

Peter M McIntyre, III

Dr. Peter McIntyre devoted his career to research in elementary particle physics and to developing new physics and technology for particle accelerators and for superconducting devices. His inventions have led to the discovery of new particles and fields of nature and to applications of importance to civilization.

Dr. McIntyre recently retired from Texas A&M University after 42 years, and he presently leads both a non-profit foundation (Accelerator Research Laboratory) and a for-profit company (Accelerator Technology Corporation). He graduated 45 Ph.D. students during his career, and he currently advises 3 graduate students and 3 undergraduates. Many of his graduates are now leaders in universities, national labs, and major technology companies worldwide. Dr. McIntyre holds 23 patents and has authored or co-authored 825 scientific papers.

A physics theme through Dr. McIntyre's career is the effort to extend the reach for discovery of new particles and fields: beam cooling and $p\bar{p}$ colliding beams to discover the weak bosons and the top quark; polyhedral superconducting cavities to make a linac collider affordable; a hybrid conformal 20 T REBCO dipole for a 100 TeV hadron collider; hybrid conformal 50 T solenoids for fast muon beam cooling needed for a >TeV muon collider; and the Collider-in-the-Sea for a 500 TeV hadron collider.

The technologies that Dr. McIntyre has invented during his career have potential impact for several practical applications of importance: a walk-through OpenMR Imager for sensitive detection of early-stage cancer, REBCO-based gantries for ion beam cancer therapy; ADS fission in a molten salt core for safe fission power; conformal superconducting AC transmission lines to connect GW electric power through a buried pipeline from distant green energy farms to cities; and a hybrid conformal solenoid and blocks-in-conduit toroid for fusion tokamaks.