



53th Southeastern Magnetic Resonance Conference

Hosted by the National MagLab & UF • November 14-16 • Gainesville, FL

CONFERENCE SCHEDULE

Friday, November 14, 2025

5:00 PM Registration, Poster Setup & Viewing

Session 1 – Welcome & Opening Session

6:30 PM	Welcome Remarks	Charlie Khemtong, Ph.D. University of Florida
6:35 PM	Keynote 1: <i>Non-equilibrium Processes Studied by Pressure-jump NMR</i>	Adriaan Bax, Ph.D. NIDDK/NIH
7:15 PM	<i>Flow Synthesis of Hyperpolarized Metabolites from Parahydrogen</i>	C. Russell Bowers, Ph.D. University of Florida
7:35 PM	<i>Unlocking Early Pancreatic Cancer Detection through Zinc-sensitive Metabolic MRI</i>	Veronica Clavijo Jordan, Ph.D. MGH/Harvard Medical School
8:00 PM	Poster Presentations and Reception	
10:00 PM	<i>End day</i>	

Saturday, November 15, 2025

Session 2 – MRI and Neurological Applications: Dedicated to Prof. Thomas Mareci

Chair: Jens Rosenberg, Ph.D.
University of Florida

8:25 AM	Opening Remarks	William Brey, Ph.D. NHMFL/Florida State University
8:30 AM	Keynote 2: <i>35 Years of (N)MR Spectroscopy in the Human Brain</i>	Peter Barker, D.Phil. Johns Hopkins University
9:10 AM	<i>Longitudinal Changes in Microstructure Are Related to Changes in Gut Microbiome Following Morphine Use</i>	Luis Colon-Perez, Ph.D. U North Texas Health Sci Ctr
9:30 AM	<i>Remote Palpation of Live Human Brain Using MR Elastography</i>	Magdoom Kulam, Ph.D. NICHD/NIH
9:50 AM	<i>Gradient Coil Design Considerations for Neuroimaging</i>	Garrett Astary, Ph.D. GE Healthcare MR
10:10 AM	<i>Is the Brain a Hyperbolic Network</i>	Daniel DeYoung, Ph.D. Albion College
10:25 AM	Coffee Break	



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Session 3 – Solution NMR and Applications

Chair: Joanna Long, Ph.D.
University of Florida

10:50 AM	<i>Cold-water Chemistry</i>	Bill Baker, Ph.D. University of South Florida
11:10 AM	<i>Noncanonical RNA binding in LARP6</i>	Robert Silvers, Ph.D. Florida State University
11:25 AM	<i>Molecular Dynamics Simulations to Predict NMR Relaxation of Mixtures in Strongly Inhomogeneous Fields</i>	Tyler Meldrum, Ph.D. William & Mary
11:40 AM	<i>High-Resolution ¹³C NMR Reveals Enhanced Hepatic Fatty Acid Oxidation in AATD Mouse Model</i>	Qingyang Shen University of Florida
11:55 AM	<i>Metabolite Fraction Libraries for Quantitative NMR Metabolomics</i>	Art Edison, Ph.D. University of Georgia
12:10 PM	Lunch	

Session 4 – EPR and Applications I

Chair: Stephen Hill, D.Phil.
NHMFL/Florida State University

1:30 PM	Keynote 3: <i>Floquet Spin-Pair States in a π-Conjugated Polymer Thin Film</i>	Christoph Boehme, Ph.D. University of Utah
2:10 PM	<i>Multiphoton State Transitions in the Multilevel Spin System $Gd^{3+}:YVO_4$</i>	Sabastian Atwood, Ph.D. NHMFL & Florida State University
2:30 PM	<i>Optical Control of Molecular Qubits</i>	Haochuan Mao, Ph.D. Florida State University
2:45 PM	<i>Frequency and Bandwidth Tunable Photonic Band Gap Resonators for Pulse EPR with at least Tenfold Greater Concentration Sensitivity</i>	Alex Smirnov, Ph.D. North Carolina State University
3:00 PM	Coffee Break	

Session 5 – Solid-State NMR

Chair: Leah Casabianca, Ph.D.
Clemson University

3:20 PM	<i>Solid-State NMR of Insect Wing Membranes and a Refined Structure of Chitin</i>	Terry Gullion, Ph.D. West Virginia University
3:40 PM	<i>Structure Determination of Membrane Proteins in Magnetically Aligned Discoidal Lipid Mimetics by Solid-State NMR</i>	Alexander Nevzorov, Ph.D. North Carolina State University



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4:00 PM	<i>Mechanochemical Routes to Conventional and Integrative Pharmaceutical Solid Forms: Insights from PXRD and Multinuclear Solid-State NMR Spectroscopy</i>	Peyton Osborn NHMFL/Florida State University
4:15 PM	<i>Structural Characterization of Surface Immobilized Platinum Hydrides by Indirect Detection Solid State NMR Spectroscopy</i>	Benjamin Atterberry, Ph.D. University of Florida
4:30 PM	<i>Structural Insight into Inhibitor-Mediated Modulation of Huntingtin Exon 1 Aggregation</i>	Greeshma Jain, Ph.D. University of Florida
4:45 PM	<i>Gangliosides Promote Structural Heterogeneity in Aβ42 Aggregates</i>	Jhinuk Saha, Ph.D. NHMFL/Florida State University
5:00 PM	Break	
<u>Session 6 – Lightning Presentations by Graduate Students & Postdocs</u>		Chair: Luiza Nogueira, Ph.D. University of Florida
5:20 PM	<i>Evaluating novel bTurea-based biradicals for MAS-DNP</i>	Shubha Gunaga, Ph.D. NHMFL/Florida State University
	<i>Elucidating Electronic Structure and Relaxation Pathways of Transition Metal Complexes via High Power EPR Spectroscopy</i>	Kavipriya Thangavel, Ph.D. NHMFL/Florida State University
	<i>Probing the Structures and Dynamics of Cobaltocenium Compounds via Ultra-Wideline ⁵⁹Co Solid-State NMR</i>	Dominic Chantra NHMFL/Florida State University
	<i>Design and Optimization of Highly Aligned Peptoid Macrodiscs for Solid-State NMR Studies of Membrane Proteins</i>	Adit Shah North Carolina State University
	<i>Measuring Slow Cerebrospinal Fluid Velocities in Preclinical Models Using Optimized Phase Contrast MRI at 21.1 T</i>	Dayna Richter NHMFL/Florida State University
	<i>Engineered Iron Oxide Interfaces Enable Reliable MRI Tracking of Therapeutic Extracellular Vesicles</i>	Arshia Arbabian NHMFL/Florida State University
6:20 PM	Dinner	
8:00 PM	Poster Viewing	
9:30 PM	End day	



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Sunday, November 16, 2025

Session 7 – MRI: Emerging Technologies and Innovations

Chair: Bradley Wilkes, Ph.D.
University of Florida

- 8:30 AM *DMRI is a Flexible Platform for Assessing Aberrant Metabolism*
- 8:50 AM *A Multi-nuclear Volume Coil for H/X Pre-clinical MR at Ultra High Magnetic Fields*
- 9:05 AM *BOLD Functional Connectivity Correlates of PTSD Severity and Chronicity during Image Viewing*
- 9:20 AM *Calibrated MR-ARFI with a Non-Magnetic Micropositioner*
- 9:35 AM *Imaging Neuronal Transmission using Novel Genetic Encodable MRI Reporters*
- 9:55 AM **Coffee Break**

Matthew Merritt, Ph.D.
University of Florida

David Doty, Ph.D.
Doty Scientific, Inc.

Robert Claar
University of Florida

Ryan Willoughby, Ph.D.
University of Alabama at Birmingham

Nan Li, Ph.D.
UT Southwestern Medical Center

Session 8 – EPR and Applications II

Chair: Alexander Angerhofer, Ph.D.
University of Florida

- 10:30 AM *Optimization Methods and Instrumental Advances in Dissolution Dynamic Nuclear Polarization*
- 10:50 AM *Achieving Liquid-State ¹H DNP through Particle-Mediated ¹H–¹H Cross Relaxation.*
- 11:05 AM *From light to friction: how metal oxides drive radical formation in lubricants*
- 11:20 AM *Beyond The First Coordination Sphere: Pulsed EPR Spectroscopy Sheds Light on Outer-Sphere Interactions Driving Enzyme Catalysis*
- 11:40 AM *Multi-Functional Role of Oxalate Decarboxylase Revealed by EPR Studies*
- 11:55 AM *Intrinsic and Cooperative Dynamics of α -Synuclein Terminal Domains under Controlled Confinement*
- 12:10 AM **Conference Highlights & Closing Remarks**

Lloyd Lumata, Ph.D.
University of Texas at Dallas

Sungsool Wi, Ph.D.
NHMFL/Florida State University

Tatyana I. Smirnova, Ph.D.
North Carolina State University

Brad Pierce, Ph.D.
University of Alabama

Zain Becerra, Ph.D.
University of Florida

Kurt Warncke, Ph.D.
Emory University

Charlie Khemtong, Ph.D.
University of Florida

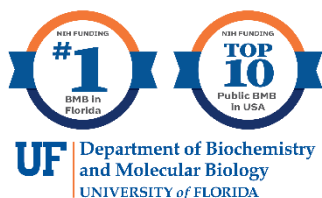
Adjourn or AMRIS Facility Tour (optional)



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