C  | Michigan State University               | Chemistry                                      |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Jayashubba Reddy Yareva (P)                  | C  | Michigan State University               | Chemistry Department                           |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Kisuk Kang (S)                               | PI | * Seoul National University             | Materials Science and Engineering              | National Research Foundation of Korea (NRF) grant      | Non US Government Lab                                                    | RS-2023-00261543  | P21029     | Investigating Structure-Property Relationships in Halide-Based Solid Electrolytes by High-Field NMR | Material Science                  | 2                | 17          |
| John McCloy (S)                              | PI | * Washington State University           | School of Mechanical and Materials Engineering | DOE                                                    | Other                                                                    | 89304022CEM000015 | P21033     | Ci environment elucidation in nuclear waste glass via 35Cl NMR                                      | Material Science                  | 1                | 6           |
| John Bussey (G)                              | C  | Washington State University             | School of Mechanical and Materials Engineering |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Kodie Laine Rodman (G)                       | C  | Washington State University             | School of Mechanical and Materials Engineering |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Sami SOUDANI (P)                             | C  | Washington State University             | Institut of Material Science                   |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Aaron Wilber (S)                             | PI | Florida State University                | Psychology                                     | Florida Department of Health                           | Other                                                                    |                   | P21035     | Resting state functional connectivity, structural connectivity and glymphatic flow in AD            | Biology, Biochemistry, Biophysics | 4                | 4           |
| Choogon Lee (S)                              | C  | Florida State University                | Biomedical Sciences                            |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Jenna Radovich (G)                           | C  | Florida State University                | Chemical & Biomedical Engineering              |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Ayyalusamy Ramamoorthy (S)                   | PI | Florida State University                | Chemical and Biomedical Engineering            | Nih                                                    | NIDDK - National Institute of Diabetes and Digestive and Kidney Diseases | DK132214          | P21074     | Amyloid Toxicity and Neuroinflammation                                                              | Biology, Biochemistry, Biophysics | 1                | 1           |
| Sanjay Metkar (P)                            | C  | National High Magnetic Field Laboratory | NMR CIMAR                                      |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Jenna Radovich (G)                           | C  | Florida State University                | Chemical & Biomedical Engineering              |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Jihuk Saha (P)                               | C  | National High Magnetic Field Laboratory | NMR- College of Engineering                    |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Aaron Wilber (S)                             | C  | Florida State University                | Psychology                                     |                                                        |                                                                          |                   |            |                                                                                                     |                                   |                  |             |
| Total Proposals:                             |    |                                         |                                                |                                                        |                                                                          |                   |            |                                                                                                     |                                   | 65               |             |
|                                              |    |                                         |                                                |                                                        |                                                                          |                   |            |                                                                                                     |                                   | Experiments: 629 | Days: 2,789 |



## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                                    | Funding Sources<br>(Funding Agency, Division, Award #)          |                                              |                                      | Proposal #                         | Proposal Title | Discipline                                                                                                            | Exp. #                            | Days Used |    |
|-------------------------------------------|----|--------------------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|--------------------------------------|------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------|----|
| Venkat Selvaramanickam (S)                | PI | University of Houston                                              | Mechanical Engineering                                          | DOE                                          | HEP – High Energy Physics            | DE-SC0016220                       | P19815         | Critical current characterization of 4+ um thick film Zn- and Hf-doped RE-Ba-Cu-O tapes in ultra-high magnetic fields | Development of Magnet Technology  | 1         | 10 |
| Bhadesh Sarangi (G)                       | C  | University of Houston                                              | Material Science and Engineering                                |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Manoj Thevalappilly Paulose (G)           | C  | University of Houston                                              | Mechanical and Aerospace Engineering                            |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Longfeng Zhu (P)                          | C  | University of Houston                                              | Mechanical and Aerospace Engineering                            |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Minseong Lee (S)                          | PI | National High Magnetic Field Laboratory                            | MPA-MAG                                                         | DOE                                          | BES – Basic Energy Sciences          | 0                                  | P19848         | Kitav spin liquid phase in a 3d transition metal oxides                                                               | Development of Magnet Technology  | 2         | 7  |
| Marcelo Jaime (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                         | DOE                                          | LDRD - Laboratory Directed R&D       | DE-AA00-00AA00000                  |                |                                                                                                                       |                                   |           |    |
| Vivien Zapf (S)                           | C  | National High Magnetic Field Laboratory                            | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Shengzhi Zhang (S)                        | C  | National High Magnetic Field Laboratory                            | CMS                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Haoqun Zhou (S)                           | C  | University of Tennessee, Knoxville                                 | Physics and Astronomy                                           |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Jamie Manson (S)                          | PI | Eastern Washington University                                      | Chemistry and Biochemistry                                      | NSF                                          | DMR - Division of Materials Research | DMR2104167                         | P20007         | Magnetic phase diagram of a spin-1/2 chiral chain                                                                     | Condensed Matter Physics          | 1         | 2  |
| Paul Goddard (S)                          | C  | University of Warwick                                              | Department of Physics                                           |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Jian Wang (S)                             | PI | * Peking University                                                | International Center for Quantum Materials, School of Physics   | Smith College                                | US College and University            | SD-60175 CFCD - Fortune, Nathanael | P20256         | Specific heat measurements of log-periodic oscillations under high magnetic field in Dirac materials ZrTe5 and HfTe5  | Condensed Matter Physics          | 1         | 4  |
| Alimamy Bangura (S)                       | C  | National High Magnetic Field Laboratory                            | CMS                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Nathanael Fortune (S)                     | C  | Smith College                                                      | Department of Physics                                           |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Scott Hannans (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Robert Jovnt (S)                          | C  | University of Wisconsin, Madison                                   | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Yanzhao Liu (G)                           | C  | Peking University                                                  | School of Physics                                               |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Joyce Palmer-Fortune (S)                  | C  | Smith College                                                      | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Shiyun Park (U)                           | C  | Smith College                                                      | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Danilo Roberto Ratkovski (O)              | C  | National High Magnetic Field Laboratory                            | CMS                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Ziqiao Wang (P)                           | C  | Peking University                                                  | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Paula Gralido-Gallo (S)                   | PI | * University of Los Andes                                          | Physics                                                         | MinCencias                                   | Other Non US Federal Agency          |                                    | P20260         | High field study of quasi-1D transition metal chalcogenides and related charge-ordered compounds                      | Condensed Matter Physics          | 1         | 10 |
| Ivan Fisher (S)                           | C  | Stanford University                                                | Applied Physics                                                 |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Jose Galvis Echeverri (S)                 | C  | University of Rosario                                              | School of Sciences and Engineering                              |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Isabel Guillemon (P)                      | C  | University of Bristol                                              | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Edwin Herrera Vasco (P)                   | C  | Autonomous University of Madrid                                    | Condensed Matter                                                |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Edwin Ramos Rodriguez (S)                 | C  | University of the Andes                                            | Fisica                                                          |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Julian Rojas (G)                          | C  | University of Los Andes                                            | Bogota                                                          |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Diego Sivera Vega (G)                     | C  | University of Los Andes                                            | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Hermann Surdewski (S)                     | C  | Autonomous University of Madrid                                    | Condensed Matter                                                |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Mikhail Eremlits (S)                      | PI | Max Planck Institute for Chemistry, Mainz                          | Chemistry and Physics at High Pressures Group                   | Max Plank Institute                          |                                      |                                    | P20272         | Hydrogen-Rich High Temperature Superconductors                                                                        | Condensed Matter Physics          | 1         | 10 |
| Fedor Balakirev (S)                       | C  | National High Magnetic Field Laboratory                            | PFF                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Luis Balicas (S)                          | C  | National High Magnetic Field Laboratory                            | Condensed Matter Experiment                                     |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Feng Du (P)                               | C  | Max Planck Institute for Chemistry, Mainz                          | High pressure chemistry and physics                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Vasily Minkov (S)                         | C  | Max Planck Institute for Chemistry, Mainz                          | Chemistry and Physics at High Pressures Group                   |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| G. Alexander Smith (P)                    | C  | Los Alamos National Laboratory                                     | MPA-MAGLAB                                                      |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Philip Moll (S)                           | PI | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | Max Planck Institute for Structure and Dynamics of Matter       | No other support                             |                                      |                                    | P20283         | True nature of exotic high field state in UTe2: a field-polarized metal or a field-boosted superconductor?            | Condensed Matter Physics          | 1         | 10 |
| Chunyu Guo (S)                            | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | MQM                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Charles Meike (P)                         | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | Microstructured Quantum Matter                                  |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Carsten Putzke (U)                        | C  | University of Bristol                                              | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Priscila Rosa (S)                         | C  | Los Alamos National Laboratory                                     | MPA-Q                                                           |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Ling Zhang (G)                            | C  | Max Planck Institute for Structure and Dynamics of Matter, Hamburg | MQM                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Suyang Xu (S)                             | PI | * Harvard University                                               | Chemistry and Chemical Biology                                  | DOE                                          | BES – Basic Energy Sciences          | DE-AC0207CH11358                   | P20287         | Pressure tuning of the intrinsic magnetic topological insulator family MnBiTe                                         | Condensed Matter Physics          | 1         | 12 |
| Thao Dinh (G)                             | C  | Harvard University                                                 | Department of Physics                                           |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Anxuan Gao (G)                            | C  | Harvard University                                                 | Chemistry and Chemical Biology                                  |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Tianye Huang (G)                          | C  | Harvard University                                                 | Chemistry and chemical biology                                  |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Yufei Liu (G)                             | C  | Harvard University                                                 | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Laurel Winter (S)                         | PI | National High Magnetic Field Laboratory                            | Physics                                                         | No other support                             |                                      |                                    | P20290         | Testing of probes and instrumentation in pulsed fields                                                                | Condensed Matter Physics          | 4         | 16 |
| Oscar Ayala Valenzuela (S)                | C  | National High Magnetic Field Laboratory                            | PFF                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Fedor Balakirev (S)                       | C  | National High Magnetic Field Laboratory                            | PFF                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Gary Noe (T)                              | C  | National High Magnetic Field Laboratory                            | National High Magnetic Field Laboratory - Pulsed Field Facility |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| John Singleton (S)                        | C  | National High Magnetic Field Laboratory                            | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Janice Muffett (S)                        | PI | University of Tennessee, Knoxville                                 | Department of Chemistry                                         | NSF                                          | DMR - Division of Materials Research | DMR2226109                         | P20344         | High field spectroscopy of materials with broken symmetries and strong spin-orbit coupling                            | Chemistry                         | 1         | 5  |
| Scott Crooker (S)                         | C  | National High Magnetic Field Laboratory                            | Nat High Magnetic Field Lab                                     |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Yanhong Gu (P)                            | C  | University of Tennessee, Knoxville                                 | Chemistry                                                       |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Daniel Morris (G)                         | C  | University of Tennessee, Knoxville                                 | Chemistry                                                       |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Kevin Smith (P)                           | C  | University of Tennessee, Knoxville                                 | Chemistry                                                       |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Robert McQueeney (S)                      | PI | Ames Laboratory                                                    | physics & astronomy                                             | DOE                                          | BES – Basic Energy Sciences          | DE-AC02-07CH11358                  | P20362         | Pulsed magnetic field studies of topological magnetic Kagome compounds                                                | Condensed Matter Physics          | 5         | 46 |
| Joanna Blawie (P)                         | C  | National High Magnetic Field Laboratory                            | NHML                                                            |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Paul Canfield (S)                         | C  | Ames Laboratory                                                    | Physics & Astronomy                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Tianxiong Han (G)                         | C  | Iowa State University                                              | Department of Physics                                           |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Ross McDonald (S)                         | C  | National High Magnetic Field Laboratory                            | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| John Singleton (S)                        | C  | National High Magnetic Field Laboratory                            | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Tyler Slade (S)                           | C  | Ames Laboratory                                                    | Division of Materials Sciences and Engineering                  |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Benjamin Ueland (S)                       | C  | Ames Laboratory                                                    | Division of Materials Sciences and Engineering                  |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Gennady Logvenov (S)                      | PI | Max Planck Institute for Solid State Research, Stuttgart           | Thin Film Technology Facility                                   | Max Plank Institute for Solid State Research | Non US Government Lab                |                                    | P20378         | High Magnetic Field Magnetotransport in Artificial Cuprate Superlattices                                              | Condensed Matter Physics          | 1         | 5  |
| Fedor Balakirev (S)                       | C  | National High Magnetic Field Laboratory                            | PFF                                                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Luis Balicas (S)                          | C  | National High Magnetic Field Laboratory                            | Condensed Matter Experiment                                     |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Antonio Bianconi (S)                      | C  | National Research Council CNR                                      | Institute of Crystallography                                    |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| G. Alexander Smith (P)                    | C  | Los Alamos National Laboratory                                     | MPA-MAGLAB                                                      |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Charles Ahn (S)                           | PI | Yale University                                                    | Applied Physics                                                 | DOE                                          | BES – Basic Energy Sciences          | DE-SC0019211                       | P20381         | High field magneto-transport study of Nd1-xEuxVO2 thin films                                                          | Condensed Matter Physics          | 3         | 15 |
| Dung Vu (P)                               | C  | Yale University                                                    | Applied Physics                                                 |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Frederick Walker (S)                      | C  | Yale University                                                    | Applied Physics                                                 |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Wenzheng Wei (G)                          | C  | Yale University                                                    | Applied Physics                                                 |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Christopher Mizzi (S)                     | PI | National High Magnetic Field Laboratory                            | MPA-MAGLAB, MPA-MAG LAB NHMFL GROUP                             | DOE                                          | LDRD - Laboratory Directed R&D       | DE-AA99-99AA99999                  | P20401         | Symmetry-Sensitive Detection of a Novel Magnetic Phase                                                                | Condensed Matter Physics          | 2         | 15 |
| Minseong Lee (S)                          | C  | National High Magnetic Field Laboratory                            | MPA-MAG                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Boris Malorov (S)                         | C  | National High Magnetic Field Laboratory                            | MPA-MAGLAB                                                      |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Tiemu Qian (P)                            | C  | Los Alamos National Laboratory                                     | MPA-Maglab                                                      |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Haoqun Zhou (S)                           | C  | University of Tennessee, Knoxville                                 | Physics and Astronomy                                           |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| James Analytis (S)                        | PI | University of California, Berkeley                                 | Physics                                                         | Moore Foundation                             | Other                                |                                    | P20412         | High Magnetic field Investigations of the Eu122 candidate Axionic Insulators                                          | Biology, Biochemistry, Biophysics | 1         | 10 |
| Yacine Berkirane (G)                      | C  | University of California, Berkeley                                 | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Augusto Ghisetti (P)                      | C  | University of California, Berkeley                                 | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Danai Hall (G)                            | C  | University of California, Berkeley                                 | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Yuanqi Lyu (G)                            | C  | University of California, Berkeley                                 | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Valeria Rosa Rocheria (G)                 | C  | University of California, Berkeley                                 | Physics Department                                              |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Gioia Saucedo Salas (G)                   | C  | University of Maryland, College Park                               | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Kohtaro Yamakawa (G)                      | C  | University of California, Berkeley                                 | Physics                                                         |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Johanna Palmstrom (P)                     | PI | National High Magnetic Field Laboratory                            | MPA-MAG                                                         | DOE                                          | LDRD - Laboratory Directed R&D       | DE-AA00-00AA00000                  | P20419         | In-situ strain measurements of quantum materials in extreme magnetic fields                                           | Condensed Matter Physics          | 1         | 5  |
| Paul Corbue (P)                           | C  | University of California, Santa Barbara                            | ECE/Materials                                                   |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Jason Dong (G)                            | C  | University of California, Santa Barbara                            | Materials                                                       |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Yilmaz Gul (P)                            | C  | University of California, Santa Barbara                            | Electronic and Computer engineering                             |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |
| Chris Palmstrom (S)                       | C  | University of California, Santa Barbara                            | ECE-Material Science                                            |                                              |                                      |                                    |                |                                                                                                                       |                                   |           |    |

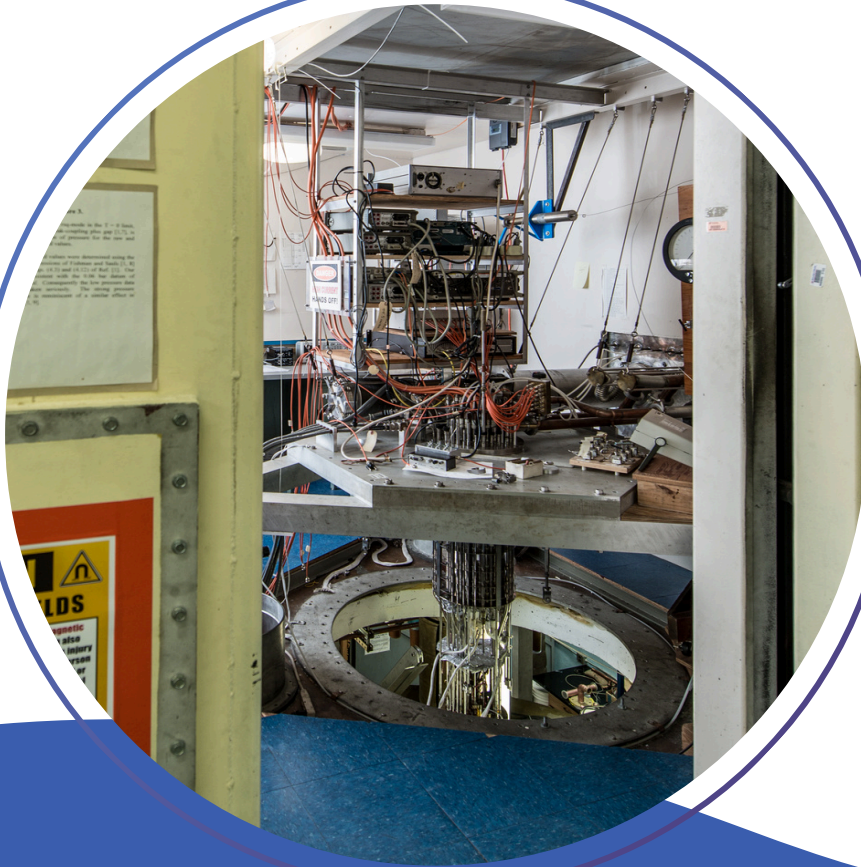
## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.) |    |                                                                                 |                                                                                         | Funding Sources<br>(Funding Agency, Division, Award #) |                                                                     |                                                    | Proposal # | Proposal Title                                                                                                                                           | Discipline               | Exp. # | Days Used |
|-------------------------------------------|----|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------|-----------|
| Tyler Slade (S)                           | PI | Ames Laboratory                                                                 | Division of Materials Sciences and Engineering                                          | DOE                                                    | BES – Basic Energy Sciences                                         | DE-AC02-07CH11358                                  | P20516     | Pulsed magnetic field studies of XPiSP magnetic topological semimetals                                                                                   | Condensed Matter Physics | 1      | 7         |
| Joanna Biawart (P)                        | C  | National High Magnetic Field Laboratory                                         | NHMLF                                                                                   | NSF                                                    | DMR - Division of Materials Research                                | DMR1231319                                         | P20531     | High Field Studies of Superconducting Superlattices                                                                                                      | Condensed Matter Physics | 1      | 5         |
| Paul Canfield (S)                         | C  | Ames Laboratory                                                                 | Physics & Astronomy                                                                     |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Ross McDonald (S)                         | C  | National High Magnetic Field Laboratory                                         | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Robert McQueeney (S)                      | C  | Ames Laboratory                                                                 | physics & astronomy                                                                     |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| John Singleton (S)                        | C  | National High Magnetic Field Laboratory                                         | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Linlin Wang (S)                           | C  | Ames Laboratory                                                                 | Materials Science and Engineering                                                       | DOE                                                    | BES – Basic Energy Sciences                                         | 0                                                  | P20517     | Quantum spin liquid phase in rare-earth triangular lattice antiferromagnets                                                                              | Condensed Matter Physics | 1      | 5         |
| Allen Schiele (S)                         | PI | Los Alamos National Laboratory                                                  | MPA-Q                                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Minseong Lee (S)                          | C  | National High Magnetic Field Laboratory                                         | MPA-MAG                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Shengzhi Zhang (S)                        | C  | National High Magnetic Field Laboratory                                         | CMS                                                                                     | No other support                                       | DMR - Division of Materials Research                                | DMR1231319                                         | P20538     | High magnetic field studies of CePb-based heavy fermion compounds                                                                                        | Condensed Matter Physics | 2      | 9         |
| Joseph Checkelsky (S)                     | PI | Massachusetts Institute of Technology                                           | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Alan Chen (G)                             | C  | Massachusetts Institute of Technology                                           | EECS                                                                                    |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Maximilien Debbae (G)                     | C  | Massachusetts Institute of Technology                                           | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Kevin Nuckolls (P)                        | C  | Massachusetts Institute of Technology                                           | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Joshua Wakefield (G)                      | C  | Massachusetts Institute of Technology                                           | Physics                                                                                 | No other support                                       | DMR - Division of Materials Research                                | DMR1231319                                         | P20544     | High magnetic field study of topological superconductors                                                                                                 | Condensed Matter Physics | 1      | 10        |
| Joanna Biawart (P)                        | PI | National High Magnetic Field Laboratory                                         | NHMLF                                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Grzegorz Chajewski (P)                    | C  | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | Division of Magnetic Research                                                           |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Dariusz Kaczorowski (S)                   | C  | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | Magnetic Research Division                                                              |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Ross McDonald (S)                         | C  | National High Magnetic Field Laboratory                                         | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| John Singleton (S)                        | C  | National High Magnetic Field Laboratory                                         | Physics                                                                                 | No other support                                       | DMR - Division of Materials Research                                | DMR2317618                                         | P20635     | Search for novel electronic and magnetic state in ultraintense magnetic fields                                                                           | Condensed Matter Physics | 5      | 40        |
| Tomasz Klimczuk (S)                       | PI | Gdansk University of Technology                                                 | Department of Applied Physics                                                           |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Sudip Mallick (P)                         | C  | Gdansk University of Technology                                                 | Faculty of Applied Physics and Mathematics and Advanced Materials Center                |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Bartomiej Wondolocha (S)                  | C  | AGH University of Science and Technology                                        | Faculty of Physics and Applied Computer Science, Department of Condensed Matter Physics |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Michał Winiarski (S)                      | C  | Gdansk University of Technology                                                 | Faculty of Applied Physics and Mathematics                                              |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Dariusz Kaczorowski (S)                   | PI | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | Magnetic Research Division                                                              | No other support                                       | DMR - Division of Materials Research                                | DMR2317618                                         | P20642     | High-field studies on a new high entropy Kagome system                                                                                                   | Condensed Matter Physics | 1      | 5         |
| Shovan Dan (P)                            | C  | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | Department of Magnetic Research                                                         |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Piotr Wisniewski (S)                      | C  | Institute of Low Temperature and Structure Research, Polish Academy of Sciences | Division of Magnetic Research                                                           |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Lu Li (S)                                 | PI | University of Michigan                                                          | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Kalia Jenkins (G)                         | C  | University of Michigan                                                          | Department of Physics                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Noah West (G)                             | C  | University of Michigan                                                          | Physics Department                                                                      | DOE<br>NSF                                             | BES – Basic Energy Sciences<br>DMR - Division of Materials Research | DE-SC0020184<br>DMR2317618                         | P20639     | Investigating High-Field Magnetotransport in Two-Dimensional Electron Gas at the LaInO3/BaSnO3 Interface                                                 | Condensed Matter Physics | 1      | 5         |
| Dechen Zhang (G)                          | C  | University of Michigan                                                          | Department of Physics                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Guoxin Zheng (G)                          | C  | University of Michigan                                                          | Department of Physics                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Yuan Zhu (G)                              | C  | University of Michigan                                                          | Department of Physics                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Oliver Bierwagen (S)                      | PI | Paul Drude Institute for Solid State Electronics                                | Epitaxy                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Neil Harrison (S)                         | C  | National High Magnetic Field Laboratory                                         | Physics                                                                                 | Leibniz Gemeinschaft                                   | Other                                                               | K74/2017                                           | P20642     | High-field studies on a new high entropy Kagome system                                                                                                   | Condensed Matter Physics | 1      | 5         |
| Georg Hoffmann (P)                        | C  | Paul Drude Institute for Solid State Electronics                                | Epitaxy                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Kim Rubi (S)                              | C  | Los Alamos National Laboratory                                                  | MPA-MAGLAB                                                                              |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Bing Lv (S)                               | PI | University of Texas, Dallas                                                     | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Wenhao Liu (P)                            | C  | University of Texas at Dallas                                                   | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Christopher Mizz (S)                      | C  | National High Magnetic Field Laboratory                                         | MPA-MAGLAB; MPA-MAG LAB NHMFL GROUP                                                     | NSF                                                    | Other                                                               | N00014-23-1-2020.                                  | P20698     | Comparison of REBCO coated conductor critical current density measurements between measurement techniques for fusion magnet conductor quality assurance. | Material Science         | 1      | 10        |
| Connor Smith (G)                          | C  | University of Texas at Dallas                                                   | Materials Science and Engineering/Physics                                               |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| William Hille (S)                         | PI | * CCFE STEP                                                                     | Confinement Systems                                                                     |                                                        | United Kingdom Atomic Energy Authority                              | Non US Government Lab                              | P20700     | Investigating Properties of Quantum Materials at High Magnetic Fields                                                                                    | Condensed Matter Physics | 1      | 5         |
| Dmytro Abramov (S)                        | C  | National High Magnetic Field Laboratory                                         | The Applied Superconductivity Center                                                    |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Kirk Adams (G)                            | C  | University of Oxford                                                            | Materials                                                                               |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Fannik Dieudonne (S)                      | C  | UK Atomic Energy Authority                                                      | Fusion Technology                                                                       |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Jean Jarczyński (S)                       | C  | National High Magnetic Field Laboratory                                         | CMS                                                                                     |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Jarrod Lewis (P)                          | C  | University of Oxford                                                            | Department of Materials                                                                 | DOE                                                    | BES – Basic Energy Sciences                                         | KC0202024                                          | P20703     | Fractional quantum states in correlated CaNbO3                                                                                                           | Condensed Matter Physics | 1      | 5         |
| Boris Malorov (S)                         | C  | National High Magnetic Field Laboratory                                         | MPA-MAGLAB                                                                              |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Joe Peckett (S)                           | C  | UK Atomic Energy Authority                                                      | Fusion Technology                                                                       |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Rastislav Rieš (P)                        | C  | Florida State University                                                        | ASC                                                                                     |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Aurobindo Siddarth Swaminathan (S)        | C  | UK Atomic Energy Authority                                                      | Fusion technology                                                                       |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Susannah Speller (S)                      | C  | University of Oxford                                                            | Materials                                                                               | NSF                                                    | DMR - Division of Materials Research                                | DMR2218058                                         | P20707     | Pulsed Magnetic Field and High-Pressure Studies on Nickelate Superconductors                                                                             | Condensed Matter Physics | 1      | 10        |
| Stuart Wimbush (S)                        | C  | UK Industrial Fusion Solutions Ltd                                              | Spherical Tokamak for Energy Production                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Sara Harawad (S)                          | PI | Duke University                                                                 | Department of Physics                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Rabindranath Bag (P)                      | C  | Duke University                                                                 | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Weesley Collyer (G)                       | C  | Duke University                                                                 | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Minseong Lee (S)                          | C  | National High Magnetic Field Laboratory                                         | MPA-MAG                                                                                 | DOE                                                    | BES – Basic Energy Sciences                                         | F10100<br>MOE-T2EP50121-0018<br>MOE-T2EP50123-0013 | P20723     | Probing Fermi surface and upper critical fields of infinite-layer nickelate superconductors                                                              | Condensed Matter Physics | 2      | 20        |
| Nathan Wang (G)                           | C  | Duke University                                                                 | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Ho Nvung Lee (S)                          | PI | * Oak Ridge National Laboratory                                                 | Materials Science and Technology Division                                               |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Yunkyu Park (P)                           | C  | Oak Ridge National Laboratory                                                   | Materials Science and Technology Division                                               |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Kim Rubi (S)                              | C  | Los Alamos National Laboratory                                                  | MPA-MAGLAB                                                                              |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Jeongkeun Song (P)                        | C  | Oak Ridge National Laboratory                                                   | Materials Science and Technology Division                                               | NSF                                                    | DMR - Division of Materials Research                                | DMR2128556                                         | P20770     | Optical investigation of composite many-body excitons in heavily electron-doped MoS2 monolayers                                                          | Condensed Matter Physics | 1      | 9         |
| Lin Jiao (S)                              | PI | * Zhejiang University                                                           | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Fedor Balakirev (S)                       | C  | National High Magnetic Field Laboratory                                         | PFF                                                                                     |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Kaixin Ye (G)                             | C  | Zhejiang University                                                             | school of physics                                                                       |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Huqiu Yuan (S)                            | C  | Zhejiang University                                                             | Physics Department                                                                      |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Yanan Zhang (P)                           | C  | Zhejiang University                                                             | School of Physics                                                                       | DOE                                                    | BES – Basic Energy Sciences                                         | F10100<br>MOE-T2EP50121-0018<br>MOE-T2EP50123-0013 | P20773     | Spin-Exchange Interactions and Photoemission in Magnetically-Doped Colloidal Nanocrystals                                                                | Condensed Matter Physics | 2      | 15        |
| Armando Aranda (S)                        | PI | National University of Singapore                                                | Department of Physics                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Mun Chan (S)                              | C  | National High Magnetic Field Laboratory                                         | Pulsed field Facility                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Lin Er Chow (P)                           | C  | National University of Singapore                                                | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Neil Harrison (S)                         | C  | National High Magnetic Field Laboratory                                         | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Kim Rubi (S)                              | C  | Los Alamos National Laboratory                                                  | MPA-MAGLAB                                                                              | 0                                                      | Non US College and University                                       | 20250126DR<br>20250126DR                           | P20774     | Interfacial Superconductivity in Oxide Heterostructures                                                                                                  | Condensed Matter Physics | 3      | 18        |
| King Yau Yip (P)                          | C  | Los Alamos National Laboratory                                                  | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Wei Zhang (P)                             | C  | National University of Singapore                                                | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Junho Choi (S)                            | PI | * Kyung Hee University                                                          | Department of Physics                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Scott Crooker (S)                         | C  | National High Magnetic Field Laboratory                                         | Nat High Magnetic Field Lab                                                             |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Minseong Lee (S)                          | C  | National High Magnetic Field Laboratory                                         | MPA-MAG                                                                                 | Los Alamos LLRD Program<br>Los Alamos LLRD             | Other                                                               | 20250126DR<br>20250126DR                           | P20774     | Interfacial Superconductivity in Oxide Heterostructures                                                                                                  | Condensed Matter Physics | 3      | 18        |
| Yihyun Moon (G)                           | C  | Kyung Hee University                                                            | Department of Physics                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Scott Crooker (S)                         | PI | National High Magnetic Field Laboratory                                         | Nat High Magnetic Field Lab                                                             |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Victor Körner (S)                         | C  | Los Alamos National Laboratory                                                  | C-PCS                                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Gary Noe (T)                              | C  | National High Magnetic Field Laboratory                                         | National High Magnetic Field Laboratory - Pulsed Field Facility                         |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Kim Rubi (S)                              | C  | Los Alamos National Laboratory                                                  | MPA-MAGLAB                                                                              | DOE                                                    | BES – Basic Energy Sciences                                         | F101                                               | P20774     | Interfacial Superconductivity in Oxide Heterostructures                                                                                                  | Condensed Matter Physics | 3      | 18        |
| Kim Rubi (S)                              | PI | Los Alamos National Laboratory                                                  | MPA-MAGLAB                                                                              |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Anand Bhattacharya (S)                    | C  | Argonne National Laboratory                                                     | Materials Science Division & Center for Nanoscale Materials                             |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Andrea Cavallia (S)                       | C  | University of Geneva, Switzerland                                               | Department of Quantum Matter Physics                                                    |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Mun Chan (S)                              | C  | National High Magnetic Field Laboratory                                         | Pulsed field Facility                                                                   |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Ulderico Filippozzi (G)                   | C  | Delft University of Technology                                                  | Kavli Institute of Nanoscience Delft                                                    | DOE                                                    | BES – Basic Energy Sciences                                         | F10100                                             | P20774     | Interfacial Superconductivity in Oxide Heterostructures                                                                                                  | Condensed Matter Physics | 3      | 18        |
| Neil Harrison (S)                         | C  | National High Magnetic Field Laboratory                                         | Physics                                                                                 |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |
| Arun Kumar Jaiswal (P)                    | C  | University of Geneva, Switzerland                                               | Department of Quantum Matter Physics                                                    |                                                        |                                                                     |                                                    |            |                                                                                                                                                          |                          |        |           |

## 2025 MagLab User Proposals

| Participants<br>(Name, Role, Org., Dept.)                   |    |                                                                  |                                                                 | Funding Sources<br>(Funding Agency, Division, Award #)                             |                                                            |                   | Proposal # | Proposal Title                                                                                                                           | Discipline               | Exp. # | Days Used |
|-------------------------------------------------------------|----|------------------------------------------------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------|-------------------|------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------|-----------|
| Sara Haravard (S)                                           | PI | Duke University                                                  | Department of Physics                                           | DOE                                                                                | BES – Basic Energy Sciences                                | DE-SC0023405      | P20782     | Investigating Magnetocaloric Effect in Quantum Magnets                                                                                   | Condensed Matter Physics | 1      | 5         |
| Sanjay Bachar (P)                                           | C  | Duke University                                                  | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Rabindranath Bag (P)                                        | C  | Duke University                                                  | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Minseong Lee (S)                                            | C  | National High Magnetic Field Laboratory                          | MPA-MAG                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Shengdi Zhang (S)                                           | C  | National High Magnetic Field Laboratory                          | CMS                                                             |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Mun Chan (S)                                                | PI | National High Magnetic Field Laboratory                          | Pulsed field Facility                                           | DOE                                                                                | BES – Basic Energy Sciences                                | Science of 100T   | P20783     | Further high-magnetic field explorations of the cuprate high-temperature superconductors                                                 | Condensed Matter Physics | 4      | 35        |
| Scott Crooker (S)                                           | C  | National High Magnetic Field Laboratory                          | Nat High Magnetic Field Lab                                     | DOE                                                                                | BES – Basic Energy Sciences                                | Science of 100 T  |            |                                                                                                                                          |                          |        |           |
| Nel Harrison (S)                                            | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Ross McDonald (S)                                           | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Arkady Shehter (S)                                          | C  | National High Magnetic Field Laboratory                          | LANL MPA-MAGLAB                                                 |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Madalynn Marshall (S)                                       | PI | Kennesaw State University                                        | Chemistry and Biochemistry                                      | No other support                                                                   |                                                            | N/A               | P20827     | Investigating the Magnetocaloric Effect in Cu <sub>2</sub> AyCr <sub>4</sub> zSe <sub>8</sub>                                            | Chemistry                | 1      | 5         |
| Rupali Mangotra (G)                                         | C  | Kennesaw State University                                        | Department of Chemistry and Biochemistry                        |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Sheng Ran (S)                                               | PI | Washington University in St. Louis                               | Physics                                                         | NSF                                                                                | PHY - Physics                                              | PHY2236528        | P20835     | Investigation of high magnetic field properties of novel Kondo insulators                                                                | Condensed Matter Physics | 1      | 5         |
| Shannon Gould (G)                                           | C  | Washington University in St. Louis                               | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| John Singleton (S)                                          | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Masashi Mura (S)                                            | PI | Seikei University                                                | Graduate School of Science and Technology                       | JSPS KAKENHI Grant Number                                                          | Non US Ministry                                            | 23KK0073          | P20850     | Increasing current carrying performance in unconventional superconductors through quantum critical points and thermodynamic aspects      | Condensed Matter Physics | 2      | 20        |
| Shigeyuki Ishida (S)                                        | C  | National Institute of Advanced Industrial Science and Technology | Research Institute for Advanced Electronics and Photonics       | Japan Science and Technology Agency (JST)                                          | Other                                                      | JPMJFR202G        |            |                                                                                                                                          |                          |        |           |
| Boris Maiorov (S)                                           | C  | National High Magnetic Field Laboratory                          | MPA-MAGLAB                                                      |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Christopher Mizzi (S)                                       | C  | National High Magnetic Field Laboratory                          | MPA-MAGLAB: MPA-MAG LAB NHMFL GROUP                             |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Tatsunori Okada (S)                                         | C  | Kyushu Institute of Technology                                   | Department of Materials Science and Engineering                 |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Gabriel Silva Freitas (P)                                   | PI | Los Alamos National Laboratory                                   | National High Magnetic Field Laboratory                         | DOE                                                                                | LLRD - Laboratory Directed R&D                             | DE-AA00-00AA00000 | P20863     | High field measurements in triangular-lattice using magnets                                                                              | Condensed Matter Physics | 1      | 5         |
| Minseong Lee (S)                                            | C  | National High Magnetic Field Laboratory                          | MPA-MAG                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Vivien Zapf (S)                                             | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Sanku Karim (S)                                             | PI | Purdue View A&M University                                       | Physics Department                                              | University of Warwick                                                              | Other                                                      |                   | P20876     | Fermi surface of non-centrosymmetric HfSn <sub>2</sub>                                                                                   | Condensed Matter Physics | 1      | 10        |
| Paul Goddard (S)                                            | C  | University of Warwick                                            | Department of Physics                                           |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Sanjay Sharma (G)                                           | C  | University of Warwick                                            | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| John Singleton (S)                                          | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Vikas Sami(P)                                               | PI | Los Alamos National Laboratory                                   | MPA-MAGLAB                                                      | No other support                                                                   |                                                            |                   | P20888     | High Magnetic Field Studies on Topologically Nontrivial Materials                                                                        | Condensed Matter Physics | 1      | 15        |
| Duck Young Chung (S)                                        | C  | Argonne National Laboratory                                      | Materials Science Division                                      |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Ross McDonald (S)                                           | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Souvik Sasmal (P)                                           | C  | Argonne National Laboratory                                      | Materials Science Division                                      |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Laurel Winter (S)                                           | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Bharat Jalan (S)                                            | PI | University of Minnesota, Twin Cities                             | Chemical Engineering and Materials Science                      | DOE                                                                                | BES – Basic Energy Sciences                                | DE-SC020211       | P20894     | Investigation of Anomalous Hall Effect in Epitaxial RuO <sub>2</sub> Ultrathin Films                                                     | Condensed Matter Physics | 1      | 5         |
| Seunghyo Jeong (P)                                          | C  | University of Minnesota, Twin Cities                             | Chemical engineering and Material science                       | DOE                                                                                | BES – Basic Energy Sciences                                | DE-SC0024710      |            |                                                                                                                                          |                          |        |           |
| Sreelath Thampian Nair (G)                                  | C  | University of Minnesota, Twin Cities                             | Chemical Engineering and Materials Science                      | DOD                                                                                | US Air Force                                               | FA9550-21-1-0025  |            |                                                                                                                                          |                          |        |           |
| Zhiwei Yang (G)                                             | C  | University of Minnesota, Twin Cities                             | School of Physics and Astronomy                                 | DOD                                                                                | US Air Force                                               | FA9550-24-1-0169  |            |                                                                                                                                          |                          |        |           |
|                                                             |    |                                                                  |                                                                 | NSF                                                                                | MRSEC - Materials Research Science and Engineering Centers | DMR-2011401       |            |                                                                                                                                          |                          |        |           |
| Arkady Shehter (S)                                          | PI | National High Magnetic Field Laboratory                          | LANL MPA-MAGLAB                                                 | DOE                                                                                | BES – Basic Energy Sciences                                | "Science of 100T" | P20900     | Magnetic field-temperature scaling in the high-field magnetotransport in the strange metal state of the cuprates across critical doping. | Condensed Matter Physics | 1      | 5         |
| Mun Chan (S)                                                | C  | National High Magnetic Field Laboratory                          | Pulsed field Facility                                           |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Nel Harrison (S)                                            | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Ross McDonald (S)                                           | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Kimberly Modic (S)                                          | C  | Institute of Science and Technology Austria                      | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Brad Ramshaw (S)                                            | C  | Cornell University                                               | Laboratory of Atomic and Solid State Physics                    |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Km Rubi (S)                                                 | C  | Los Alamos National Laboratory                                   | MPA-MAGLAB                                                      |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Kimberly Modic (S)                                          | PI | Institute of Science and Technology Austria                      | Physics                                                         | Institute of Science and Technology Austria                                        | Non US Government Lab                                      |                   | P20902     | Thermodynamic measurements of topological superconductors                                                                                | Condensed Matter Physics | 3      | 25        |
| Zoltan Kollo (T)                                            | C  | Institute of Science and Technology Austria                      | Physical Sciences                                               | Institute of Science and Technology Austria with European Research Council funding | Non US Government Lab                                      | PR1061ERC01       |            |                                                                                                                                          |                          |        |           |
| Vikram Nagarajan (P)                                        | C  | Institute of Science and Technology Austria                      | Math and Physical Sciences                                      |                                                                                    | Other                                                      |                   |            |                                                                                                                                          |                          |        |           |
| Amit Nathwani (U)                                           | C  | Institute of Science and Technology Austria                      | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Guinaz Rakhmanova (G)                                       | C  | IST Austria                                                      | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Brad Ramshaw (S)                                            | C  | Cornell University                                               | Laboratory of Atomic and Solid State Physics                    |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Arkady Shehter (S)                                          | C  | National High Magnetic Field Laboratory                          | LANL MPA-MAGLAB                                                 |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Valeika Zembra (G)                                          | C  | Institute of Science and Technology Austria                      | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Seunghun Lee (S)                                            | PI | University of Virginia                                           | Physics                                                         | DOE                                                                                | BES – Basic Energy Sciences                                | DE-SC-001614      | P20929     | High-field magnetization studies of Ti-based quantum kagome antiferromagnets.                                                            | Condensed Matter Physics | 1      | 5         |
| Prena Chaudhary (G)                                         | C  | University of Virginia                                           | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Asri Ashoka Bandara Thennakoon Thennakoon Madiyanselage (G) | C  | University of Virginia                                           | Department of Physics                                           |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Charles Agosta (S)                                          | PI | Clark University                                                 | Department of Physics                                           | NSF                                                                                | DMR - Division of Materials Research                       | DMR2408453        | P20967     | Pulsed field studies of large anion organic superconductors                                                                              | Condensed Matter Physics | 1      | 5         |
| Ahad Ali Khan (G)                                           | C  | Clark University                                                 | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Nathanael Fortune (S)                                       | C  | Smith College                                                    | Department of Physics                                           |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Marathi Kuchibhotla (P)                                     | C  | Clark University                                                 | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Lee Martin (S)                                              | C  | Nottingham Trent University                                      | Materials Chemistry                                             |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Andreas Rydh (S)                                            | PI | Stockholm University                                             | Department of Physics                                           | Swedish Research Council                                                           | Non US Council                                             | 2021-04360        | P20990     | Probing quantum criticality and strange metal behavior in CeCoIn <sub>5</sub> through thermodynamic measurements in high magnetic fields | Condensed Matter Physics | 1      | 10        |
| Mun Chan (S)                                                | C  | National High Magnetic Field Laboratory                          | Pulsed field Facility                                           |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Akash Kharsilali (P)                                        | C  | Institute of Science and Technology Austria                      | Department of Physics                                           |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Kimberly Modic (S)                                          | C  | Institute of Science and Technology Austria                      | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Arkady Shehter (S)                                          | C  | National High Magnetic Field Laboratory                          | LANL MPA-MAGLAB                                                 |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Laurel Winter (S)                                           | PI | National High Magnetic Field Laboratory                          | Physics                                                         | No other support                                                                   |                                                            |                   | P21022     | Magnet Testing - PFF                                                                                                                     | Condensed Matter Physics | 1      | 23        |
| Fedor Balakirev (S)                                         | C  | National High Magnetic Field Laboratory                          | PFF                                                             |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Doan Nguyen (S)                                             | C  | National High Magnetic Field Laboratory                          | Pulsed Field Facility                                           |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Gary Noe (T)                                                | C  | National High Magnetic Field Laboratory                          | National High Magnetic Field Laboratory - Pulsed Field Facility |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| John Singleton (S)                                          | C  | National High Magnetic Field Laboratory                          | Physics                                                         |                                                                                    |                                                            |                   |            |                                                                                                                                          |                          |        |           |
| Total Proposals:                                            |    |                                                                  |                                                                 |                                                                                    |                                                            |                   |            |                                                                                                                                          | Experiments:             | Days:  |           |
| 48                                                          |    |                                                                  |                                                                 |                                                                                    |                                                            |                   |            |                                                                                                                                          | 74                       | 541    |           |

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