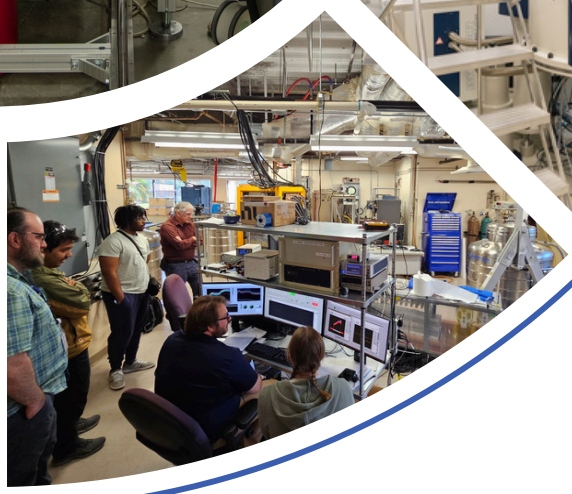

NATIONAL HIGH MAGNETIC FIELD LABORATORY

2025 ANNUAL REPORT

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2025 Annual Report

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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 $^{1}H/^{2}H$ and $^{1}H/^{31}P$ configurations, a ^{1}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 CsV_3Sb_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, 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 (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}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}Bi) and iodine (^{127}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 $Sm_{1-x-y-z}Eu_xCa_ySr_zNiO_2$ 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 h-$Lu_{0.9}Er_{0.1}MnO3$, 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 (±2°C above 872°C). The Renegade achieved >0.5m uniform zone at 50 bar (via extended ramping), and studies identified a pathway to ~1m uniform zone at ~20–25 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 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., Y_2O_3 precipitates/defects) to performance and giving feedback that "significantly contributed" to high temperature superconducting production R&D.
- In 2025, a rewound CORC® cable solenoid survived extensive mechanical/thermal cycling, including 99 operating current cycles to ~230MPa 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 30th 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

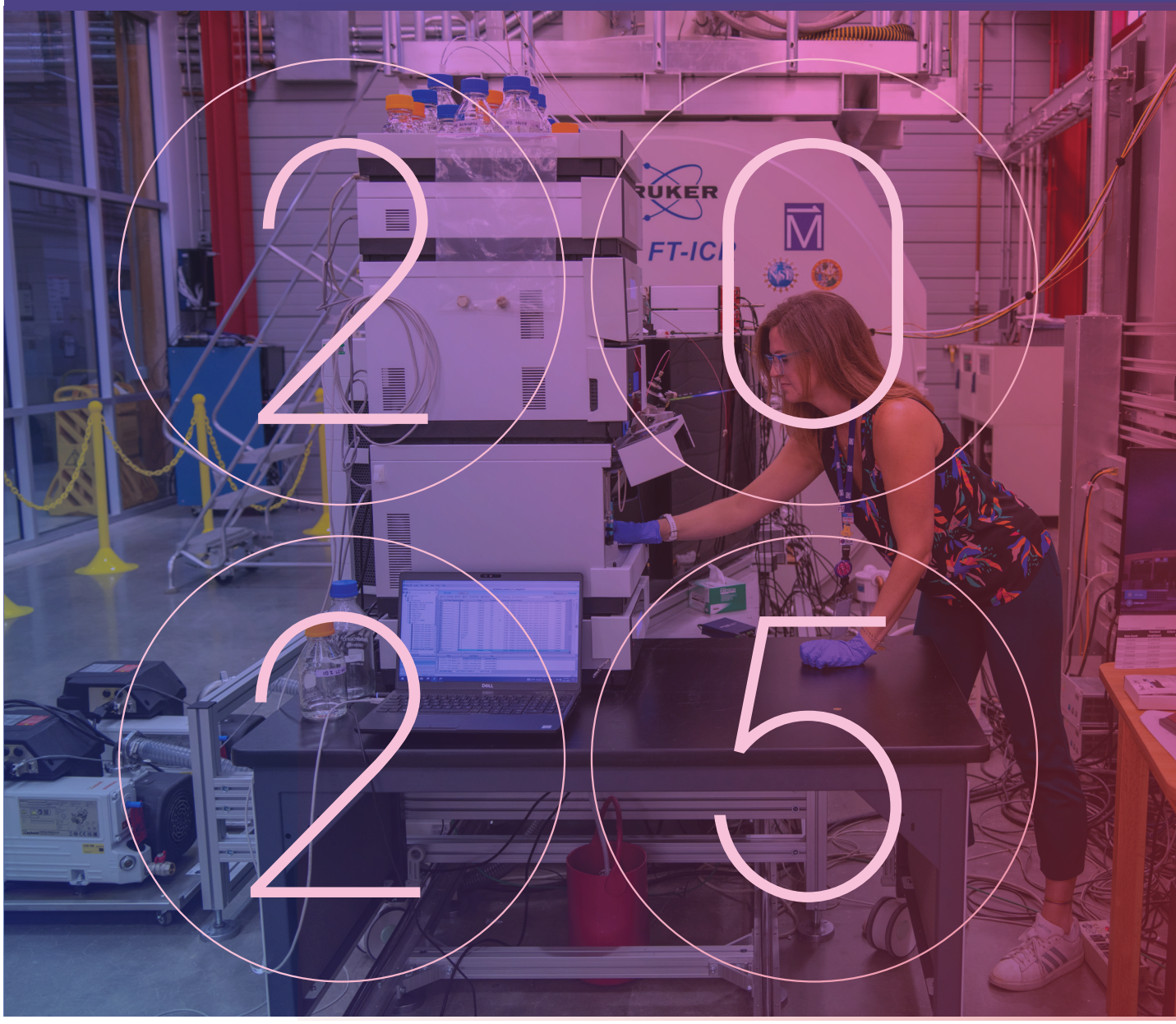
New instrumentation and training are planned for 2026 that seek to expand the lab's scientific and technological capabilities:

- 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 uninterruptible 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



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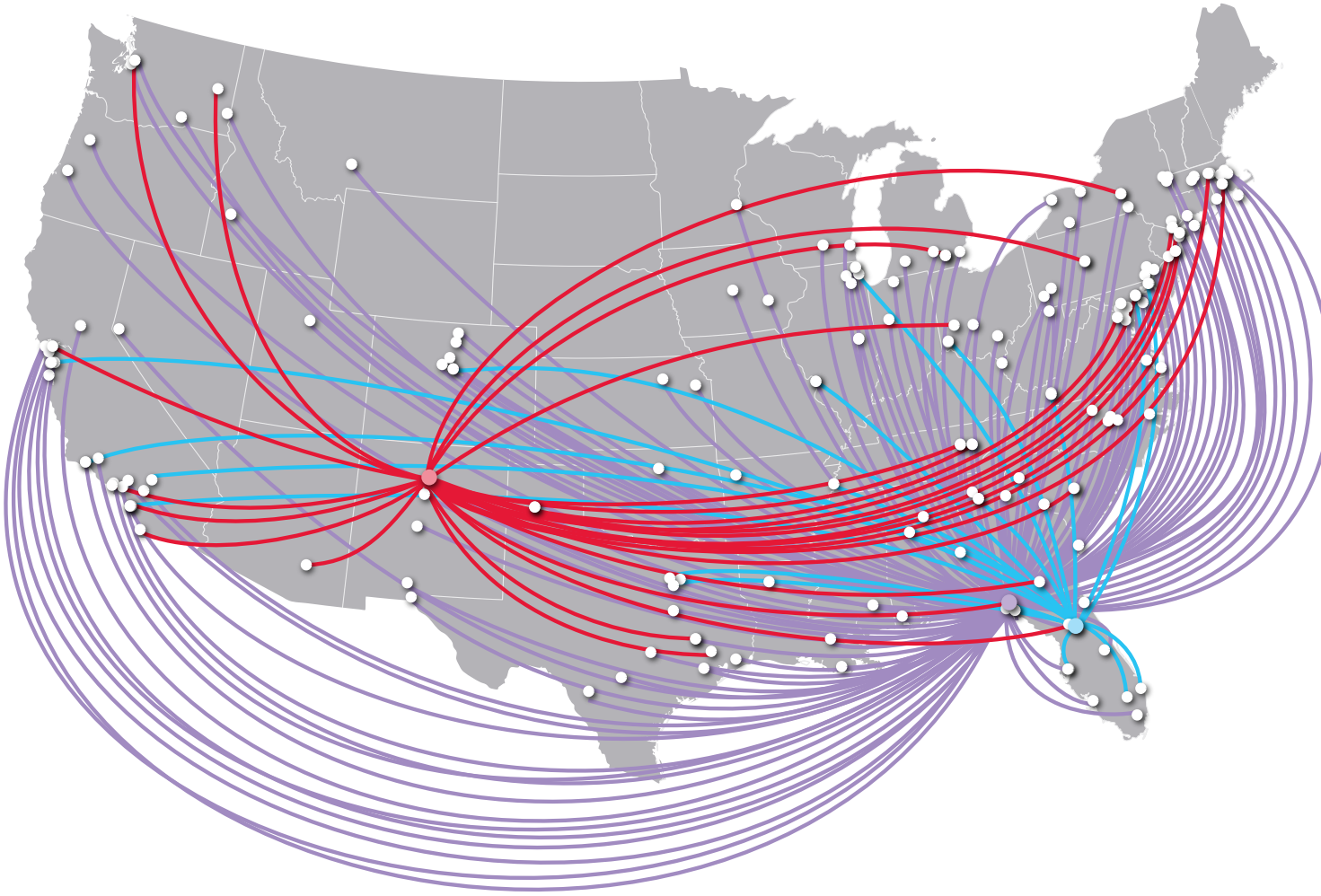
Supported by the National Science Foundation and the State of Florida

1

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



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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%

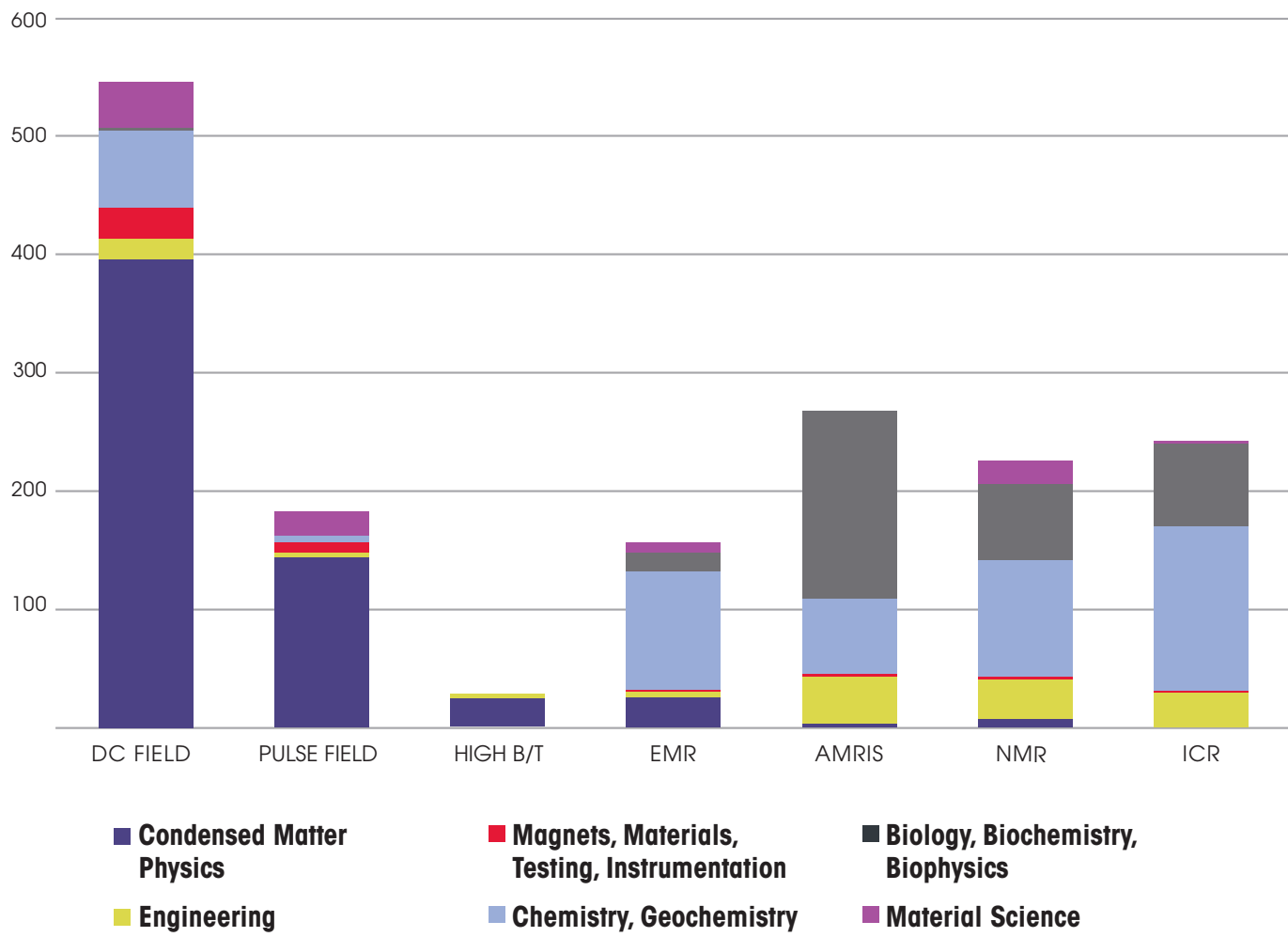
3

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



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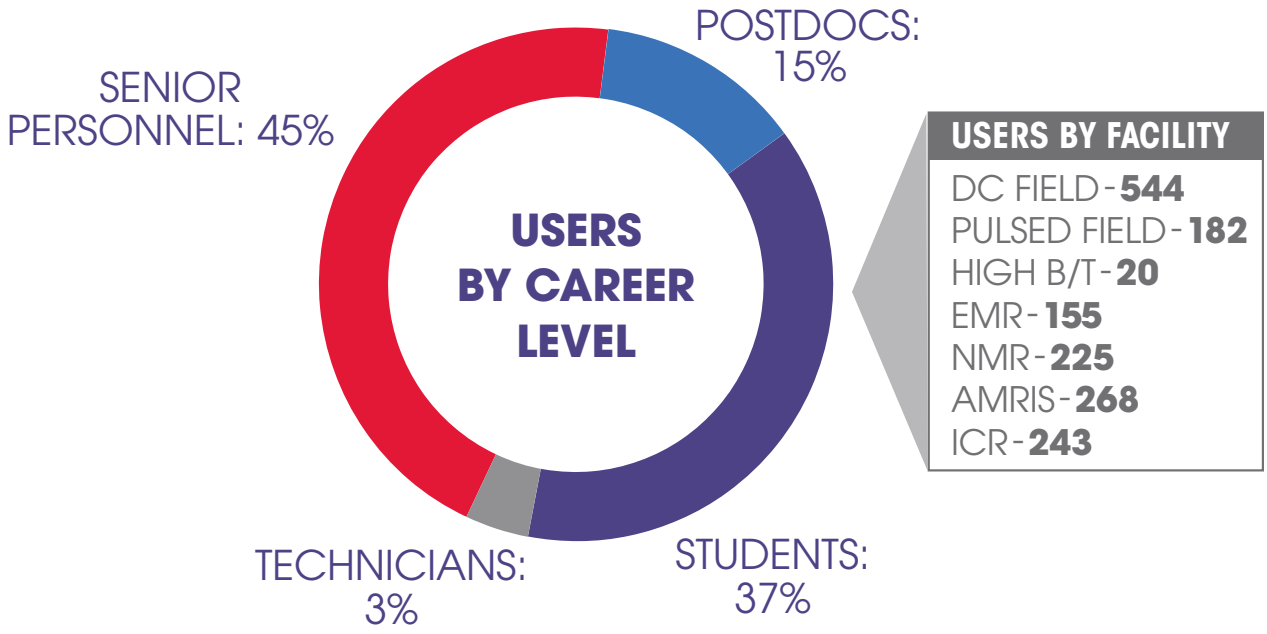

WHAT OUR USERS SAY

97% of users were satisfied with performance of the facilities and equipment.

96% of users were satisfied with the assistance provided by MagLab technical staff.

97% of users were satisfied with the proposal process.

98% of users were satisfied or with the overall safety at the MagLab.

Data reflects external users only.

MAGLAB STAFF

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

Total MagLab Staff: **562**

- Senior Personnel: **187**
- Other Professional: **78**
- Support Staff - Technical: **71**
- Support Staff - Secretarial: **20**
- Postdoctoral: **43**
- Graduate Student: **97**
- Undergraduate Student: **66**

6

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 Libary.

7

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.

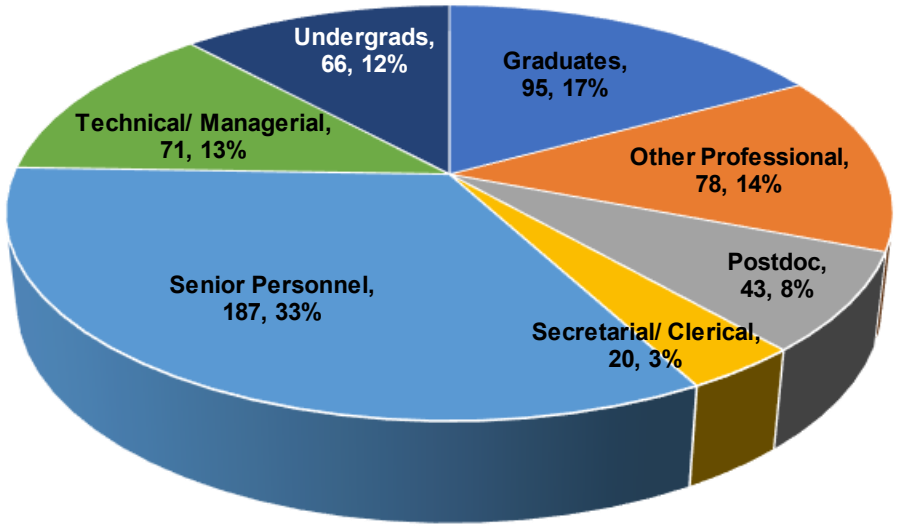

Figure 1.4.1. *MagLab Position Distribution (as of January 23, 2026).*

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	-	-
Total Operations	**38,566,495**	**100.0%**

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

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

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 Nb3Sn 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 Nb3Sn 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 Nb3Sn 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 Bi2Sr2CaCu2O8−x 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 Bi2Sr2CaCu2O8−x 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 Nb3Sn 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 Glenville, 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 Abraimov, 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 Jc Nb3Sn for applications in accelerator technology, solenoid magnets, and some fusion devices. (*MagLab contact: Chris Segal, ASC*)

CERN, Geneva, Switzerland: RRP Nb3Sn 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 CHESS 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 Nb3Sn 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 Nb3Sn 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 Nb3Sn 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® Nb3Sn 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 Nb3Sn 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® Nb3Sn wires to be used in the LBNL Test Facility Dipole Project (TFD). This collaboration will explore the strain sensitivity of a specific Nb3Sn 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 Nb3Sn 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 Nb3Sn 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 Nb3Sn 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 Nb3Sn 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 Nb3Sn 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 synthesizes 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^2	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.

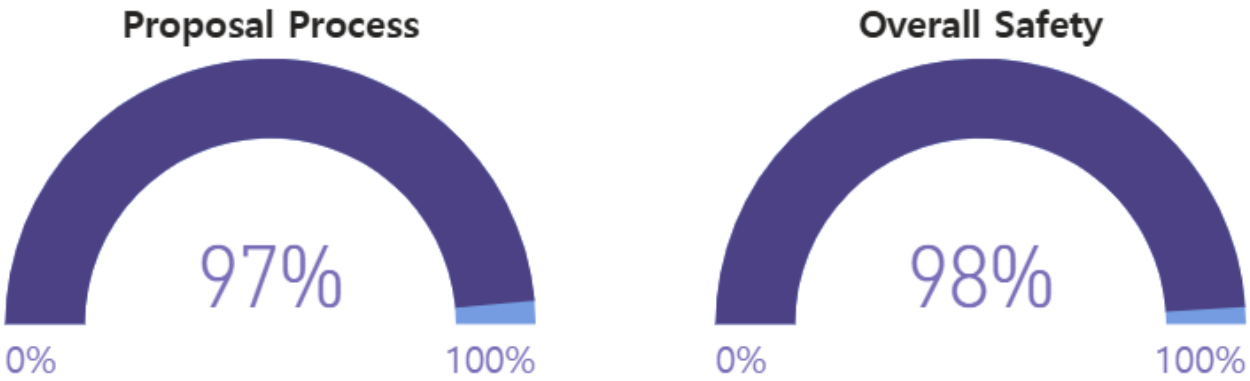

Figure 2.1.1. Links. *97% of external users were satisfied or very satisfied with the proposal process (e.g., submission, review).* ***Right.*** *98% of external users were satisfied or very satisfied with the overall safety at the MagLab.*

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.*

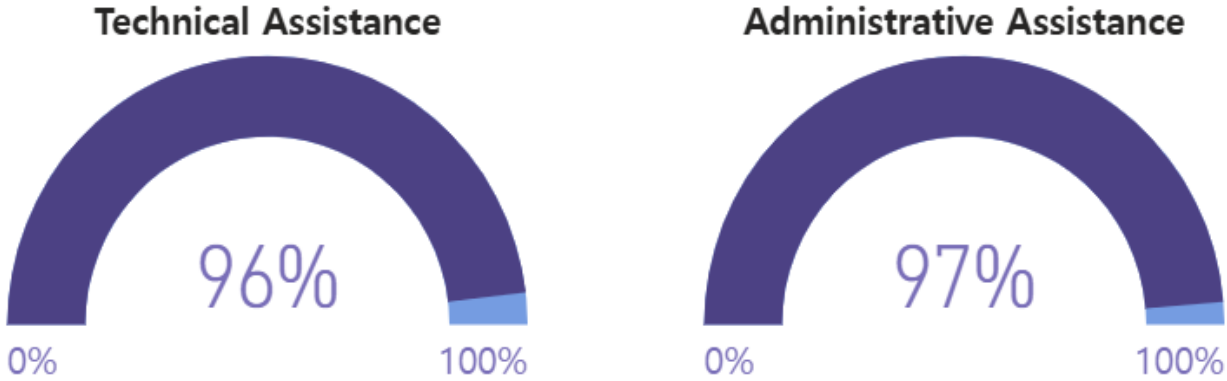

Figure 2.1.3. Left. *96% of external users were satisfied or very satisfied with the assistance provided by MagLab facilities technical staff.* ***Right.*** *97% of external users were satisfied or very satisfied with the assistance provided by MagLab facilities administrative staff.*

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.*

^{1}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 ^{2}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 HFXY 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[1]; William DeSnoo[2]; Zining Li[1]; Wenbo Ning[1]; Wang-Yeuk Kong[2]; Jordan Nafie[3]; Dean J. Tantillo[2]; Jeffrey D. Rudolf[1]

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

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.

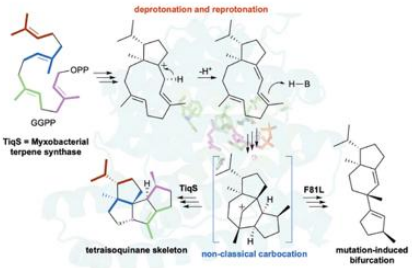

Figure 1 (left): TiqS-catalyzed biosynthesis of tetraisoquinane from GGPP. The myxobacterial terpene synthase transforms GGPP through a series of cyclizations, deprotonation-reprotonation events, and a non-classical carbocation intermediate. The complex reaction pathway showcases how enzymes guide carbocation chemistry to form specific products and can be redirected through strategic mutations to produce alternative scaffolds.

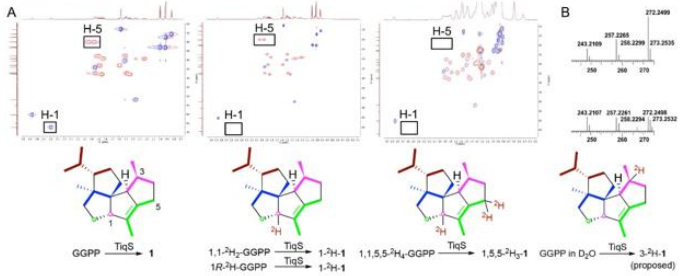

Figure 2 (above): Deuterium-labeled GGPP supports isoprene units and C-**1** rearrangement. (A) Incubation of TiqS with unlabeled GGPP, 1,1-$^2H_2$-GGPP, 1R-^{2}H-GGPP, and 1,1,5,5-$^2H_4$-GGPP gave **1**, 1-^{2}H-**1**, 1-^{2}H-**1**, and 1,5,5-$^2H_3$-**1**, respectively, with zoomed-in ^{1}H-^{13}C HSQC spectra shown above each structure. (B) Incubation of TiqS with unlabeled GGPP in D_2O 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[1], Guillaume Ferré[1], Ivo Kabelka[2], Flavio Ballante[2], Jens Carlsson[2], Emma Mulry[1], Arka P. Ray[1], James Collins[1], Florent Allais[1], and Matthew T. Eddy[1]

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/acschembio.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.

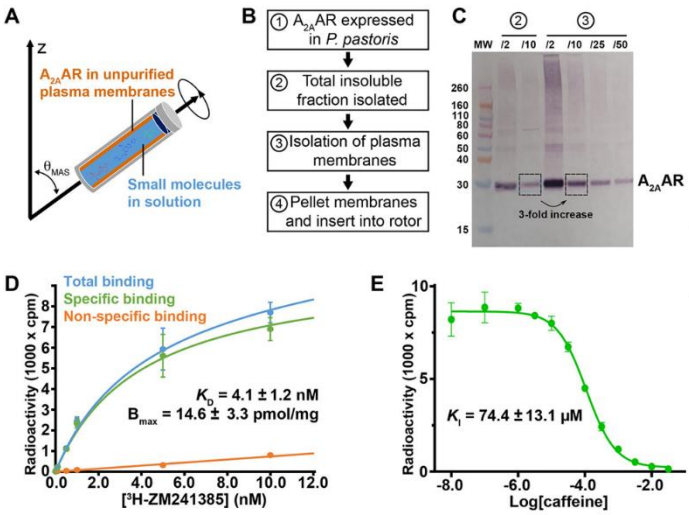

Figure: *(**A**) A diagram of the HRMAS rotor, showing membranes with A2AAR and small molecules in solution. (**B**) Optimized sample preparation workflow (**C**) Western blot quantification of $A_{2A}AR$ that validates the workflow described in (B). (**D and E**) Ligand binding data demonstrating that the workflow results in active protein samples.*

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 A2A adenosine receptor (A2AAR), a GCPR target for Parkinson's disease and several cancers. Researchers developed a novel workflow to prepare plasma membranes enriched with A2AAR 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 GCPRs, 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 ^{2}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 tunning 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)[2]	14	
35T, 32mm (x2)	19.2	
31T, 32mm to 50mm[1] (x2)	18.4	
25T, 32mm bore (with optical access ports)[3]	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[4]	2.0K – 325K	
10T, 34mm[3]	0.3K – 300K	
9T, 25mm[4]	2.0K – 325K	
7T, 7mm[4]	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 DCFF 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.

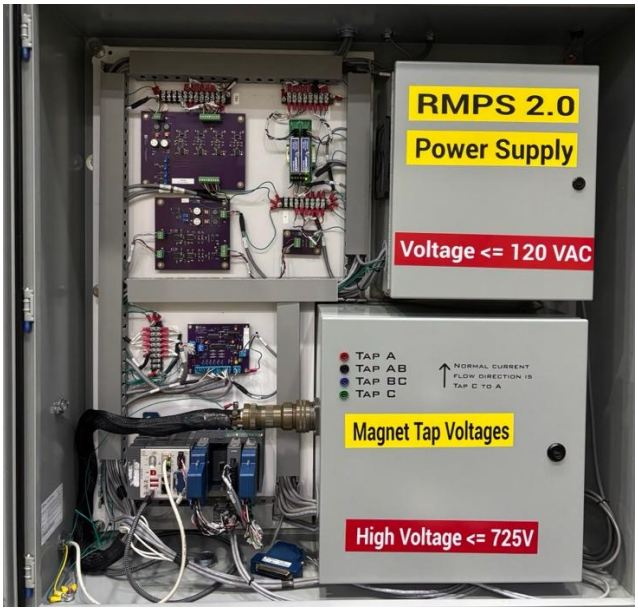

Figure 2.3.1 *Picture of the electronics of a second-generation resistive magnet protection system.*

Commissioning of High-Capacity Magnet Cooling Water Loops

The DCFF 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 DCFF 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 CeRh2As2 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 WTe2 (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.

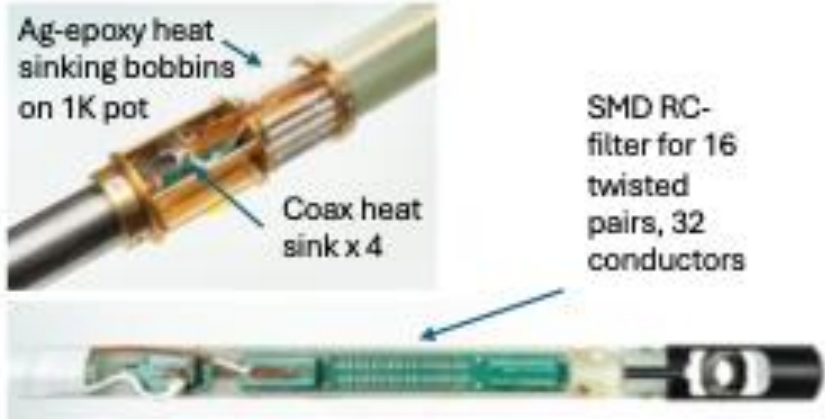

Figure 2.3.3 *Above: Twisted pair filtering stage anchored at 1K pot. Bottom: one-axis rotator with custom low-T RC filter for the lowest possible electron temperatures ~100mK.*

Major Research Activities and Discoveries

Unconventional Gapping Behaviour in a Kagome Superconductor

The Kagome - lattice superconductor CsV3Sb5 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 supercond-ucting magnets SCM 1 and SCM 2 at the DC Field Facility, the research team identified two distinct superconducting regimes characterized by different transport and thermos-dynamic signatures. A substantial quasiparticle weight is present in the higher-temperature regime and is progressively removed as a second gap opens at lower temp-eratures, 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

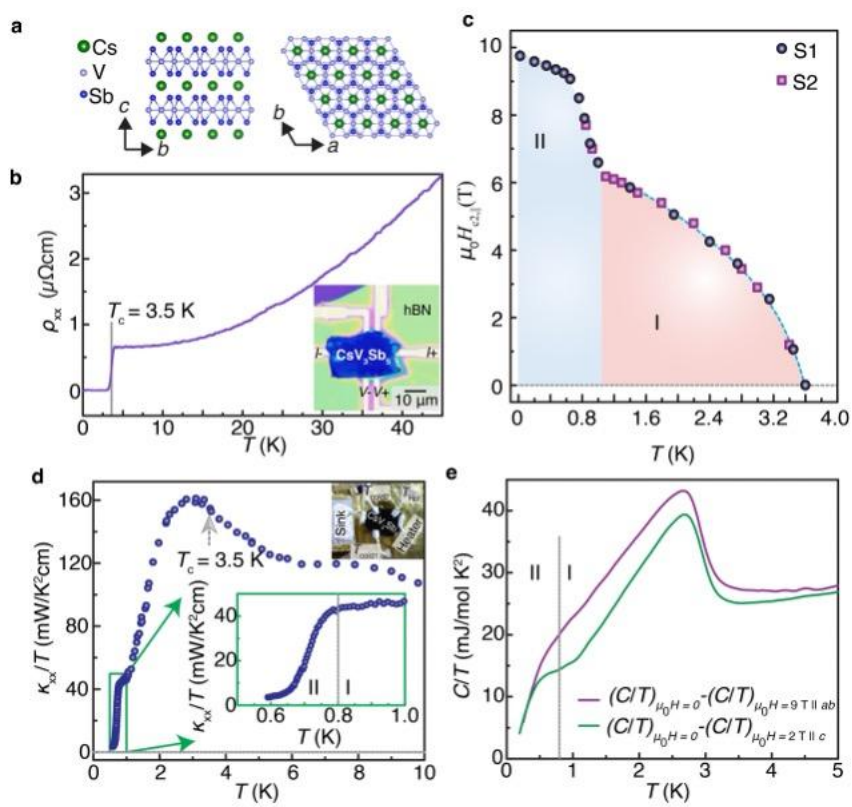

Figure 2.3.4 ***a****, Lattice structure.* ***b****, Superconducting transition,* ***c, d, e****, Electrical transport, heat transport, and heat capacity evidence of two distinct superconducting regimes in* CsV_3Sb_5*, respectively.*

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**).

Md Shafayat Hossain1, Qi Zhang2, Eun Sang Choi3, Danilo Ratkovski3, Bernhard Luscher4, Yongkai Li5, Yu-Xiao Jiang2, Maksim Litskevich2, Zi-Jia Cheng2, Jia-Xin Yin2, Tyler A. Cochran2, Brian Casas2, Byunghoon Kim2, Xian Yang2, Jinjin Liu5, Yugui Yao5, Ali Bangura3, Zhiwei Wang5, Mark H. Fischer4, Titus Neupert4, Luis Balicas3, and M. Zahid Hasan2

1. University of California, Los Angeles; 2. Princeton University; 3. National High Magnetic Field Laboratory; 4. University of Zurich; 5. Beijing Institute of Technology

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

Citation: Hossain, M. S. et al. Unconventional gapping behaviour in a kagome superconductor. Nat. Phys. (2025). https://doi.org/10.1038/s41567-024-02770-z

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 K2 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**).

Kuan-Wen Chen1, Yuan Zhu1, Danilo Ratkovski2, Guoxin Zheng1, Dechen Zhang1, Aaron Chan1, Kaila Jenkins1, Joanna Blawat3, Tomoya Asaba1, Fumitoshi Iga4, C. Varma5, Yuji Matsuda6, John Singleton3, Ali F. Bangura2, and Lu Li1

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

Citation: Chen, K.-W. et al. Quantum Oscillations in the Heat Capacity of Kondo Insulator YbB12. Phys. Rev. Lett. 135, 156501 (2025). https://doi.org/10.1103/PhysRevLett.135.156501

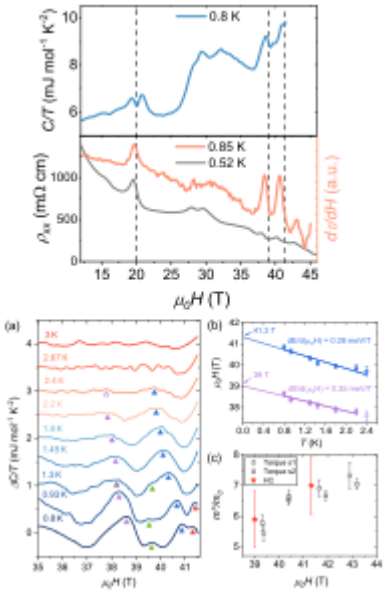

Figure 2.3.5 *Quantum oscillations in the Kondo insulator YbB12. Top: Heat capacity C/T (blue) and electrical resistivity rho_xx and derivative of the torque τ vs B (red, grey) as a function of magnetic field at sub-kelvin temperatures, measured in the 41.5T resistive and 45T hybrid magnets. Dashed lines 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 DCFF. The AMPis 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 protections 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 1) 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 quasioptical 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 (MolSPIN)* – 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}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, $Eu_{0.9}Ba_{0.1}I_2(pyrazine)_3$, is reported featuring the large S = 7 /2 spin moment of Eu^{II} . High-field electron paramagnetic resonance (EPR), magnetization, and heat capacity measurements indicate weak antiferromagnetic correlations between the Eu^{II} spins and a dominant easy-plane magnetic anisotropy. In 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 $Eu_{0.9}Ba_{0.1}I_2(pyrazine)_3$ 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 Eu^{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.

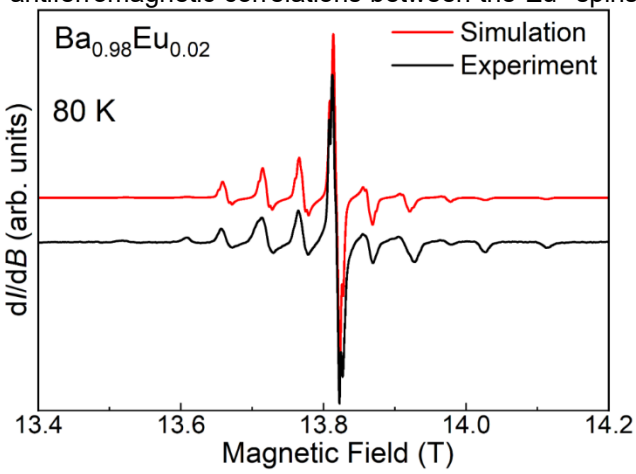

Figure 2.3.1 *High-field EPR spectrum (Experiment) of $Eu_{0.98}Ba_{0.02}I_2(pyrazine)_3$ recorded at a frequency of 385 GHz along with the corresponding simulation, from which quantitative information about the Eu^{II} magnetic anisotropy can be deduced.*

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 containingmolecules 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 Ti≡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*

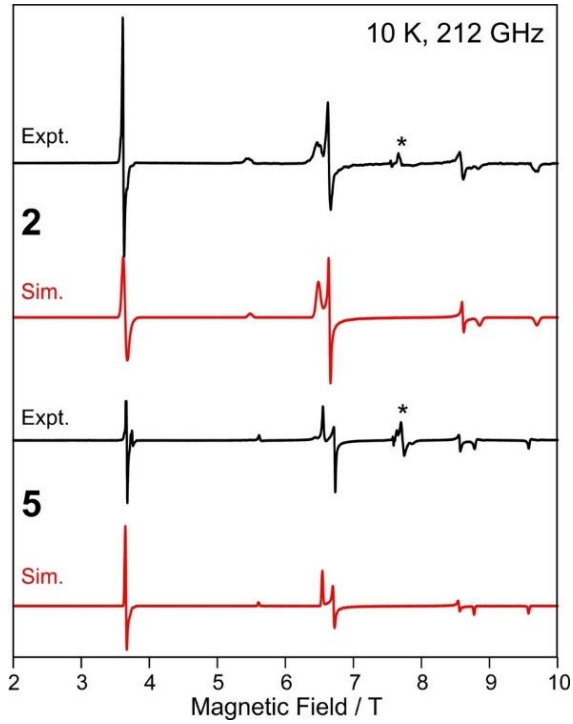

Figure 2.3.2 *HFEPR spectra of powdered samples of 2 (top) and 5 (bottom), recorded at 10K with microwave frequency 212.000GHz (black traces). Red traces are simulations for S=1 with parameters as in Table 2. The two features appearing at ~7.7T (asterisks) in each complex are due to a minute amount of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

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 θ – 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**).

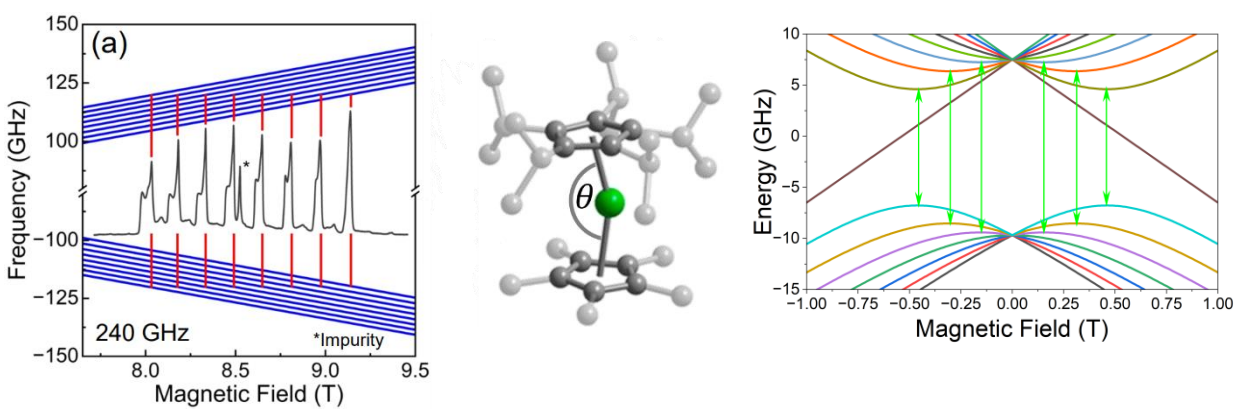

Figure 2.3.3 *(Left) High-field EPR spectrum of a powder sample overlayed on Zeeman level diagram depicting transitions between 8 hyperfine spin "up" and "down" sub-levels; fine structures are due to anisotropy in the powder.(Middle) One of the Lu(II) complexes. The angle θ correlates with the strength 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

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 PI**s 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 Pacifichem, 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 PrN_5 + 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}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}He was successfully cooled to below 2mK using this new cell, which will perform user work in 2026.

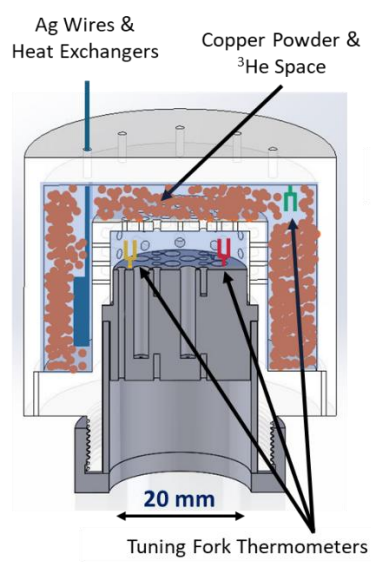

Figure 2.5.1. The use of sintered silver heat exchangers (central part of image) and copper powder (sketched as brown dots) immersed in pure ^{3}He enables effective electron thermalization while minimizing eddy current heating, thereby providing access to T > 2mK.

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

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, uninterruptible, 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*†, Dominique Laroche, UF Physics; Alex Levchenko, UW Madison Physics; Sadhvikas J. Addamane, Sandia National Laboratories and Center for Integrated Nanotechnologies; Rasul Gazizulin, MagLab HBT and UF Physics; *graduate student, †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 ^{3}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).

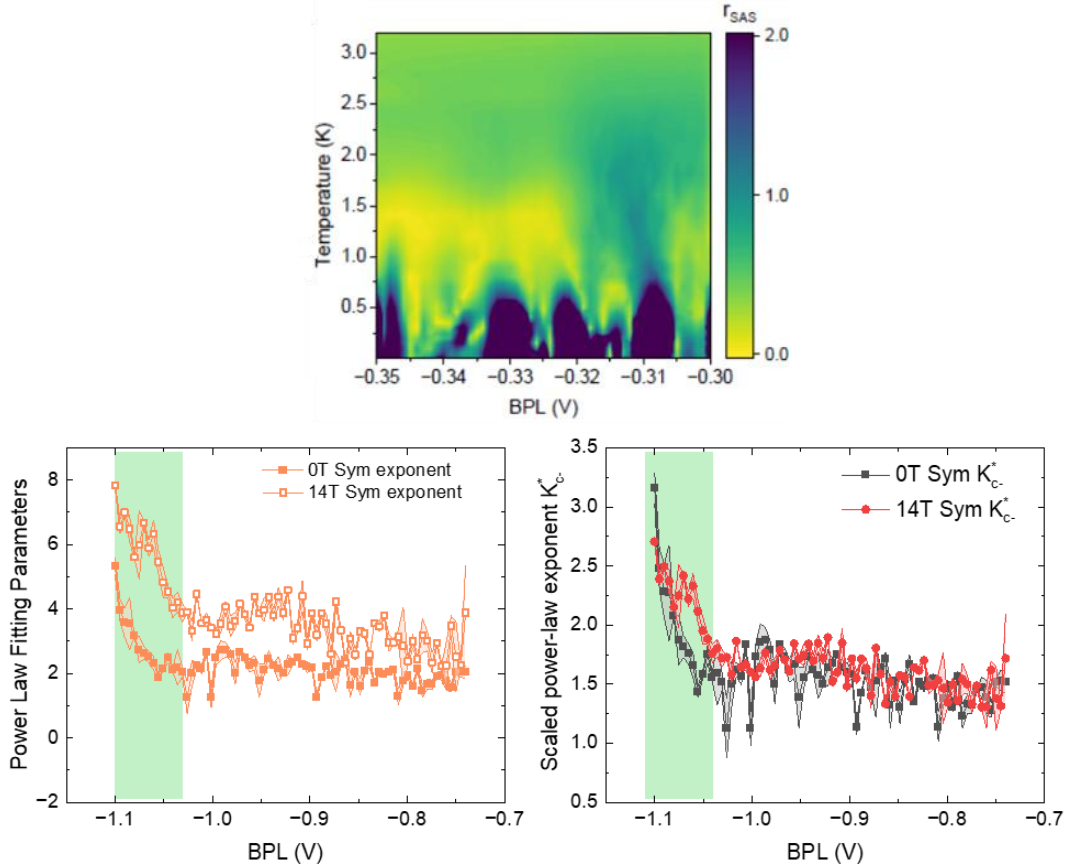

Figure 2.5.2. *(left) Ratio between reciprocal and nonreciprocal drag voltage as a function of gate voltage and temperatures down to T < 7 mK showing tunability with both parameters. M. Zheng et al., Nat Commun 16, 6963 (2025). (middle) Extracted power-law exponent of the Coulomb drag temperature dependence 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
Bay 3: 16T superconducting magnet, 20mm dia. sample space	Temperatures ≥ 1mK, by 8T demag $PrNi_5$ + Cu stage.	Magnetization, quantum transport, torsional oscillator, viscosity, specific heat, dielectric, MEMS
Bay 2: 8T superconducting magnet, 32mm dia. sample space	Temperatures ≥ 0.5mK, by 8T demag Cu stage.	NMR, quantum transport, magnetization, heat capacity, pressure cell, thermal transport
Bay 1: 14T superconducting magnet, 32mm dia. sample space	Temperatures ≥ 7mk, demag cell to be deployed in 2026.	quantum transport, with rotation access planned, novel magnetometry, scanning probes
NPB B135 OBT: on-boading and testing facility, 28mm dia. sample space	NPB B135, ≥ 350mK 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.

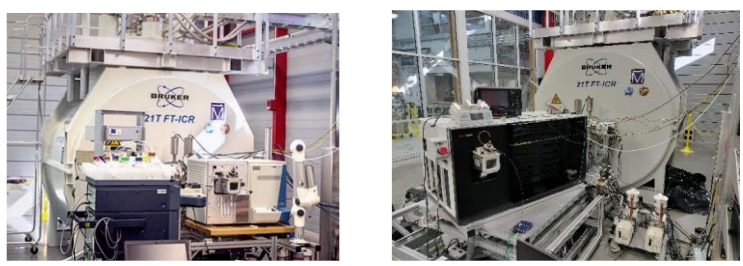

Figure 2.6.1. *The MagLab 21T FT-ICR mass spectrometer. Left: previous dual linear ion trap front end. Right: 2024 Eclipse tribrid front end upgrade.*

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.

Mass resolving power of 150,000 (m/Δm50%) 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)).

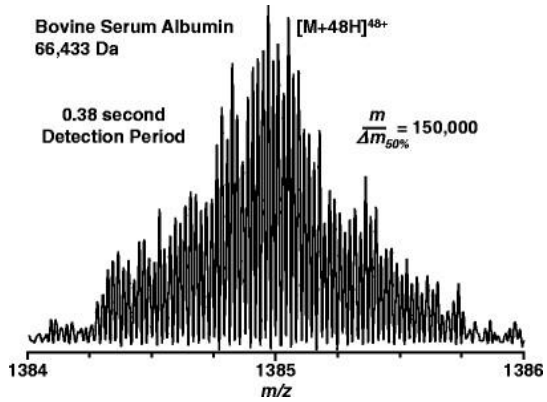

Figure 2.6.2. *Single-scan electrospray FT-ICR mass spectrum of the isolated 48+ charge state of bovine serum albumin following a 0.38s detection period. Mass resolving power is ~150,000 and the signal-to-noise ratio of the most abundant peak is >150:1. The ion accumulation period was 250ms and the ion 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/Δm = 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^8), 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 3μm 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.

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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); *Enivron. 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**).

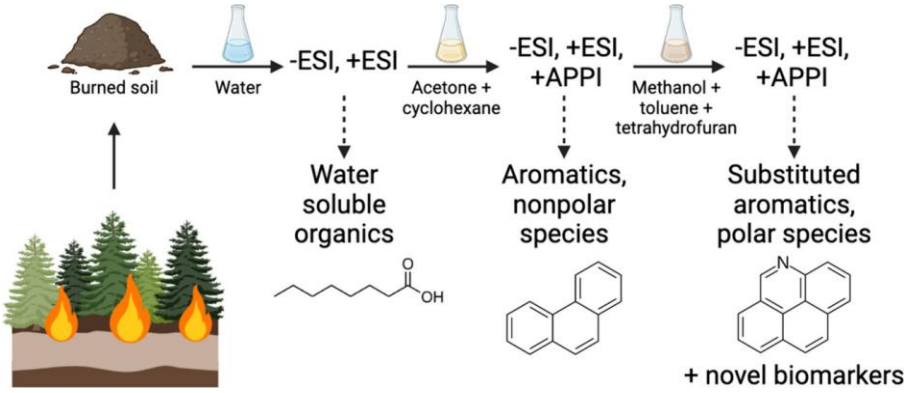

Figure 2.6.3. *Characterization of burned soil organic matter via sequential solvent extractions and 21T FT-ICR mass spectrometry with electrospray and atmospheric pressure photoionization.*

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.

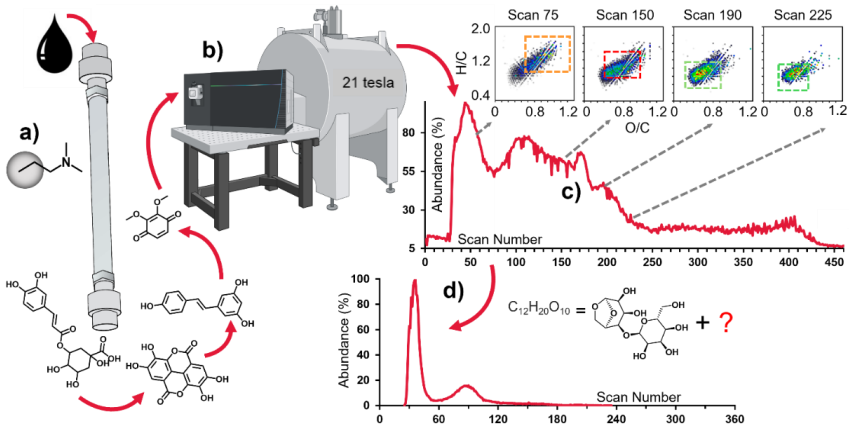

Figure 2.6.4. *(a) Dimethylaminopropyl stationary phase separates bio-oil components by acidt and polarity. Non-acidic species elute first; polyphenols, carboxylic acids, and polyfunctional compounds elute later. (b) Effluent is analyzed by 21T FT-ICR MS, acquiring one spectrum every ~5 seconds. (c) 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.*

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.

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)**.

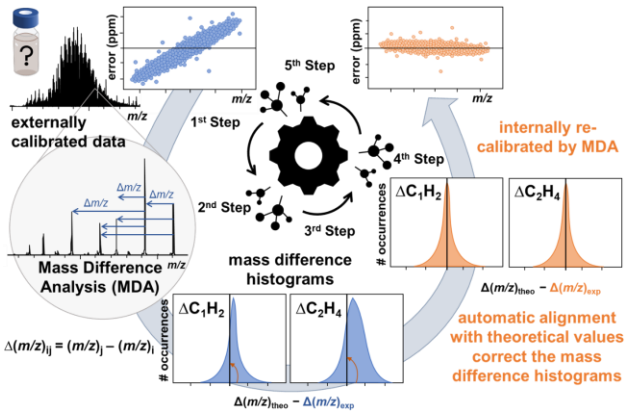

Figure 2.6.5. *Mass difference analysis using graph theory allows recalibration of complex mass spectra to within tens of ppb, thus greatly improving molecular formula assignment.*

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.

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}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}H/^{19}F/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/NHMFL), Bill Brey (FSU/NHMFL), 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-γ and natural abundant nuclei such as ^{17}O ^{25}Mg, ^{91}Zr and ^{99}Ru and resolution since the central transition (CT, $+½ \leftrightarrow –½$) 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}Br, ^{127}I and ^{209}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.*, ≥ 600MHz/395GHz) 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 μw 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}P, ^{13}C and ^{15}N DNP enhancements of up to several tenths—an unprecedented performance for 100μL 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}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}H-detection capability with fast MAS for low-γ and quadrupolar nuclei at the 850MHz field. The 2.5mm MAS probe increased the maximum spinning speed and *rf* field strength over the previous 3.2mm probe for higher *rf* field and samples with large quadrupolar couplings. A low-temperature (~70K) 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}C and ^{15}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}Mg quadrupolar Carr-Purcell-Meiboom-Gill (CPMG) NMR to study antiperovskite solid electrolytes. **Figure 2.7.1** shows dramatic narrowing of the ^{25}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}Bi and ^{127}I solid-state NMR spectra for characterization bismuth- and iodine-containing metal–organic frameworks (MOFs) (*J. Am. Chem. Soc.*, 147 **2025**, 10823-10828). The unprecedent 8–50MHz patterns reveal very large quadrupolar couplings of ^{209}Bi and ^{127}I uncovering key structural details on dehydration, guest adsorption, phase transitions, and disorder in the MOFs; ^{91}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}Zr ssNMR of a series zirconium MOFs (UiO-66, MOF-801and 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}Ru is another challenging target for analysis by ssNMR. Schurko's group at NHMFL/FSU used **36T-SCH** to measure ^{99}Ru EFG and chemical shift tensors and together with DFT calculation developed a protocal 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}O and ^{43}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).

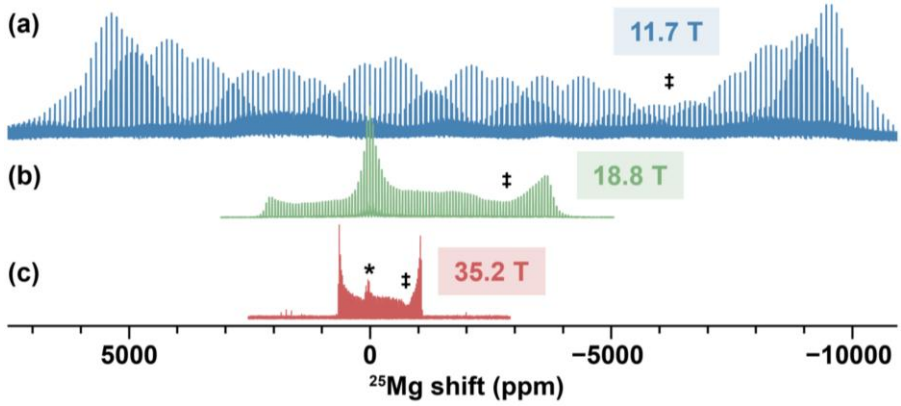

Figure 2.7.1 *Variable-field ^{25}Mg solid-state NMR spectra of Mg_3AsN acquired at field strengths of (a) 11.7T, (b) 18.8T, and (c) 35.2T. Acquisition times of 2 weeks, 2 days, and 20 minutes, respectively, were required.*

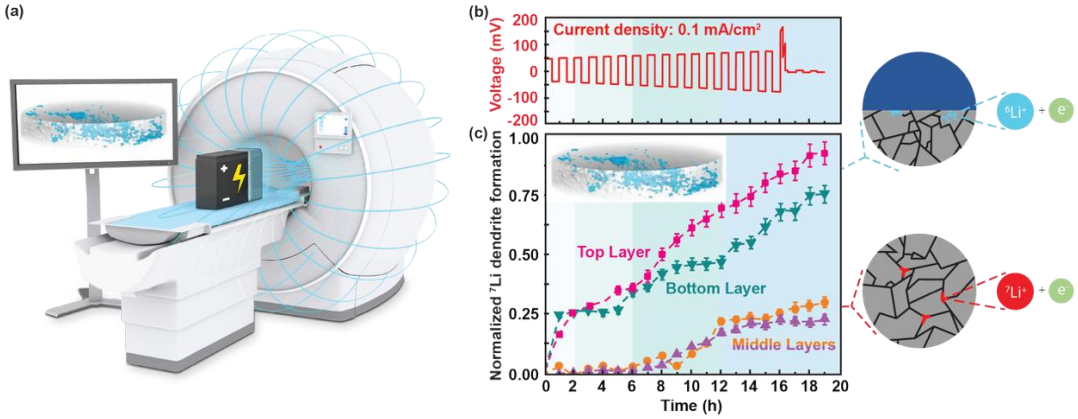

Figure 2.7.2 *(a). schematic illustrating in situ ^7Li MRI applied to functional solid-state batteries (b) the electrochemical cycling profile of the battery during the in situ MRI acquisition, (c) the 3D ^7Li MRI imaging of dendrite (blue) formed in batteries and the quantified amount of dendrite formed 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 ^1H NMR spectroscopy to $^{23}Na/^1H$ small animal imaging and ^7Li imaging of batteries. Y. Hu's group (NHMFL/FSU) utilized ^7Li imaging to investigate the formation of dendrite in all-solid-state Li/LLZO/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}H NMR spectroscopy at the 900MHz field offers the potential to probe and quantify alterations of mAb properties near interfacial layers. (*J Pharml Sci*, 114 **2025**, 103685). Helsper *et al* applied ^{23}Na/^{1}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 α-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 β-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 Binghampton used DNP ssNMR confirming long-range tertiary contacts at early stages of nucleation of β-amyloid Aβ1-42 (*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).

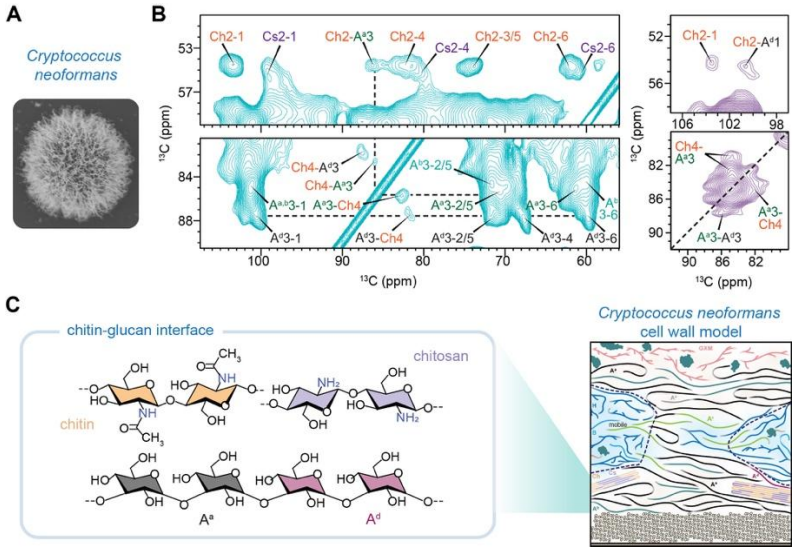

Figure 2.7.3 *Solid-state NMR of intact Cryptococcus cells reveals five forms of α-1,3-glucans (Aa, Ab, Ac, Ad, and Ae) in its cell wall that structurally bridge melanin and capsule layers.*

Other Major ssNMR Instruments: Our 850, 800(×2), 600(×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(×3), and 500MHz platforms act in support of these instruments with some unique opportunities like ^{1}H-^{19}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}H-Detected ^{103}Rh and ^{99}Ru NMR of static solids based on the PROSPR mechanism (*J. Phys. Chem. Lett* 16 **2025** 4596); ^{1}H-Detected ssNMR under fast MAS condition for cellular carbohydrates (*J. Am. Chem. Soc* 147, **2025** 17416); using ^{2}D and ^{17}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}O T_2 relaxation via satellite transitions (*Solid State NMR* 137, **2025** 102004); applying ^{17}O ssNMR and ^{1}H-^{17}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 $^{1}H/^{2}H$ and $^{1}H/^{31}P$ configurations.
  - Designed and tested a ^{1}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 (44μL) and spinning speed (24kHz) of Bruker-style rotor over the previous RevNMR pencil type rotor (36μL 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 ≤ ^{31}P including some of the very low-gamma nuclei.
  - 1.3mm HXY MAS probe **#69** for materials and biosolids applications with ^{1}H-detection and 60kHz MAS speed - this probe enables ^{1}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}P and below. It is currently used in 2-resonance mode until acquisition of 3rd channel for the **850NB** NEO console.
  - 2.5mm HX MAS probe **#63** for materials and bio application with 2-resonance configuration, 20μL 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 20μL 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, 36μL, 18kHz MAS) – – created new tune cards to accommodate ^{1}H-^{31}P-^{17}O and ^{1}H-^{13}C-^{85}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}F-X-Y 3-resonance mode for decoupling at ^{19}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}F-X-Y 3-resonance mode for decoupling at ^{19}F frequency.
  - 1.9mm HXY low-temperature (100K) DNP MAS probe **#67** – in construction phase, ETA 08/2026
- **600#1/#2:**
  - 1.3mm HFXY 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}H-^{31}P-^{13}C, ^{1}H-^{13}C-^{29}Si.

Probes Under Planning

- Static single-resonance probe for **850NB** with interchangeable coil platform for low-γ and wideline 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}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}H-^{19}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). 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.

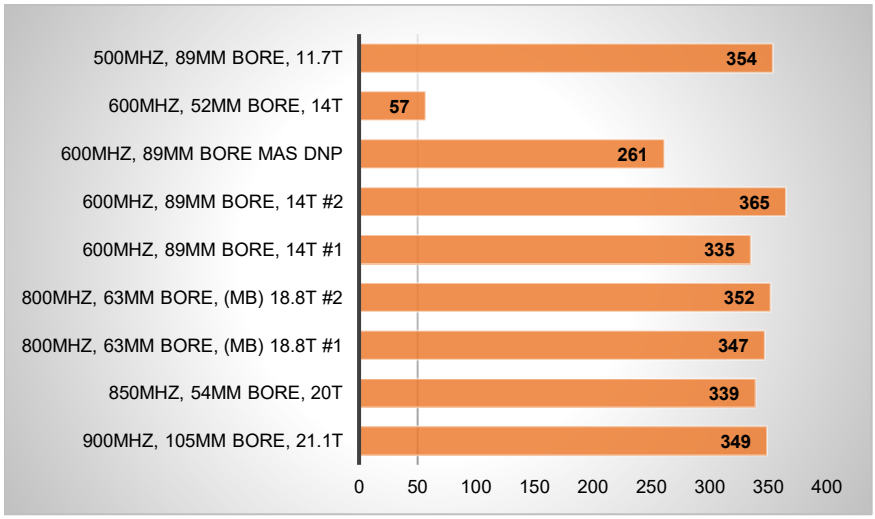

Figure 2.7.4. *User magnet time on major NMR/MRI platforms at the NHMFL in 2025.*

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 Iuliucci 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, ^{3}He Sample Space**	**Rise Time, Max dB/dt**	**Pulse Duration**	**Supported Research***
65T Short-pulse (x4)	⌀15mm, ⌀ 9mm	8ms, 8.1T/ms	80ms	Magneto-optics – IR through UV Magnetization – Extraction, Torque Magnetic Susceptibility Magneto transport – DC through MHz; incl. Critical Current Measurements and RF Pulse Echo Ultrasound Spectroscopy Fiber Bragg Grating Dilatometry Polarization Magnetocaloric Sample Temperatures: 400mK to 300K 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, ^{3}He Sample Space**	**Rise Time, Max dB/dt**	**Pulse Duration**	**Supported Research***
100T Multi-shot	⌀ 10mm, ⌀ 5mm	8ms, 7.5T/msec (40 – 100T)	3s	All techniques listed above
60T Controlled Waveform ("Long-pulse")	⌀ 25mm, ⌀ 18mm	Adjustable	3s, Up to 100ms full field flat top	All techniques listed above, plus: Magnetothermal studies (Heat Capacity and Magnetocaloric) 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 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 $Sm_{1-x-y-z}Eu_xCa_ySr_zNiO_2$. 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 −70T), consistent with a Jaccarino–Peter compensation mechanism arising from Eu-derived magnetic moments. A concurrent study of $Nd_{1-x}Eu_xNiO_2$ 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 Nid_{x2-y2} electrons that produces a compensation field of order -20T, quantitatively consistent with experiment. Infrared spectroscopy further demonstrates a large superconducting gap corresponding to $2\Delta/k_BT_c \approx 5$–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 h-$Lu_{0.9}Er_{0.1}MnO3$ by users of the PFF revealed pronounced nonreciprocal directional dichroism across the telecom E-, S-bands, and C-band (≈1460-1565nm) 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

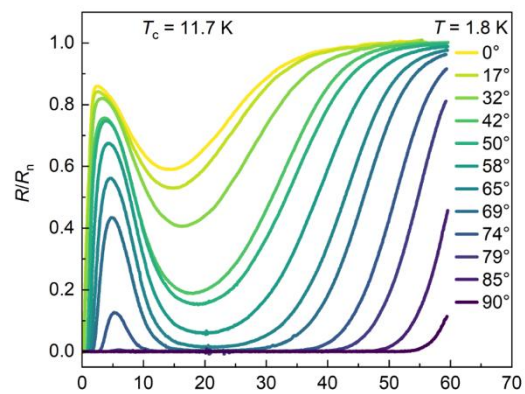

Figure 2.8.1 *Normalised resistance at different field orientations θ, rotated from c-axis (θ = 0°) toward the a-axis (θ = 90°) in the nickelate superconductor $Sm_{1-x-y-z}Eu_xCa_ySr_zNiO_2$. Superconductivity is suppressed with a few tesla, but is re-established at larger magnetic fields.*

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 $HgBa_2CuO_{4+\delta}$ (Hg1201), pulsed magnetic field measurements up to ~72T now reveal a clear Yamaji peak in the *c*-axis magnetoresistivity above the superconducting temperature T_c = 74K, 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 ~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., 85K) 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[1]	Active Users[2]	Avg Number of Views per User	Event Count[3]
Total Magnet Academy Views	582,425 +.94%	327,856	1.59	2,342,277 +0.61%
Watch and Play	189,131 -3.42%	93,482	2.07	736,495 -2.75%
Read Science Stories (Learn the Basics)	18,799 +11.33%	14,025	1.34	78,528 +13.33%
Explore history	288,155 +2.43%	184,383	1.57	1,167,022 +0.79%
Try this at home	40,232 +23.76%	30,168	1.33	185,227 +23.54%
Plan a lesson	8,730 -15.14%	7,560	1.16	37,369 -13.25%

K-12 EDUCATION PROGRAMS

MagLab Field Trips

CIRL brings 5th – 12th 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.

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

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

[1] Views of web pages including repeat views by the same user.
[2] Unique users who engaged with the site.
[3] 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.**

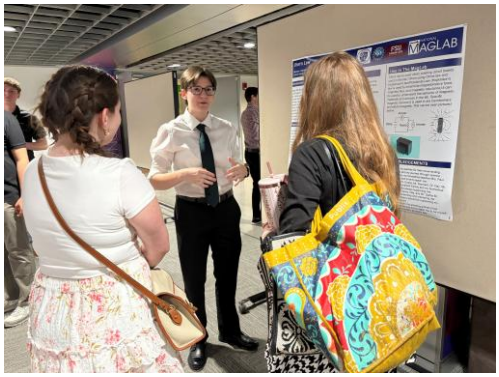

Figure 3.1.6. *A MagLab Extern explains her work during the High School Externship poster session.*

Table 3.1.7. *High School Externship 2024-25*

Student	Mentors (MagLab Department)	Research Subject
Himank Chhaya	Kaya Wei (CMS)	Investigating Thermoelectric Properties of $YbIr_2(Cu,Ga)_xZn_{20-x}$
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 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 Sm0.5Mn3Ge3 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 21st Century Sites
7/8	Panhandle Aera Educational Consortium (PAEC)	Empowering Teachers to Ignite Scientific Exploration (5th Grade)
7/9	Panhandle Aera Educational Consortium (PAEC)	Empowering Teachers to Ignite Scientific Exploration (8th 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
Medical Career (e.g. MD, Physical Therapy, Nursing)	20%	2	33%	3
Biological Science Career	10%	1	22%	2
Engineering or Computer Science Career	60%	6	44%	4
Other *(e.g. Plant Biology)*	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.

Figure 3.1.11. *REU Student During a Lab Tour*

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.**

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}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[4]). 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.

[4] 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
Students were asked what strategies their mentor(s) used to **check for understanding.** The themes from their responses were: • Encouraging mentee to ask questions (n=13) • Introducing mentee to other members of the research team (n=13) • Having regular communication and/or check-ins throughout the program (n=11) • Having mentee attend research meetings (n=11)	REU mentors were asked how they **checked for understanding** when communicating expectations to REU students. They indicated that they used the following strategies: • Asking questions and engaging in discussion (n=10) • Frequent meetings (n=10)
REU participants were also asked about the overall **mentoring strategies** that mentors used that they found **particularly impactful**. The strategies identified were: • Sharing knowledge and insight (n=15) • Frequent meetings (n=12) • Constructive criticism (n=12)	Mentors were asked what **mentoring strategies** they used that they thought were **impactful**. They provided the following strategies: • Encouraging the mentee to ask questions (n=10) • Having regular communication and/or check-ins throughout the program to make sure the mentee understands the project (n=10) • Introducing mentee to other members of the research team (n=10) • Giving mentee multiple opportunities to engage in research activities (n=10)

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 4th 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).**

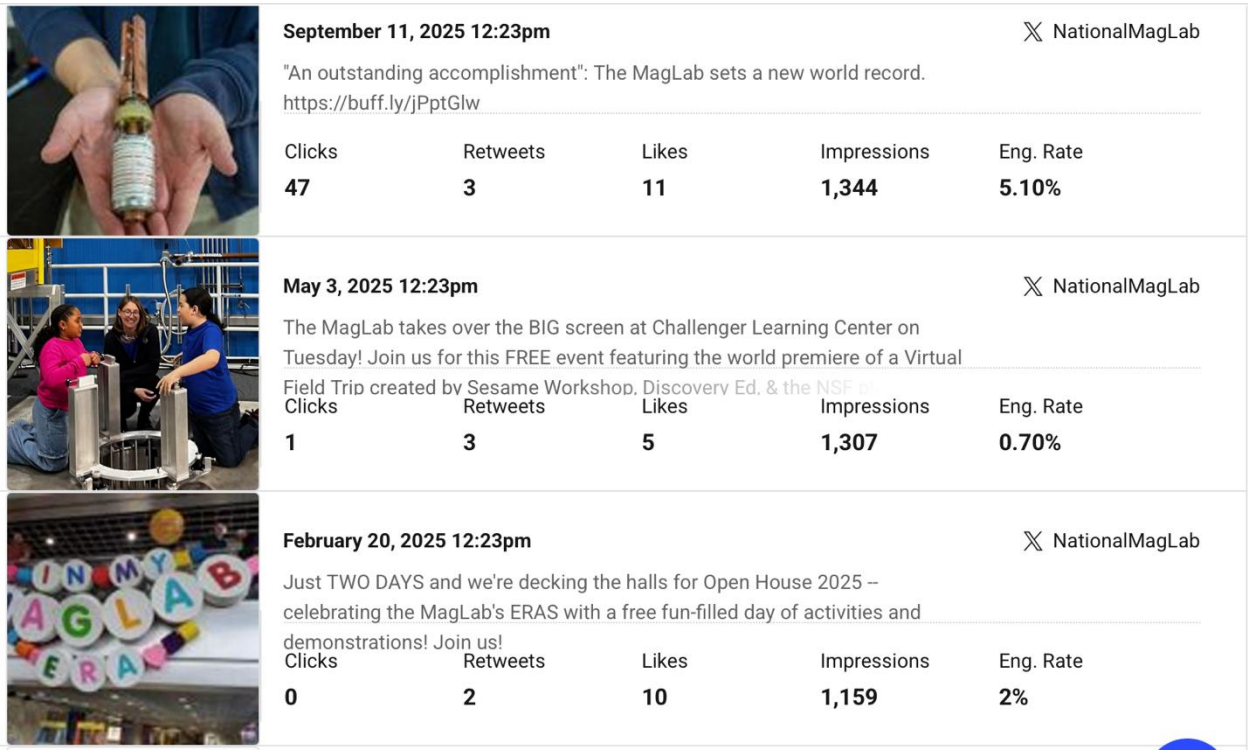

Figure 3.2.1. *Top MagLab Tweets on X.*

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.

Figure 3.2.2. *Photos from Open House 2025.*

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 30th 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 Wooly 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.

Figure 3.2.3. *Photos from 2025 Science Nights.*

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).**

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	***Kathleen Amm, MagLab Director*** 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!	• What's Magnetic Exploration • Magnetic Trampoline • Magnetic Motors	Main Library	120
2/13/25	***Steffanie Sillitoe-Kukas, Geochemistry*** 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!	• Dig for Fossils • Dinosaur Stomp • Make your own dinosaur hat	Ft. Braden Branch Library	25
3/20/25	***Abby Centers, DC Field Facility*** 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.	• Skittles Bar Graphs • Pie Chart Party • Venn Diagram Game	Main Library	90
9/18/25	***Ryan Rodgers, ICR*** Scorching one second, pouring rain the next. Explore the science of our dynamic, dramatic weather!	• Atmospheric Pressure Demo • UV Bead Bracelets • Make & Take Rain Gauge and Weather Journal	Main Library	70
10/16/25	***Dayna Richter, NMR*** There's a lot going on between your ears. Discover what's happening in your amazing brain.	• Make a Brain Map Hat • Candy Neurons • Brain Cell Matching Game	Main Library	124
11/20/25	***Marek Polak, ICR*** Scientists find inspiration in everything from birds and bees to flowers and trees. What we've learned from nature — and what's next!	• Camouflage Challenge • Inspired By Nature Match Game • Propagation Station	BL Perry Branch Library	71
2025 TOTAL ATTENDEES				**500**

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 Motro, 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
Theory Winter School	January 6-10	In-Person Tallahassee, FL	The principal theme of this 13th 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/ 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.	
The Second Fusion Magnet Community Workshop	January 21-23	In-Person Tallahassee, FL *(moved to hybrid after snow and ice forced FSU to close)*	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
The 14th North American FT MS Conference	March 30 – April 3	In-Person 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
2025 Radio Frequency Coil Workshop	May 5-9	In-Person 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
MagLab Summer School on Solid State NMR Spectroscopy	May 12-16	In-Person Tallahassee, FL	The weeklong summer school features tutorials on NMR basics and lectures from experts in the field of solid-state NMR spectroscopy.	18
MagLab User Summer School	May 12-16	In Person 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
Micro Imaging RF Coil Workshop	August 11-15	In-Person 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/ Type	Description	Attendees
			engineers, and a 1-day Bruker Paravision training to learn about pulse programming and magnet experimental setups.	
External Advisory Committee Meeting	August 18-20	In Person 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
User Workshop & Committee Meeting	November 4-6	In Person 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
Southeastern Magnetic Resonance Conference	November 14-16	In Person Gainesville, FL	**SEMRC 2025 brought** together students, postdoctoral researchers, faculty, and industry partners from 16 states for three inspiring days of scientific exchange and collaboration. The conference featured **86 abstracts and presentations** across NMR, MRI, and EPR, made possible through the support of **14 participating sponsors**, and fostered an atmosphere of energy, discovery, and connection. Excellence in research and presentation was celebrated through **18 Best Presentation Awards**, highlighting the exceptional talent and innovation within the magnetic resonance community. In addition to showcasing cutting-edge science, SEMRC 2025 proudly honored **Dr. Thomas Mareci**, 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)**.

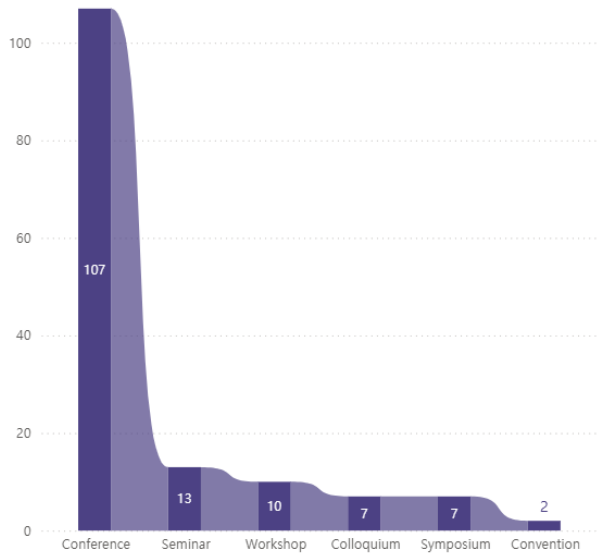

Figure 3.4.1. *2025 Presentation types.*

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).

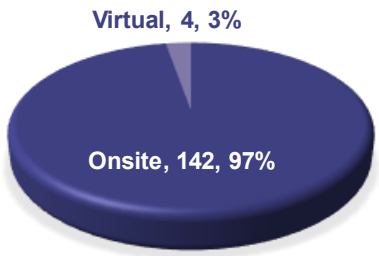

Figure 3.4.2. *Presentations given virtually in 2025.*

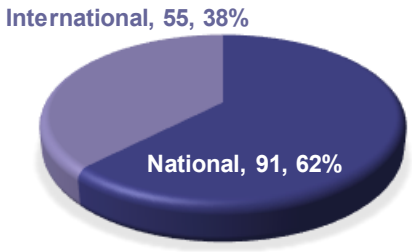

Figure 3.4.3. *Breakdown of 2025 presentations by geographic distribution.*

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

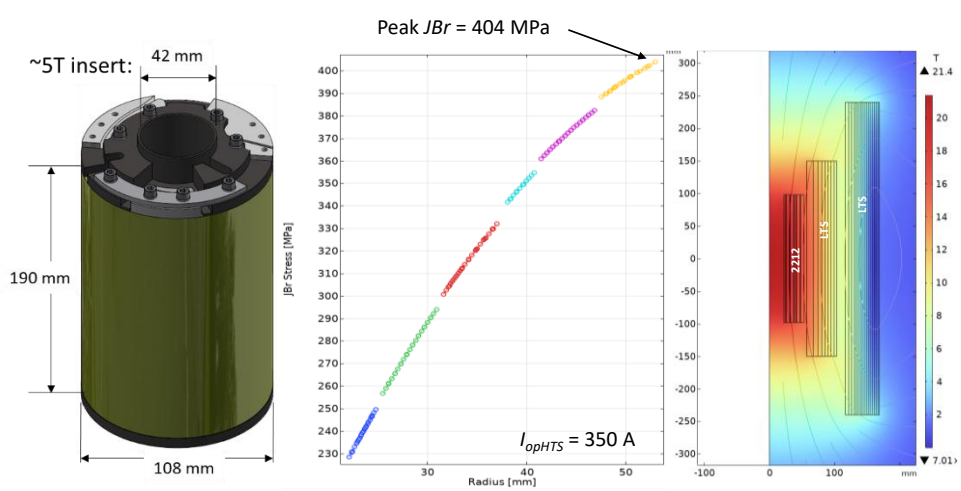

Fig. 4.1.1 *(left) Bi-2212 insert coil to generate 20 +T in the ASC 16T LTS magnet system. The coil will have 20 layers and use about 600m of conductor (middle) The σ(r) plot shows the expected source stresses across the coil's sub-sections. (right) shows a field plot of the coil inserted into the 16T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

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

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 >>400MPa 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 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.

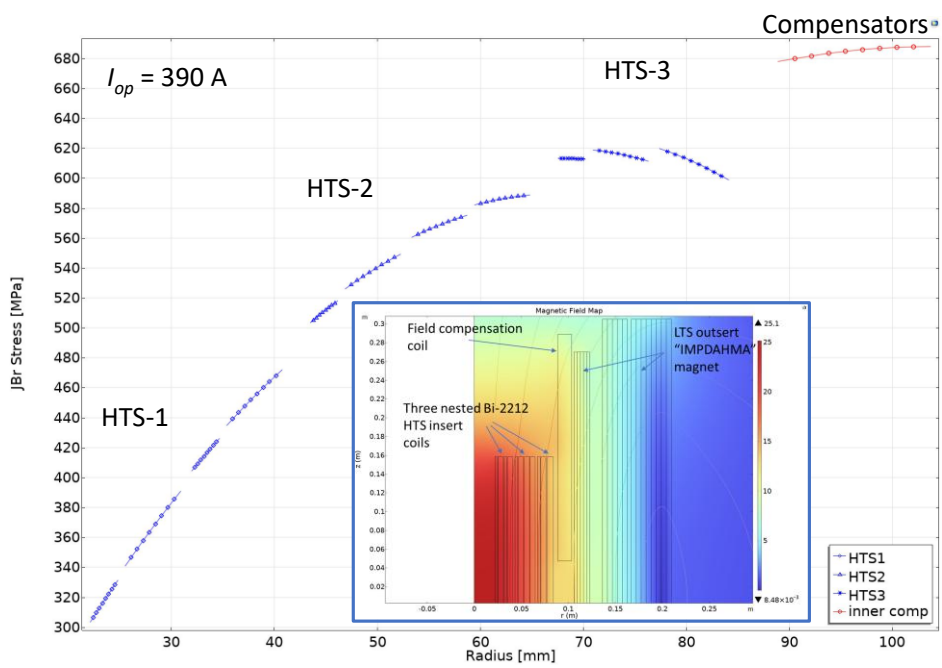

Fig. 4.1.3 *σ(r) plot of the NMR demonstrator coil assembly. The complete insert will consist of three Bi-2212 insert coils nested inside the ASC's 12, 212mm LTS outsert magnet. A pair of Nb_3Sn coils around the HTS insert will be used for first order field compensation.*

(a) (b)

Fig. 4.1.4 *(a) 20 PPI coreless braid and (b) 8 PPI coreless braid, both made with 95/5 (95% Al_2O_3, 5% 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% Al_2O_3, 28% 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% Al_2O_3, 5% 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

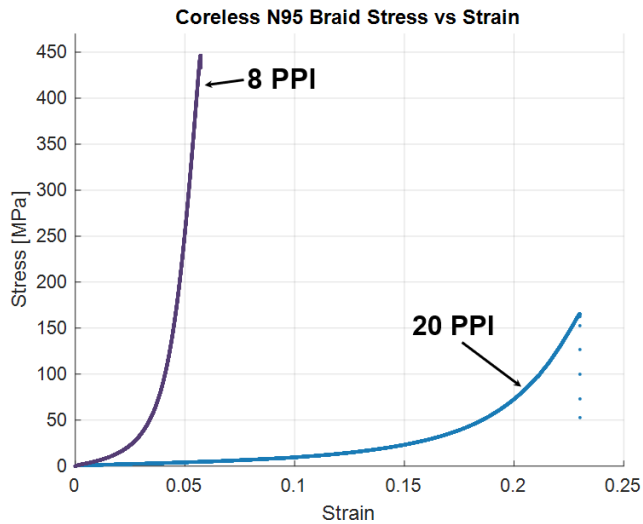

Fig. 4.1.5 *Room temperature stress vs. strain curves for coreless braids made from 95/5 fibers.*

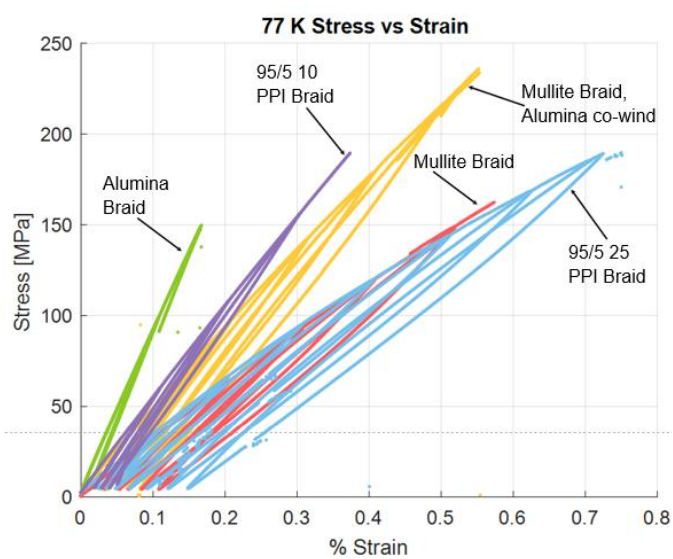

Fig. 4.1.6 *77K stress vs. strain curves for rectangular winding pack composite samples.*

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.

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.*

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 ±2°C across the Bi-2212 melt-phase of the heat treatment (> 872°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.

Extensive collaboration at ASC with the REBCO venders 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 Y_2O_3 precipitation occurs and affects J_c in production R&D PLD YBCO coated conductors (CCs) delivered by HTSI.

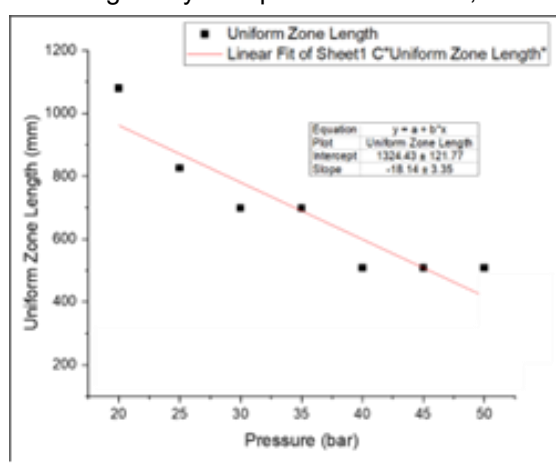

Fig. 4.1.8 *Height of uniform (±2°C) cylindrical volume for reacting Bi-2212 magnets inside the large over-pressure furnace as a function of pressure. Achieving a 1m uniform zone is a key milestone for HEP demonstrator magnets.*

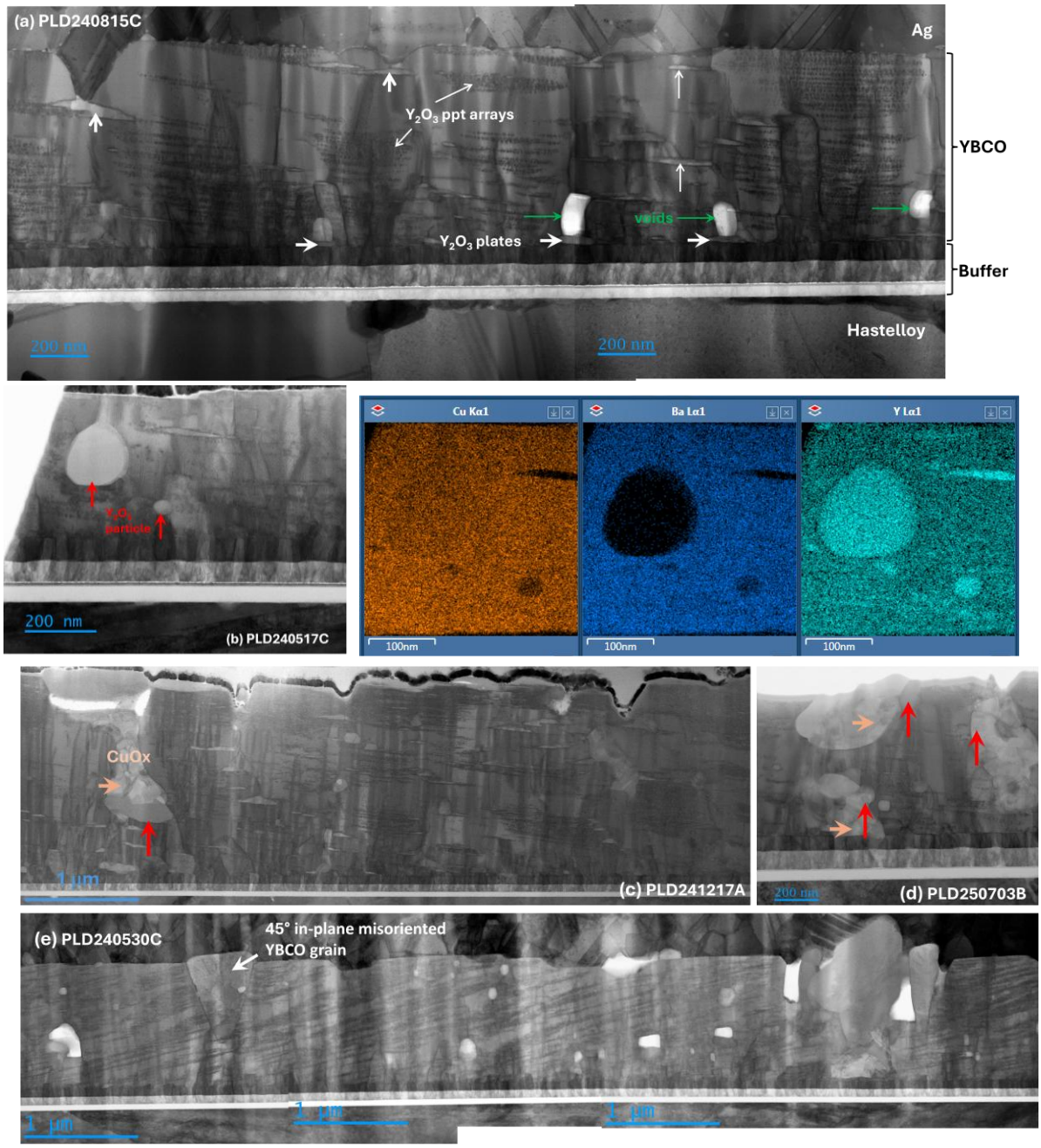

Fig. 4.1.9 *TEM images of PLD YBCO CCs that contains Y_2O_3 ppt arrays as essential pinning centers, and various Y_2O_3 phase related submicron defects. (a) PLD240815C that contains Y_2O_3 ppt arrays that are pointed by the tilt arrows, Y_2O_3 plates include those distributing at the interface between YBCO and the buffer layer and promoting void formation, those occurring inside YBCO layer and interrupting the growth of Y_2O_3 precipitates, and those being at the top YBCO layer and depressing YBCO growth. (b) PLD240517C that contains, in addition to Y_2O_3 precipitate arrays, large Y_2O_3 particles inside YBCO. The EDS maps on the right identified the Y_2O_3 phase of the plates and large second phase particles. (c) PLD241217A and (d) PLD250703B to highlight the CuOx particles accompanied with Y_2O_3 particles; (e) PLD240530C that contains dense, uniformly distributed Y_2O_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 Y_2O_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 Y_2O_3 phase (Y_2O_3 plates (50–200nm × 20–40nm) and large rounded Y_2O_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 Y_2O_3 precipitate arrays, occasional Y_2O_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 Y_2O_3 particles (~160nm and ~50nm) form within the YBCO layer alongside the precipitate arrays and Y_2O_3 plates, with elemental mapping confirming their composition. A distinct feature in PLD241217A and PLD250703B is the presence of CuO_x particles co-nucleating with Y_2O_3

particles, either as large CuO_x particles sitting atop large Y_2O_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

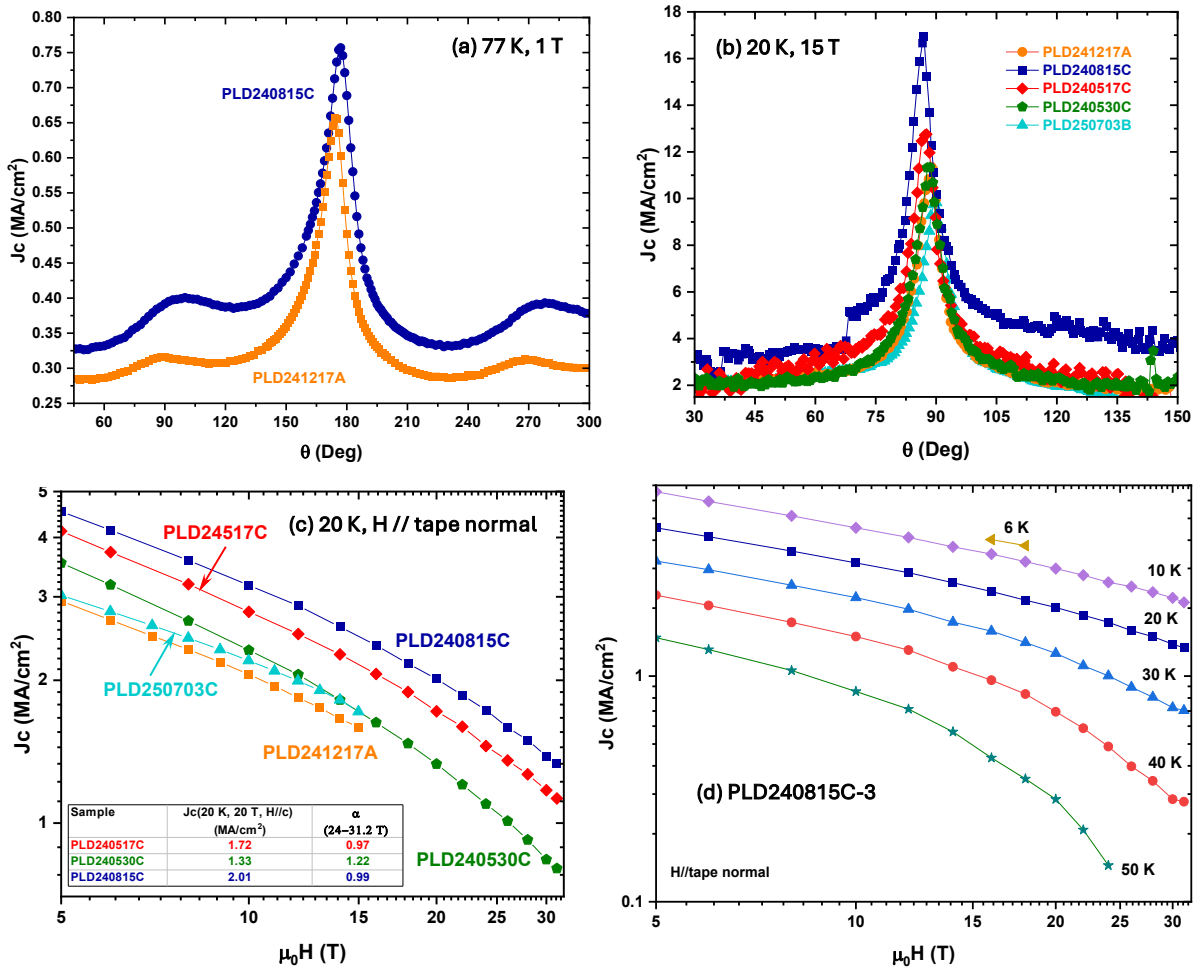

Figure 4.1.10 *$J_c(\theta)$ at (a) 77K, 1T for PLD240815C and PLD241217A, and (b) 20K and 15T for all 5 CCs. At 77K and 1T, the 2 samples show similar angular dependence, and at 20K and 15T, all samples show GL-like $J_c(\theta)$ with amplified J_c variation. (c) J_c(H//c) at 20K for all 5 CCs, and (d) J_c(H//c) from 10 to 50K for PLD240815C. The inset of (a) summarizes J_c(20K, 20T, H//c) and the corresponding α 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 Jc 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 to16.9MA/cm² 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/cm² at 20K and 20T, while PLD241217A remains the lowest across intermediate fields. Power-law fits from 24–31T yield α 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.

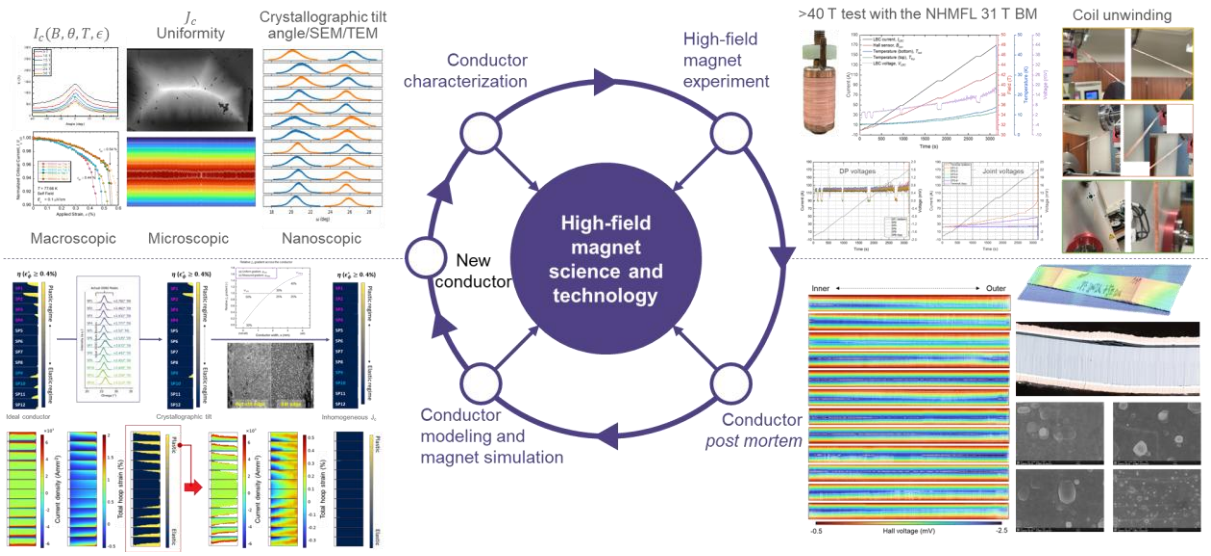

Figure 4.1.11: *A well-defined recursive design-build-test loop designed by NHMFL-ASC*

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 > 800MPa and fields now up to almost 49T inside the 31T 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 31.1T 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

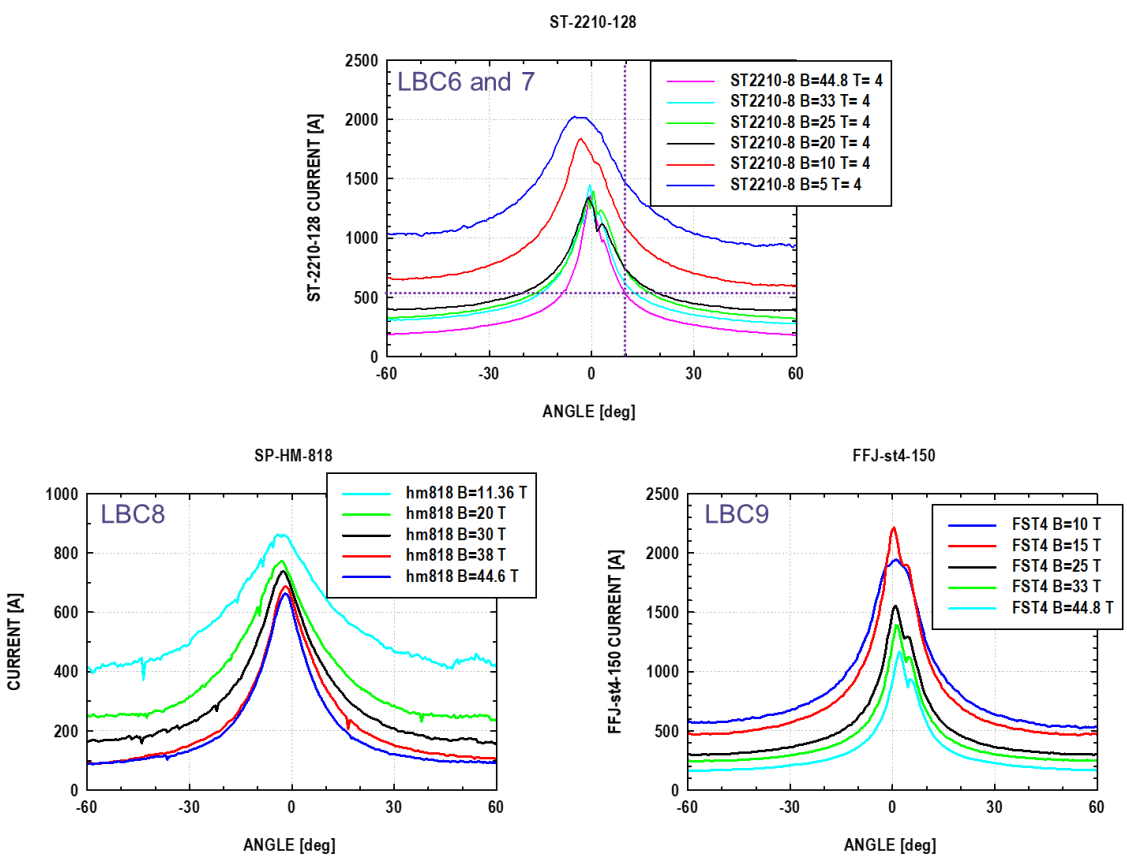

Fig. 4.1.12 *Torque I_c measurement results of REBCO samples of recent LBC6—9 tapes via the NHMFL 45T 32mm (19mm room temperature bore) hybrid magnet, the world's first $I_c(Q,B,T)$ measurement at 45T.*

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.

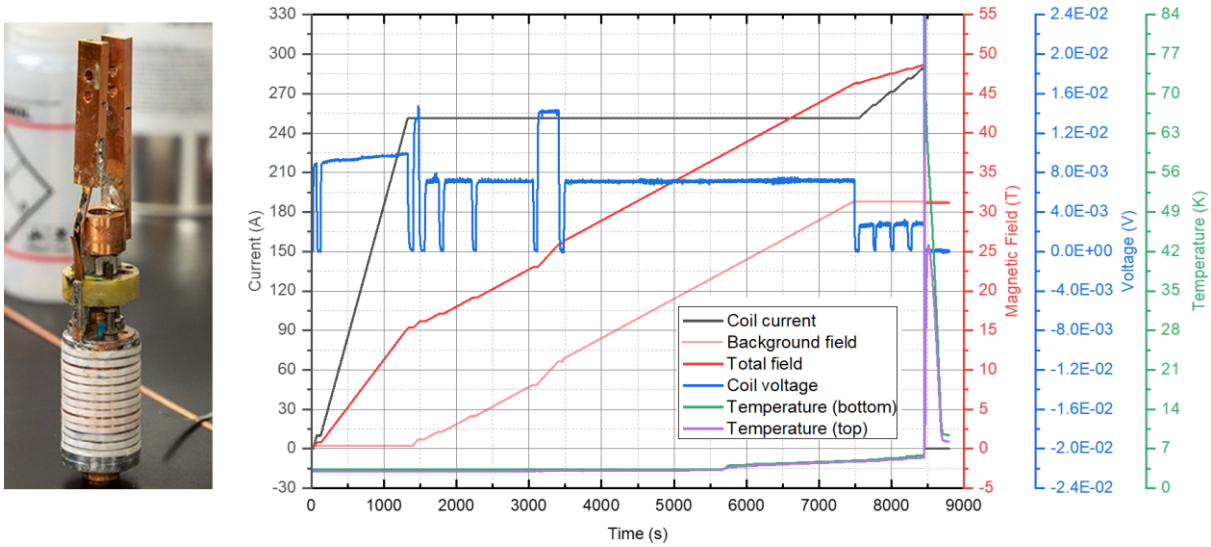

Fig. 4.1.13 *(left) LBC9, the record coil for 48.7T. (right) shows test results during attainment of the world record 48.7T DC field. LBC9 was tested in the NHMFL 31.2T 50mm (42mm room-temperature bore) Bitter magnet.*

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 addtion 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-spare 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.

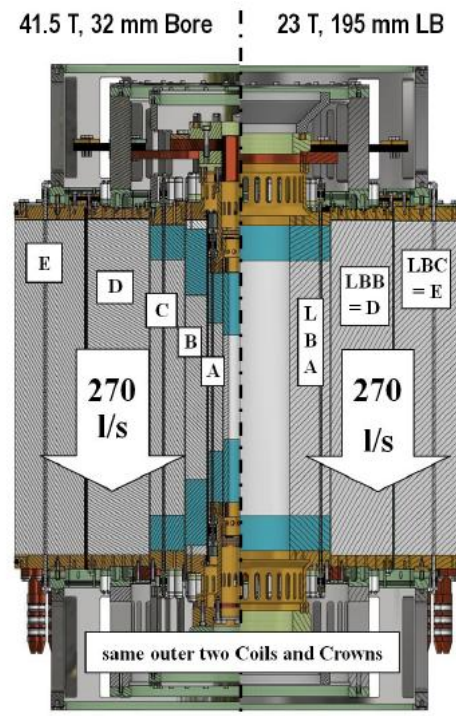

Figure 4.1.14 *The LBRM has three coils as shown in the right cross-section. The two outermost coils will copy the outermost coils of the 41.5T resistive magnet shown on the left side and the inner coil will be newly designed to achieve 22.5T in a 195mm clear bore.*

iii Large Bore Resistive Magnet (LBMR)

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

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**).

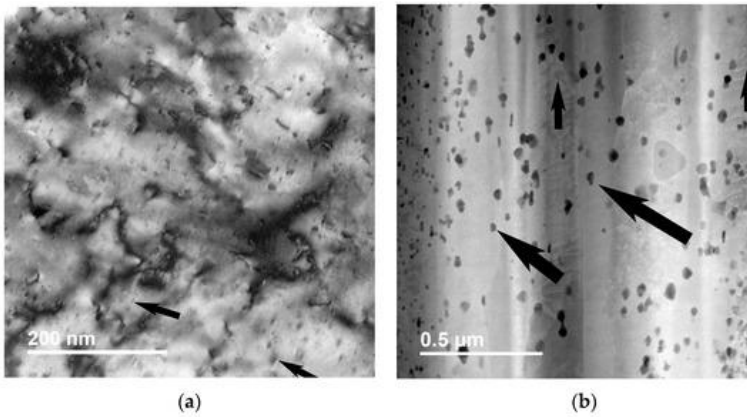

Figure 4.1.15 *Comparison of microscopy images of Cu strengthened by two types of particles: a. TEM image of a CuCrZr sample prepared by electron-polishing. Some strengthening particles are marked by arrows. Most nanosized particles are rich in Cr with a face-centered cubic structure. b. STEM HAADF image showing Cu-alumina prepared by FIB. Some alumina particles are marked by larger arrows. Most nanosized alumina particles are in the γ 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.*

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

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.

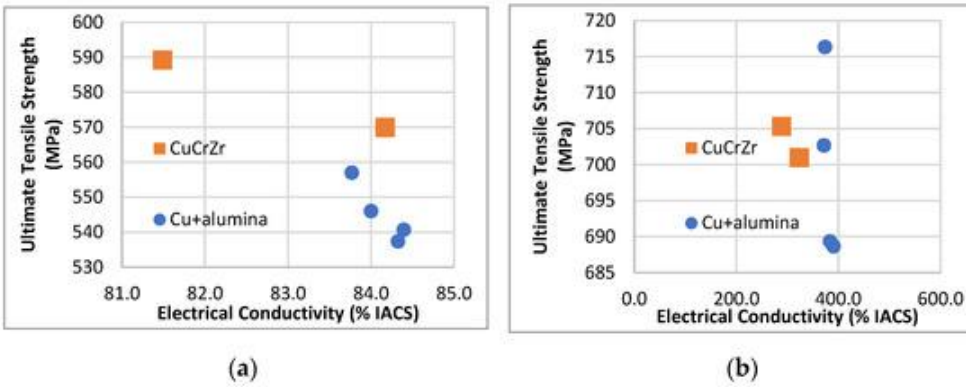

Figure 4.1.16 *Graphs showing ultimate tensile strength versus electrical conductivity for samples representing two types of composites. Each dot in the graph represents at least six tests for electrical conductivity and mechanical strength. Round dots represent Cu-alumina, and squares represent CuCrZr.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

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

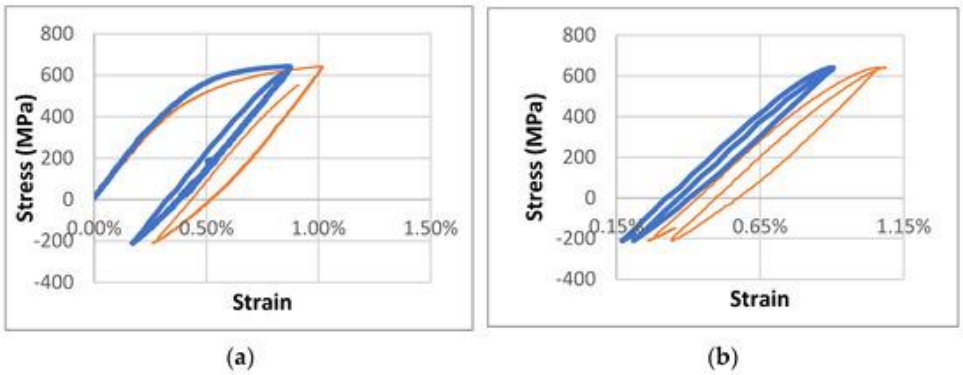

Figure 4.1.17 *Stress-strain curves at 77K for a Cu+alumina sample (thin orange solid line thick blue solid line) and a CuCrZr sample () under maximum load of 643MPa and minimum load of 211MPa. a. Comparison of curves during the first cycle. Plastic deformation strain amplitude values are ap-proximately 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

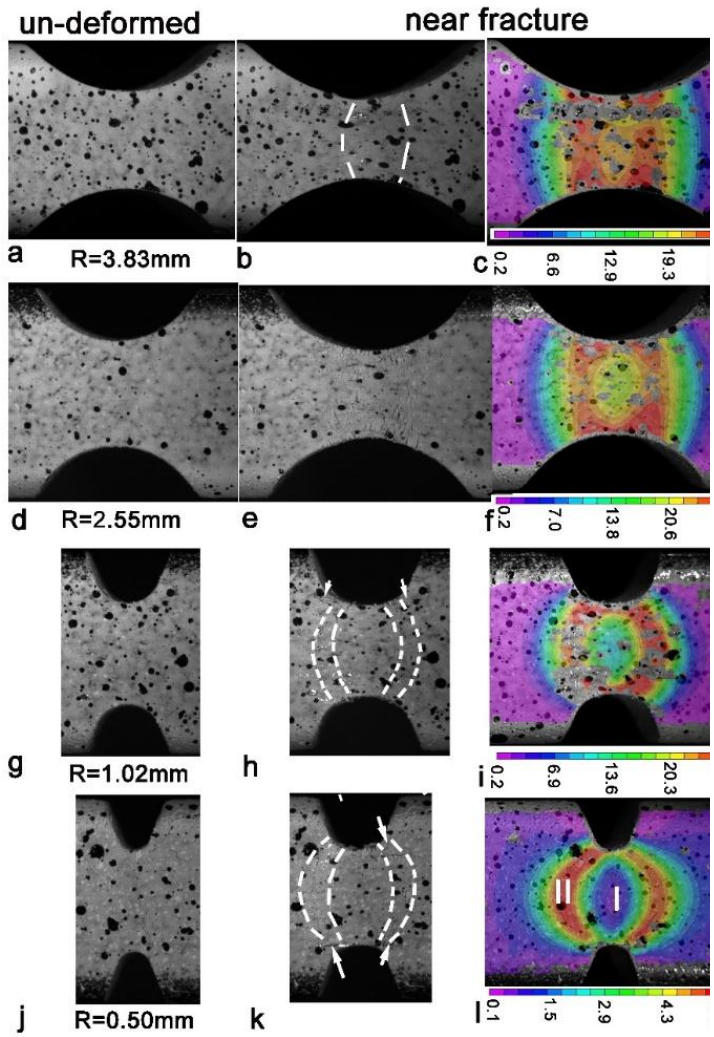

Figure 4.1.18 *Real-time observation of local plastic deformation and crack development in notched Cu-Ag-Zr samples. In (a), (d), (g), and (j), double-notched samples are shown before tension. The tension direction is along the horizontal direction. In (b), (e), (h), and (k), microcracks appear at the 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±8 GPa, 137±5 GPa, 175±2 GPa, and 196±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±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 the 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 2nd round test.*

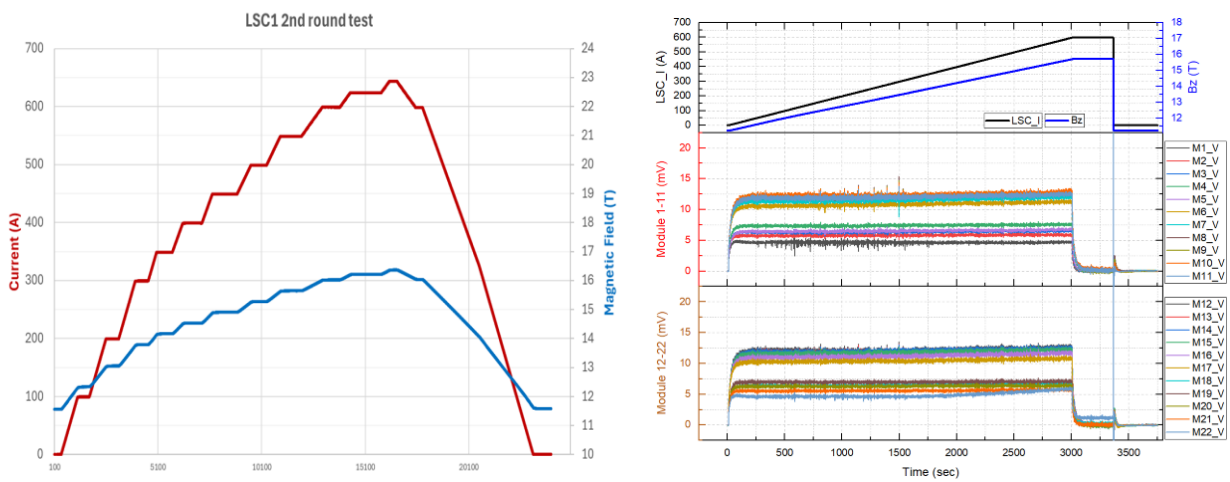

Figure 4.1.20 *LSC1 was ramped to its design current of 645A in an 11.4T background field (Left); The LSC1 was ramped up to 600A in an 11.2T background field at a continuous ramp rate of 0.2 A/s with no interruptions (Right).*

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 2nd 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.

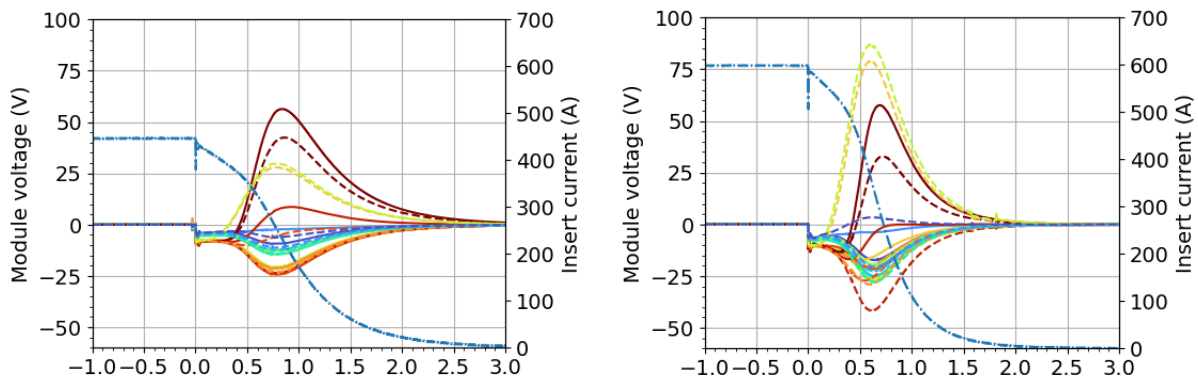

Figure 4.1.21 *Quench test of LSC1 at an operating current of 445A (left) and 600A (right). The dotted blue line is the current in the HTS coil. The solid and dash lines are the module voltage.*

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 ≤ 0.6, the copper current density is < 770A/mm^2, the maximum hoop strain ≤0.45%, the voltage to the ground ≤ 1kV during quench, and a peak quench

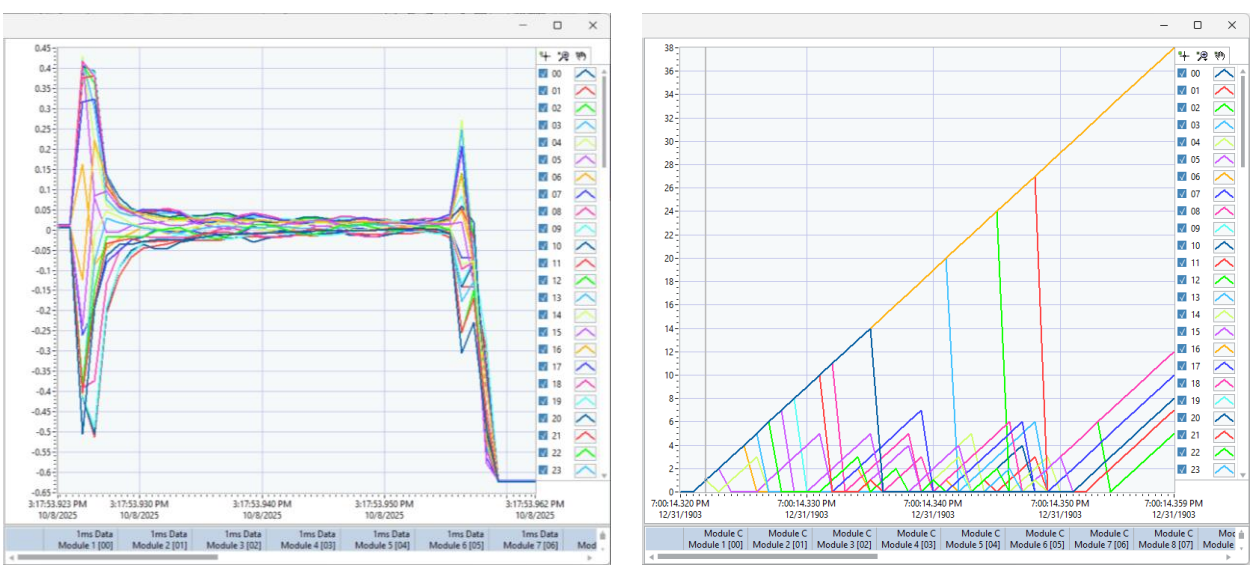

Figure 4.1.22 *Module voltage signals triggered a quench at 445 A (left), Counters of the voltage over the quench detection threshold (Right). When the counter was over 30, the quench project was triggered as intended.*

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.

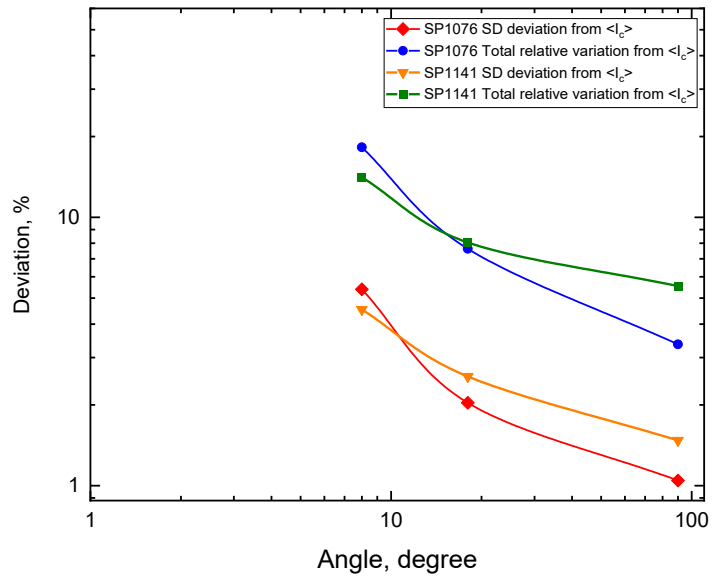

Figure 4.1.23 *Comparison of Ic variation along the length between edge slit tape (SP1141) and mid-slit tape (SP1076).*

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 Ic 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).

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.

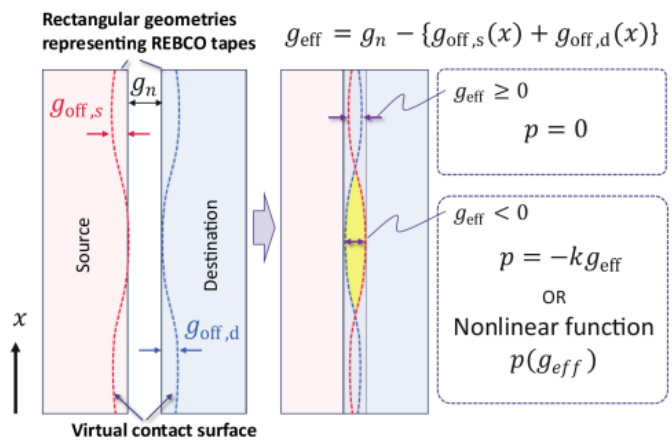

Figure 4.1.24 *Modeling nonuniform REBCO tape surface utilizing a penalty function.*

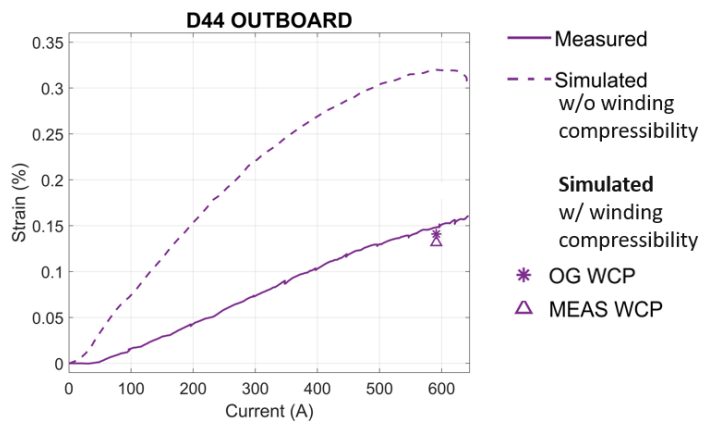

Figure 4.1.25 *Comparison of measured and computed strain using various methods showing that compressibility (symbols) agrees best.*

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.

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.

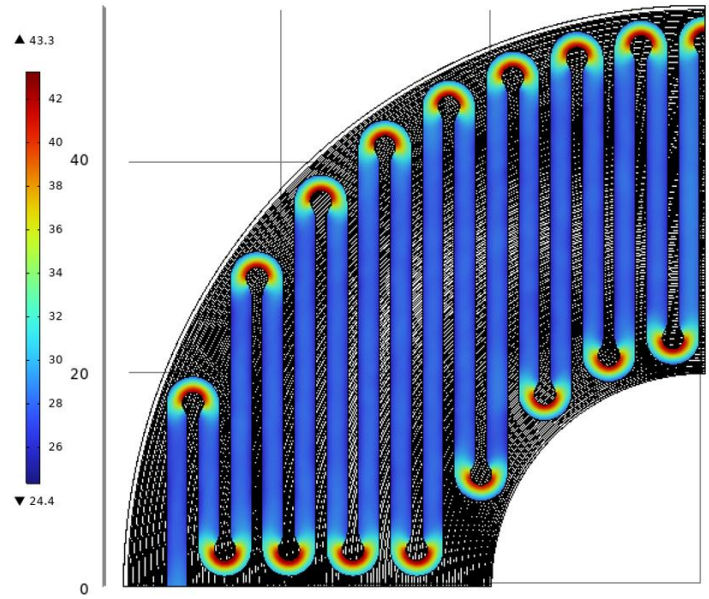

Figure 4.1.26 *Simulation of temperature across an orthogonal geometry quench heater.*

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.

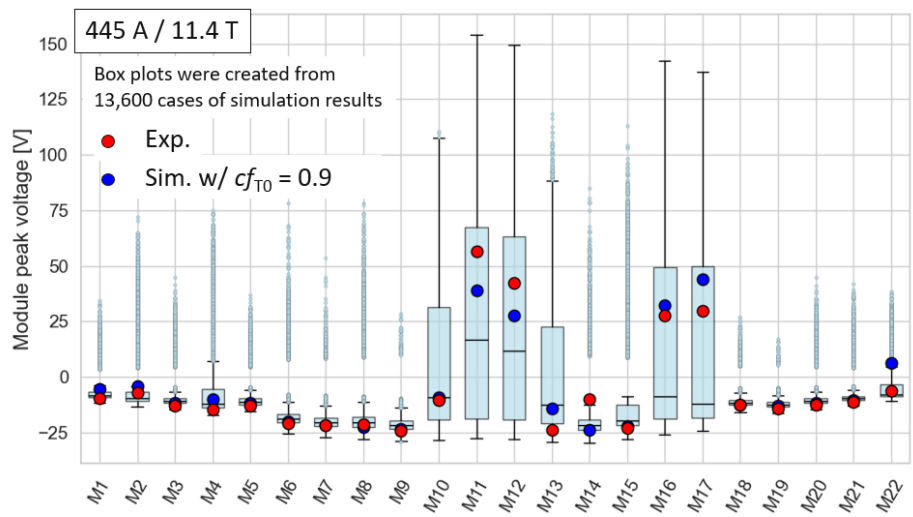

Figure 4.1.27 *Measured peak voltage in each module of the LSC with Monte Carlo simulation results overlaid.*

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.

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 diasassembly 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.

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

The report identifed 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.

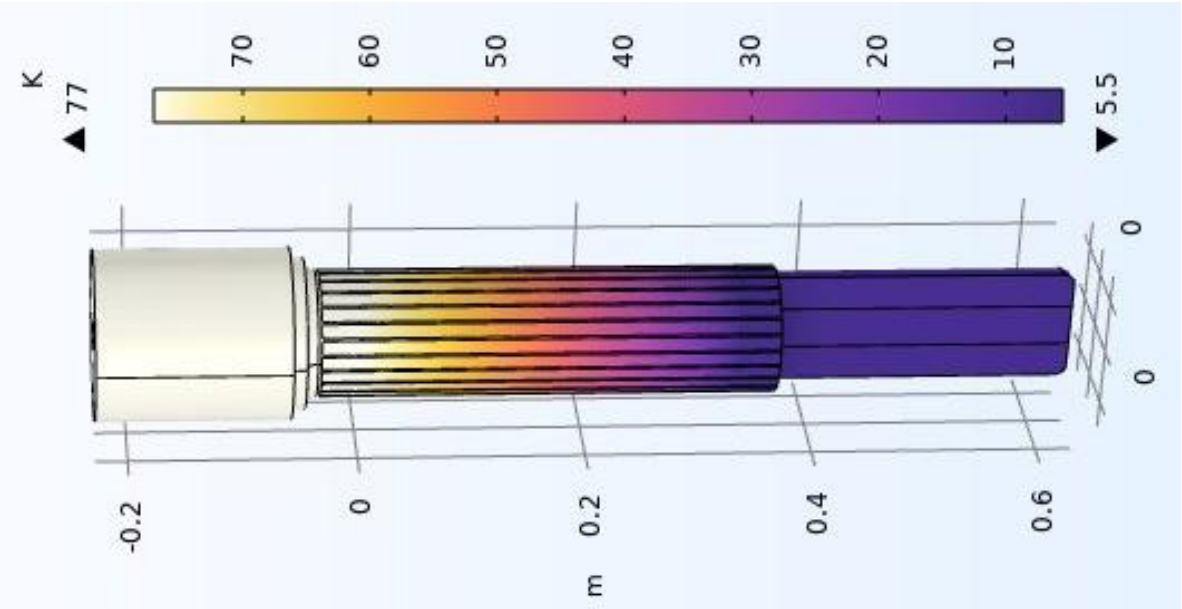

Figure 4.1.29 *SCH lead temperature profile used to compute the heat load on the REBCO lead design.*

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.

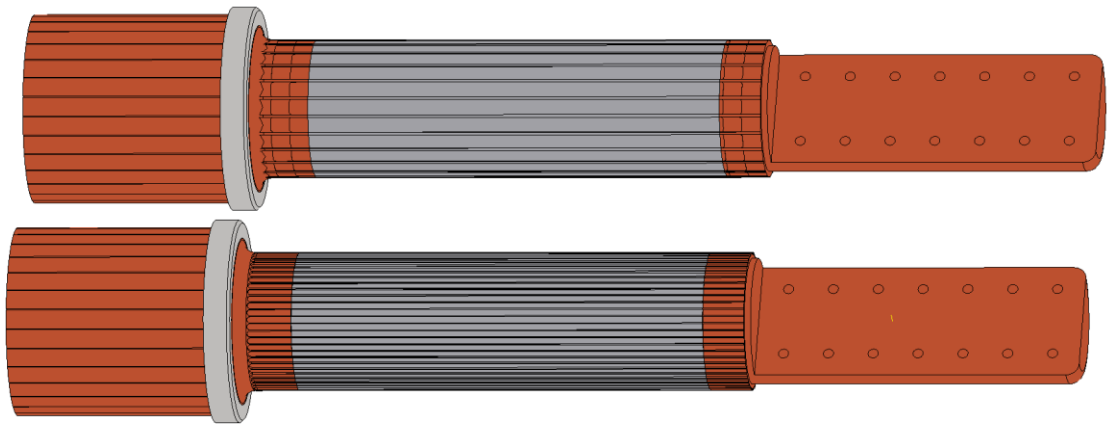

Figure 4.1.30 *HTS sections compared. Original Bi2223 design at bottom, REBCO design option at top. The REBCO design uses 24 stacks of 12mm width tape. The original design uses 60 stacks of Bi2223 tape.*

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 Ic test probe design was advanced for Lawrence Berkeley Laboratory.

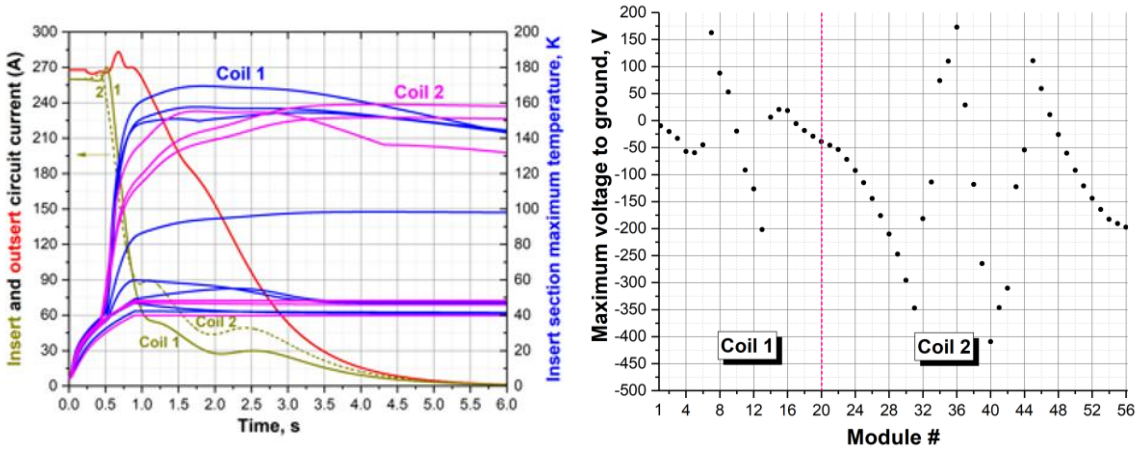

Figure 4.1.31 *The rebuild of the 32T HTS Insert has begun starting with updating the HTS Insert design incorporating the technology development on the 40T all-superconducting magnet design project. The quench analysis shows that the design meets the requirements of maintaining temperatures less the 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[1] 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[2] 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[3] and related provisions in the current Proposal & Award Policies & Procedures Guide[4] 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.[5]

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 Workgroup

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[6] and an additional set of recommendations[7] 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 statues. 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.

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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[1]
Geochemistry Facility	13	2	NA[1]
Gypstacks / Rare Earth	5	1	NA[1]
MBI at UF	43	4	NA[1]
UF Physics	5	1	NA[1]

[1]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[1]	12	-	26	2	39	2	-	-	**77**	**4**	**81**
Geochemistry Facility[1]	2	-	6	-	5	-	-	-	**13**	**-**	**13**
Gypstacks /Rare Earth	4	-	-	1	-	-	-	-	**4**	**1**	**5**
MBI at UF[1]	-	-	-	3	6	8	4	22	**10**	**33**	**43**
UF Physics[1]	-	-	3	-	2	-	-	-	**5**	**-**	**5**

[1]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 NSF Core Grant
Afoullouss, S.; Olsen, S.H.; Morrow, S.; Rosa, E.C.; Geu, K.; Wilson, N.G.; Baker, B.J.	*Novel Discorhabdin Derivatives from Antarctic Sponges of the Genus : Expanding the Chemical Diversity of Polar Marine Natural Products*	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.	*Discovery of UbiA-Type Cyathane Synthases in Bacteria*	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.	*Structure and function of a near fully-activated intermediate GPCR-Gαβγ complex*	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.	*Protocol for high-power, brain-focused microwave fixation to define rodent metabolism*	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.	*Assessing cancer therapeutic efficacy in vivo using [$^2H_7$]glucose deuterium metabolic imaging*	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.; Phlips, E.J.; Morrison, E.S.	*Coastal sediments record decades of cultural eutrophication in Tampa Bay, Florida, USA*	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.	*Glycogen drives tumour initiation and progression in lung adenocarcinoma*	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.	*Synthesis of simplified didehydro-cortistatin A derivatives as anti-proliferative agents*	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.	*Discovery of a parallel family of euglenatide analogs in Euglena gracilis*	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.	*Structure Determination and Biosynthesis of Dapalides A-C, Glycosylated Kahalalide F Analogues from the Marine Cyanobacterium Dapis sp*	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.	*Optimization of the Heterogeneous Synthesis Conditions for Cellulose Tosylation and Synthesis of a Propargylamine Cellulosic Derivative*	Polymers	17	1		10.3390/polym17010058	No
Fisher, C.; Vardanyan, L.; Judy, J.D.	*Spectroscopic investigation of the speciation of phosphorus forms entering and leaving Everglades Stormwater Treatment Areas*	J. Envi. Quality			1-14	10.1002/jeq2.70037	Yes
Jain, G.; Eddy, M.T.	*The influence of lipids and biological membranes on the conformational equilibria of GPCRs: Insights from NMR spectroscopy*	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.	*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*	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.	*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*	Neurotrauma Reports	6	1	885-902	10.1177/2689288X251380144	No
Koottanil Haridasan, R.; Hernandez, S.; Kuenzig, S.; Tejeda, G.; Collins, J.H.; Bukhryakov, K.V.; Searles, K.	*Silica-Supported Vanadium-oxo-alkylidene for Self-Metathesis of Propene*	J. Am. Chem. Soc. (JACS)	147	40	36039-36043	10.1021/jacs.5c07854	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
McCadden, C.; Alsup, T.; Ghiviriga, I.; Rudolf, J.	*Biocatalytic diversification of abietic acid in Streptomyces*	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.	*Backbone NMR resonance assignments for the C2 domain of the Streptococcus mutans adhesin P1*	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.	*Development of an In Situ G Protein-Coupled Receptor Fragment Molecule Screening Approach with High-Resolution Magic Angle Spinning Nuclear Magnetic Resonance*	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.	*Biosynthesis, Chemical Synthesis, and Pharmacological Evaluation of Lyngbyapeptin A as a GPCR Antagonist of Motilin, Cannabinoid, and Amylin Receptors*	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.	*Translational Outcomes Project in Neurotrauma (TOP-NT) Pre-Clinical Consortium Study: A Synopsis*	J. Neurotrauma	42	9-10	898-912	10.1089/neu.2023.0654	No
Ray, A.; Jin, B.; Eddy, M.T.	*The Conformational Equilibria of a Human GPCR Compared between Lipid Vesicles and Aqueous Solutions by Integrative 19F-NMR*	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.	*Magnetic Resonance Applications to Metabolism*	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.	*Metabolic flux analysis of glioblastoma neural stem cells reveals distinctive metabolic phenotypes in ketogenic conditions*	Sci. Rep.	15	1		10.1038/s41598-025-02124-6	Yes
Simon, Z.D.; McFarland, K.N.; Golde, T.E.; Chakrabarty, P.; Febo, M.	*Sex-dependent effect of amyloidosis on functional network 'hub' topology is associated with downregulated neuronal gene*	J Alzheimers Dis	108	2		10.1177/13872877251378778	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
	signatures in the APPswe/PSEN1dE9 double transgenic mouse						
Smith, B.; Afoullouss, S.; Netjes, J.; Allcock, A.L.; Johnson, M.P.; Baker, B.J.	*Maigheotides AC, Peptides from the Deep-Sea Black Coral Phanopathes sp.*	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.	*Functional connectivity within sensorimotor cortical and striatal regions is regulated by sepsis in a sex-dependent manner*	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.	*Avoidance of Secondary Carbocations, Unusual Deprotonation, and Nonstatistical Dynamic Effects in the Cyclization Mechanism of Tetraisoquinane*	J. Am. Chem. Soc. (JACS)	147	19	16293-16300	10.1021/jacs.5c01828	Yes
Wu, W.; Boloki, O.; Vasenkov, S.; Smith, Z.P.	*Macroscopic and microscopic gas diffusivity measurements for PIM-COOH/UiO-66-NH2 composite membranes*	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.	*A BCL-xL/BCL-2 PROTAC effectively clears senescent cells in the liver and reduces MASH-driven hepatocellular carcinoma in mice*	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.	*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*	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.;	*The future of the correlated electron problem*	SciPost Physics Community Reports	8		8	10.21468/SciPostPhysCommRep.8	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.; Victa 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.							
Amanyazova, B.; Yergeshbayeva, S.; Choi, E.; Erkasov, R.; Shatruk, M.	*Spin-crossover semiconductors based on homoleptic tris-diimine Fe(ii) complexes with fractionally charged TCNQ˙δ− anions*	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.	*Is a Homologous Series Member Equal to or Greater than the Sum of Its Subunits? A Focus on Fe-Based $BaNiSn_3$ Subunits: $LnFeGe_3$ (Ln = La, Pr)*	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.	*Probing Berry Curvature in Magnetic Topological Insulators through Resonant Infrared Magnetic Circular Dichroism*	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.	*Two types of colossal magnetoresistance with distinct mechanisms in Eu_5[illegible]In_2As_6*	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.	*Magnetically Driven Quantum Phase Transition in a Low-Dimensional Pyrazine-Bridged Cu^{2+} Chain Magnet*	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.	*Nonlinear Magnetic Field Dependence of Quantum Beats in $FAPbI_3$*	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.	*$Co_3Ga_2Ge_5$: Probing site mixing of the Ru_3Sn_7 structure type with elements difficult to distinguish by diffraction*	J. Alloy Compd.	1010		177828	10.1016/j.jallcom.2024.177828	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
Brown, W.K.; Schundelmier, B.C.; Tan, H.; Melnick, C.; Kotliar, G.; Yan, B.; Wei, K.; McCandless, G.T.; Chan, J.	*$Sm_2Ru_3Sn_5$: A Non-centrosymmetric Cubic Member of the $Ln_2M_3X_5$ Family*	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.	*Enhancement of Superconductivity in WP via Oxide-Assisted Chemical Vapor Transport*	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.	*Upper critical magnetic field and multiband superconductivity in artificial high-T_c superlattices of nano quantum wells*	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.	*Quantum Oscillations in the Heat Capacity of Kondo Insulator YbB_{12}*	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.	*Statistics on Ab-Plane Offsets in REBCO Coated Conductors and Implications for Non-Twisted Magnets*	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.	*Spectral analysis of the magneto-optical response in valley-polarized $Pb_{1-x}Sn_xSe$*	Phys. Rev. B	111		205302	10.1103/PhysRevB.111.205302	Yes
Dubroca, T.; Ozarowski, A.; Sunatsuki, Y.; Telser, J.; Hill, S.; Krzystek, J.	*Benefitting from Magnetic Field-Induced Torquing in Terahertz EPR of a MnIII Coordination Complex*	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.	*Structural Tuning Magnetism and Topology in a Magnetic Topological Insulator*	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.	*Magnetization in ReBCO-based CORC Cables in Magnetic Fields up to 30 T for Accelerator Applications*	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.	*High-field flux jump instabilities in cables for accelerator or compact fusion magnets and their effective suppression*	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.	*Probing orbital magnetism of a kagome metal CsV_3Sb_5 by a tuning fork resonator*	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.	*Mg-Ion Conduction in Antiperovskite Solid Electrolytes Revealed by 25Mg Ultrahigh Field NMR and First-Principles Calculations*	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.	*Advanced spectroscopic studies of $(PPh_4)_2[Co(N_3)_4]$, a field-induced single-ion magnet*	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.	*One-dimensional antiferromagnetic chain in the cation radical salt α-$(BEDT\text{-}TTF)_2Hg(SeCN)_2Cl$*	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.	*Tunable superconductivity coexisting with the anomalous Hall effect in a transition metal dichalcogenide*	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.	*Field Induced Density Wave in a Kagome Superconductor*	Phys. Rev. Lett.	135		186503	10.1103/5f9f-bsqw	Yes
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.	*Unconventional gapping behaviour in a kagome superconductor*	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.	*CoII Single-ion Magnet and Its Multi-dimensional Aggregations: Influence of the Structural Rigidity on Magnetic Relaxation Process*	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.	*Probing magnetic and vibrational properties of trigonal-bipyramidal Co(II) and Ni(II) complexes using advanced spectroscopies*	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.	*Unveiling Three Types of Fermions in a Nodal Ring Topological Semimetal through Magneto-Optical Transitions*	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.	*Multiple metamagnetic transitions in the helical antiferromagnet $CeVGe_3$*	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.	*Direct-Write Printed Contacts to Layered and 2D Materials*	Adv. Electron. Mater.			e00927	10.1002/aelm.202400927	Yes
Kacmarcík, 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.	*Single-gap two-band superconductivity well above the Pauli limit in non-centrosymmetric $TaIr_2B_2$*	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.	*Large negative magnetoresistance in antiferromagnetic Gd_2Se_3*	Phys. Rev. B	111		14431	10.1103/PhysRevB.111.014431	Yes
Khan, A.; Feeny, K.; Laramee, B.; Agosta, C.C.; Coniglio, W.A.	*A miniature tunnel diode oscillator for condensed matter physics experiments*	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.	*Sharp spectroscopic fingerprints of disorder in an incompressible magnetic state*	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.	*Evidence of massive Dirac fermions in the kagome nodal-line semimetal Ni3In2S2 as revealed by high magnetic field studies*	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.	*Spin-orbit coupling induced enhancement of upper critical field in superconducting A15 single crystals*	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.; Karaiskaj, D.	*Quantum Coherence of Excitons Strongly Bound to the Magnetic Order*	ACS Photonics	12	11	5921--5928	10.1021/acsphotonics.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.	*Electronic Structure of Kramers Nodal-Line Semimetal YAuGe and Anomalous Hall Effect Induced by Magnetic Rare-Earth Substitution*	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.	*Electronic commensuration of a spin moire superlattice in a layered magnetic semimetal*	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.	*Quantum order by disorder is a key to understanding the magnetic phases of $BaCo_2(AsO_4)_2$*	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.	*Possible quantum spin liquid state of $CeTa_7O_{19}$*	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.	*Anomalous 140 K electronic transition in Bi_2Se_3: Possible charge order in a defect-engineered system*	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.	*Possible Spin-Triplet Excitonic Insulator in the Ultraquantum Limit of $HfTe_5$*	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.	*Gate-Assisted Programmable Molecular Doping of Epitaxial Graphene Devices*	Small Methods			e01482	10.1002/smtd.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.	*REBCO Delamination by Electromagnetic Stress due to Screening Current in Magnetic Field*	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.	*Linear scaling relation between two-dimensional massless Dirac fermion Fermi velocity and Fe-As bond length in iron arsenide superconductor systems*	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.	*Evolution of Structural Order and Magnetic Anisotropy in $Yb_{0.5}(Co_{1-x}Fe_x)_3Ge_3$ through Doping of a Kagome Lattice*	Chem. Mater.	37	6	2302	10.1021/acs.chemmater.5c00119	Yes
Meier, W.R.; Graf, D.E.; Ortiz, B.; Mozaffari, S.; Mandrus, D.	*Pressure suppresses the density wave order in kagome metal $LuNb_6Sn_6$*	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.	*Excited triplet state zero-field splitting in a ligand-to-ligand charge transfer complex*	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.	*Magneto-optical Evidence of the Tilting Effect in Coupled Weyl Bands*	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.	*Diverse magnetic phase diagram and anomalous Hall effect in antiferromagnetic $LuMn_6Sn_6$*	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.	*Ferroelectricity and a 1/3-Magnetization Plateau in the Polar Magnet $LiFeV_2O_7$ with Fe^{3+} Ions in a Twisted Diamond Chain*	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.	*Percolative phase transition in few-layered $MoSe_2$ field-effect transistors using Co and Cr contacts*	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.	*Lithography-Defined Semiconductor Moir'es with Anomalous In-Gap Quantum Hall States*	Nano Lett	25	26	10536-10543	10.1021/acs.nanolett.5c02180	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*Double-sided van der Waals epitaxy of topological insulators across an atomically thin membrane*	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.	*Close-up view of the interplay between lattice distortions and charge density waves: Case study on rare-earth nickel carbides*	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.	*Electronic structure of the altermagnet candidate $FeSb_2$: High-field torque magnetometry and density functional theory studies*	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.	*Electrical transport and torque magnetometry studies of the kagome compound LuV_6Sn_6 under high magnetic fields*	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.	*Heat conduction in magnetic insulators via hybridization of acoustic phonons and spin-flip excitations*	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.	*Cooling-Rate-Driven Polymorphism and Vacancy Ordering in Ce_2MnGe_6 Intergrowth Phases*	Crys Growth Des	25	21	9405-9415	10.1021/acs.cgd.5c01182	Yes
Riedel, Z.; Ozerov, M.; Calder, S.; Shoemaker, D.	*Applied-field magnetic structure and spectroscopy shifts of the effective spin-1/2 XY-like magnet Li_2CoCl_4*	Phys. Rev. B	112		104407	10.1103/tqwb-v5r2	Yes
Roy-Chowdhury, M.; Sarkar, T.; Weise, B.; Choi, E.S.; Wen, Z.; Thota, S.	*Non-equilibrium spin dynamics of the frustrated trication spinel $ZnMnCoO_4$ in the hierarchical free-energy framework*	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.	*Magnetospectroscopic studies of a series of Fe(II) scorpionate complexes: assessing the relationship between halide identity and zero-field splitting*	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.	*High critical current double-sided, thick-film $REBa_2Cu_3O_{7-s}$ tapes byAdvanced MOCVD*	Supercond	15		100184	10.1016/j.supcon.2025.100184	Yes
Schundelmier, B.C.; Galeano Cabral, J.R.; Baumbach, R.; Wei, K.	*Thermoelectric Properties of $A_{1-x}B_xIr_2Zn_{20}$ (A, B = Ce, Sm, Yb)*	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.	*Quantum oscillation studies of the nodal line semimetal $Ni_3In_2S_{2-x}Se_x$*	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.	*Structural Inhomogeneities and Suppressed Magnetostructural Coupling in Mn-Substituted $GeCo_2O_4$*	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.	*Spin-selective magneto-conductivity in WSe_2*	Nat. Phys.	21	8	1231-1236	10.1038/s41567-025-02918-5	Yes
Shiravi, H.; Ni, G.	*Significantly enhanced near-field coupling via tip engineering*	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.	*Electronic structure of YV6Sn6 probed by de Haasvan Alphen oscillations and density functional theory*	APL Quantum	2	1	16118	10.1063/5.0252563	Yes
Shtefiienko, K.; Phillips, C.; Ortiz, B.; Graf, D.E.; Shrestha, K.	*Electronic structure of the kagome metal YbTi3Bi4 studied using torque magnetometry*	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.	*Pressure effects on the Fermi surface of Ti-doped CsV_3Sb_5*	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.	*^{51}V NMR evidence for interlayer-modulated charge order and a first-order low-temperature transition in CsV_3Sb_5*	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.	*Shubnikov--de Haas oscillations reaching the quantum limit in two-dimensional electron systems at $SrTiO_2$ (111) interfaces*	Phys. Rev. B	112		35153	10.1103/why6-1fl8	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.	*Discovery of a New Phase in Thin Flakes of KV_3Sb_5 under Pressure*	Adv. Sci.	12	16		10.1002/advs.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.	*Pressure-enhanced f-electron orbital weighting in UTe_2 mapped by quantum interferometry*	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.	*Magnetic structure and magnetodielectric behavior of the chiral magnet $CoTeMoO_6$*	J. Magn. Magn. Mater.	622		172963	10.1016/j.jmmm.2025.172963	Yes
Womack, F.; Ortega, A.; Karna, S.; Graf, D.E.; Adams, P.	*The proximity effect and critical field behavior of Re/Al bilayers*	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.	*Electronic anisotropy and rotational symmetry breaking at a Weyl semimetal/spin ice interface*	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.; Sechovský, V.; Valiska, M.; Grosche, F.M.; Eaton, A.G.	*Superconducting critical temperature elevated by intense magnetic fields*	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.	*Fermi Surface of RuO_2 Measured by Quantum Oscillations*	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.	*A Quantum Critical Line Bounds the High Field Metamagnetic Transition Surface in UTe_2*	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.	*Topological bands and correlated states in helical trilayer graphene*	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.	*Probing Ice-Rule-Breaking Transition in $Dy_2Ti_2O_7$ Thin Film by Proximitized Transport and Magnetic Torque*	Phys. Rev. Lett.	135	21	216702	10.1103/w6cq-2qwl	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
Xu, A.; Xin, Y.; Abraimov, D.V.; Park, J.; Jaroszynski, J.J.; Kametani, F.; Larbalestier, D.C.	*A Comprehensive Characterization of Commercial Pulsed Laser Deposited Coated Conductors*	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.	*Observation of Unprecedented Fractional Magnetization Plateaus in a New Shastry-Sutherland Ising Compound*	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.	*Hidden magnetic phases in i-MAX compounds*	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.	*Mechanical Resonant Sensing of Spin Texture Dynamics in a 2D Antiferromagnet*	Adv. Mater.			2420168	10.1002/adma.202420168	Yes
Yu, O.; Boivin, F.; Silberztein, A.; Gervais, G.	*Observation of Temperature-Independent Anomalous Hall Effect in Thin Bismuth from Near Absolute Zero to 300 K Temperature*	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.	*Isotropic Dirac fermion and anomalous oscillator strength of the zeroth Landau level transition in LaAlSi*	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.	*Realizing a topological diode effect on the surface of a topological Kondo insulator*	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.	*Dimensionality of the reinforced superconductivity in UTe_2*	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.	*Local order, disorder, and everything in between: using ^{91}Zr solid-state NMR spectroscopy to probe zirconium-based metal-organic frameworks*	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.;	*Kramers nodal lines in intercalated TaS_2 superconductors*	Nat. Commun.	16		4984	10.1038/s41467-025-60020-z	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*Thermodynamic Evidence of Fermionic Behavior in the Vicinity of One-Ninth Plateau in a Kagome Antiferromagnet*	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 NSF Core Grant
Abusa, Y.; Greenfield, J.; Viswanathan, G.; Goswami, S.; Ross, E.; Yox, P.; Oppong, R.; Ojo, I.; Liu, J. F.; Ozarowski, A.; Kovnir, K.	*A competition between 2D and 3D magnetic orderings in novel mixed valent copper frameworks*	Chem. Sci.	2025	d5sc00548e	1-12	10.1039/d5sc00548e	Yes
Benner, F.; Saroshan, D.; Hrubý, J.; Hill, S.; Demir, S.	*Magnetic Blocking in Fluoflavine Radical-Bridged Dilanthanide Complexes*	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.	*Structural and Magnetic Studies of a Discrete Tetranuclear Complex Featuring an Oxalato-Bridged $Ni_3^{II}Cr^{III}$ Cluster*	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.	*Further insights into controlling anisotropy of pentacoordinate Co(II) field-supported single-molecule magnets.*	Dalton Trans.	54		1-15	10.1039/D5DT02098K	Yes
Dubroca, T.; Ozarowski, A.; Sunatsuki, Y.; Telser, J.; Hill, S.; Krzystek, J.	*Benefitting from Magnetic Field-Induced Torquing in Terahertz EPR of a MnIII Coordination Complex*	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.	*Enhancing ZnO-based supercapacitors through carbon-induced defect centers*	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.	*A 54.6 GHz Clock Transition in Ho^{3+} Electron Spin Qubits Assembled into a Metal-Organic Framework*	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.	*Advanced spectroscopic studies of $(PPh_4)_2[Co(N_3)_4]$, a field-induced single-ion magnet*	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.	*Relaxing amid Three: Slow Magnetization Relaxation in Three-Coordinate Chromium(II) N-Heterocyclic Carbene Complexes*	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.	*One-dimensional antiferromagnetic chain in the cation radical salt α-$(BEDT\text{-}TTF)_2Hg(SeCN)_2Cl$*	Crystal Engineering Communication	27	18	2805	10.1039/D5CE00007F	Yes
Hill, S.	*Making Qubits from Magnetic Molecules*	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.	*Probing magnetic and vibrational properties of trigonal-bipyramidal Co(II) and Ni(II) complexes using advanced spectroscopies*	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.	*Effect of the counter anion to slow magnetic relaxation of hexacoordinate co(ii) complexes.*	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.	*A Triangular Frustrated Eu(II)-Organic Framework for Sub-Kelvin Magnetic Refrigeration*	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.	*Ligand-Nuclei Effects on Spin Relaxation in V(IV) Complexes*	Inorg. Chem.	64	30	15588--15599	10.1021/acs.inorgchem.5c01930	Yes
Mascitti, B.; Zanoni, G.; van der Ham, A.; Yang, L.; Franco, L.; Mancin, F.; Rastrelli, F.; Orlando, T.	*Nanoparticle-assisted dynamic nuclear polarization in liquids*	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.	*Titanium Phosphinidene and Phosphide Moieties from Oxidative Phosphorylation and Desilylation*	J. Am. Chem. Soc. (JACS)	147		11625-11631	10.1021/jacs.4c12242	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*An All-O-Donor Family of Mn(II) and Mn(III) Complexes with Perfluorinated Alkoxide Ligands*	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.	*Large Hyperfine Coupling Arising from Pseudo-^2S Ground States in a Series of Lutetium(II) Metallocene Complexes*	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.	*Impact of non-polar solvents in dynamic nuclear polarization at high magnetic fields*	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.	*Direct characterisation of m_J = ±15/2 ground state in octahedral Dy(III) single-molecule magnets*	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.	*Magnetospectroscopic studies of a series of Fe(II) scorpionate complexes: assessing the relationship between halide identity and zero-field splitting*	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.	*Large magnetic anisotropy of Ni(II) polynuclear complexes confirmed by very unusual HFEPR spectra: relaxation behaviour of six-coordinate Ni(II) dimers*	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.	*Single-Electron Transfer Stabilizes Metastable Alane in a Bipyridine-Functionalized MOF Nanopore*	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.	*Cooperative enhancement of redox catalysis in divanadium complexes binucleated by 1,8-naphthyridine-2,7-dicarboxylate*	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.	*Sensitive Detection of Spin-Electric Coupling in a Cr_3 Antiferromagnetic Triangle*	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.	*Toward Generalized Solution-State ^1H DNP NMR via Particle-Mediated Cross-Relaxation*	J. Phys. Chem. Lett.	16	25	6627--6636	10.1021/acs.jpclett.5c01398	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
Yang, L.; Orlando, T.; Bennati, M.	*Halogen-Bond-Mediated ^{13}C Overhauser Dynamic Nuclear Polarization at 9.4 T*	J. Phys. Chem. Lett.	16		4505-4514	10.1021/acs.jpclett.5c00798	Yes

PUBLICATIONS GENERATED BY HIGH B/T AT UF (4)

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
Benyacko, C.L.; Hauser, G.T.; Rawson, R.J.; Sherman, A.J.; Wiebe, Q.L.; Poottafai, K.; Talham, D.R.; Meisel, M.W.	*Static Magnetic Properties of Cryogel® and Pyrogel® at Low Temperatures and in High Magnetic Fields*	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.	*Synthesis of cobalt grown from Co-S eutectic in high magnetic fields*	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.	*Thermocouples in Resistive and Induction Furnaces Operated in Strong Magnetic Fields (2025)*	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.	*Tunable reciprocal and nonreciprocal contributions to 1D Coulomb drag*	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 NSF Core Grant
Babcock-Adams, L.C.; Li, J.; McKenna, A.M.; Hendrickson, C.L.; Repeta, D.J.	*Detection and Structural Elucidation of Copper Binding Tri- and Tetrapyrrole Ligands Produced by the Marine Diatom Phaeodactylum Tricornutum*	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.; Mohammadigoushki, H.	*Nuclear magnetic resonance study of monoclonal antibodies near an oil-water interface*	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,	*Detailed Molecular Composition of Wood Pyrolysis Bio-Oils Revealed by HPLC-FT-ICR MS*	Energy Fuels	39	7	3575-3588	10.1021/acs.energyfuels.4c05674	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.; Agblemanyo, F.E.; McKenna, A.M.; Wozniak, A.S.	*Unsaturated Aliphatic and Sulfur-containing Organic Matter as Surfactants in the Surface Microlayer*	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.	*Comparative Metabolic Profiling of Wild and In Vitro Cultivated Cecropia angustifolia Roots Fraction Reveals Conservation of Pentacyclic Triterpene Acid Biosynthesis*	Phytochemical Analysis	36	6	1829-1839	10.1002/pca.70001	Yes
Dossche, G.; Ureel, Y.; Aguilera, M.; Kusenberg, M.; Rodgers, R.P.; Sabbe, M.K.; Van Geem, K.M.	*Characterization and Source Tracing of Nitrogenates and Halogens in Polyolefin Waste Pyrolysis Oils by Ultrahigh-Resolution FT-ICR MS*	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.	*Molecular-level Characterization of Supraglacial Dissolved and Water-extractable Organic Matter Along a Hydrological Flow Path in a Greenland Ice Sheet Micro-catchment*	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.	*An Ecological Framework for Microbial Metabolites in the Ocean Ecosystem*	Limnol. Oceanog. 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.	*The Molecular-level Diagenetic Clock of Sinking Marine Organic Matter*	PNAS	122	48	e2504769122	10.1073/pnas.2504769122	Yes
Frye-Jones, J.; Chacon Patino, M.L.; Marshall, A.G.; Rodgers, R.P.	*Photoinduced Oxidation and Polymerization in Oil-Soluble Products and Interfacial Material from Petroleum Weathering*	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.	*Widespread Black Carbon Deposition of Varied Origin Exported From Glaciers*	Global Biogeochem Cycles	39	4	e2024GB008359	10.1029/2024GB008359	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
Holt, A.; Fellman, J.B.; Kellerman, A.M.; Hood, E.; Bosman, S.H.; McKenna, A.M.; Chanton, J.; Spencer, R.G.M.	*Brief Communication: Stream Microbes Preferentially Respire Young Carbon Within the Ancient Glacier Dissolved Organic Carbon Pool*	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.	*Identifying the Molecular Signatures of Organic Matter Leached from Land-Applied Biosolids via 21 T FT-ICR Mass Spectrometry*	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.	*Long-Term and Seasonal Drivers of Organic Matter in the Clearwater Tapajós River and Implications for the Amazon River Basin*	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.	*Sources and Mineralization Determine the Generation and Transformation Pathway of Sedimentary Organic Matter Over the Past Century*	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.	*Historical Inputs and Biogeochemical Transformations of Dissolved Organic Matter Since 1850 CE in a Small Plateau-lake, Southwest China*	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.	*Role of Permafrost Thaw Transitions in Biogeochemical Nitrogen Cycling*	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.	*Microbial Transformation and Mineral Adsorption Control Chemical Evolution of Soil Organic Matter During Semi-arid Ecosystem Development*	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.	*Shaping DOM Signatures in East Antarctic Lakes: Penguins, Mosses, Meltwater, and Processing Mechanisms*	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.	*Organic Ligands in Whale Excrement Support Iron Availability and Reduce Copper Toxicity to the Surface Ocean*	Commun Earth Environ	6		20	10.1038/s43247-024-01965-9	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*Internal Calibration without Internal Calibrants by Mass Difference Analysis in FT-ICR Mass Spectrometry*	Anal. Chem.				10.1021/acs.analchem.5c02420	Yes
Roth, H.K.; McKenna, A.M.; Aguilera, M.; VanderRoest, J.P.; Chen, H.; Borch, T.	*Characterization of Burned Soil Organic Matter via Sequential Solvent Extractions and 21 T FT-ICR Mass Spectrometry with Electrospray and Atmospheric Pressure Photoionization*	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.	*Signatures of Arctic Change: Molecular-Level Composition and Bioavailability of Shifting Dissolved Organic Matter Sources*	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.	*Organic Matter Composition Versus Microbial Source: Controls on Carbon Loss From Fen Wetland and Permafrost Soils*	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.	*Regulatory Challenges for Look-Alike and Sound-Alike Non-Biological Complex Drugs: Molecular Fingerprint Discrimination of Ichthammol Formulations*	Mol Pharm				10.1021/acs.molpharmaceut.5c00679	Yes
Zandonadi, D.B.; Monda, H.; Gralian, J.; James, A.; Lamar, R.T.; Santos, M.P.	*Humic Acids as Drivers of Plant Growth: Regulating Root Development and Photobiology Through Redox Modulation*	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.; Riazi, M.; Lucas, E.F.; Taborda, E.; Franco, C.A.; Cortes, F.B.	*Enzyme-based Bionanofluids for Chemical Enhanced Oil Recovery Processes*	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.	*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*	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.	*Examining the Compositional Selectivity of Hydrocarbon Oxidation Products Using Liquid-Liquid Extraction and Solid-Phase Extraction Techniques*	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.	*Probing the ^{11}B Quadrupolar and Chemical Shielding Tensors in a Pair of Organoboron Enantiomers*	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.	*Single-Crystal NMR for ^{17}O in Alanine Enantiomers*	ACS Phys. Chem. AU				10.1021/acsphyschemau.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.	*Polymorphic α-Glucans as Structural Scaffolds in Cryptococcus Cell Walls for Chitin, Capsule, and Melanin: Insights From ^{13}C and ^{1}H Solid-State NMR*	Angew. Chem. Intern. Edition			e202510409	10.1002/anie.202510409	Yes
Badge, A.; Mosley-Kellum, K.; Wi, S.; Modi, N.; Dev, S.; Singh, M.	*Development and adhesion evaluation of transdermal rotigotine patches utilizing 3D-printed skin-mimicking substrate, solid-state NMR, and ATR-FTIR techniques*	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.	*Low-Temperature Dynamics at Nano- and Macroscales: Organic Crystal That Exhibits Low-Temperature Molecular Motion and the Thermosalient Effect*	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.	*Dynamics of Transition Metal Ion Transport in High-Gradient Magnetic Fields*	J. Phys. Chem. A	129	15	3401-3410	10.1021/acs.jpca.4c08312	Yes
Bhagu, J.; Anderson, L.C.; Grant, S.C.; Mohammadigoushki, H.	*Nuclear magnetic resonance study of monoclonal antibodies near an oil-water interface*	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.	*$Co_3Ga_2Ge_5$: Probing site mixing of the Ru_3Sn_7 structure type with elements difficult to distinguish by diffraction*	J. Alloy Compd.	1010		177828	10.1016/j.jallcom.2024.177828	Yes

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Byeon, C.; Kinney, T.; Saricayir, H.; Hansen, K.; Scott, F.; Srinivasa, S.; Welss, M.K.; Mentink-Vigier, F.; Kim, W.; Akbey, U.	*Ultrasensitive Characterization of Native Bacterial Biofilms via Dynamic Nuclear Polarization-Enhanced Solid-State NMR*	Angew. Chem. Intern. Edition				10.1002/anie.202418146	Yes
Chatterjee, S.; Scott, F.; Sigurdsson, S.; Venkatesh, A.; Mentink-Vigier, F.	*Indirect Detection of the Protons in and around Biradicals and their Mechanistic Role in MAS-DNP*	J. Phys. Chem. Lett.			635--641	10.1021/acs.jpclett.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.	*Atomic Layer Deposition-Assisted Surface-Selective Isotopic Labeling for the ^{17}O Solid-State NMR Studies of Metal Oxide Surfaces*	J. Phys. Chem. Lett.	16	27	6907-6913	10.1021/acs.jpclett.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.; Purea, 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.	*Transforming solid-state nuclear magnetic resonance towards a chemistry-ready technique*	Solid State Nucl. Mag. Reson.	140		102048	10.1016/j.ssnmr.2025.102048	Yes
Dai, Y.; Hung, I.; Gan, Z.; Wu, G.	*Extending ^{17}O transverse relaxation measurement to satellite transitions as a direct probe of molecular dynamics in solids*	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.	*Fabrication of Piezoelectric Polymer and Metal-Organic Framework Composite Thin Films Using Solution Shearing*	ACS Appl. Mater. Interfaces				10.1021/acsami.5c07907	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*Distinct echinocandin responses of Candida albicans and Candida auris cell walls revealed by solid-state NMR*	Nat. Commun.	16	1	6295	10.1038/s41467-025-61678-1	Yes
Donmez, S.; Wang, S.; Vorajee, U.; Strouse, G.; Mattoussi, H.	*Investigating Energy-Transfer Interactions in Perovskite Quantum Dot-Dye Assemblies*	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.	*Mechanochemical synthesis and ^{35}Cl NMR crystallography of ionic cocrystals of phenothiazine drugs*	Crystal Engineering Communication	27	22	3752-3768	10.1039/D5CE00426H	Yes
Fleischer III, C.; Holmes, S.; Lin, X.; Schurko, R.W.	*De novo crystal structure determination of L-alaninamide HCl by quadrupolar NMR crystallography guided crystal structure prediction (QNMRX-CSP)*	Solid State Nucl. Mag. Reson.	140		102034	10.1016/j.ssnmr.2025.102034	Yes
Fleischer III, C.H.; Holmes, S.; Schurko, R.W.	*Quadrupolar NMR Crystallography Guided Crystal Structure Prediction (QNMRX-CSP) of Zwitterionic Organic HCl Salts*	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.	*Comparative analysis of polysaccharide and cell wall structure in Aspergillus nidulans and Aspergillus fumigatus by solid-state NMR*	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.	*Mg-Ion Conduction in Antiperovskite Solid Electrolytes Revealed by 25Mg Ultrahigh Field NMR and First-Principles Calculations*	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.	*Cargo Analysis and MRI-Based Therapeutic Assessment of Iron Oxide Labelled Extracellular Vesicles of Hypoxia Human Stem Cells in Ischemic Stroke*	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.; Iuliucci, R.J.; Wang, Q.; Schurko, R.W.; Quiñones, R.	*A Novel Solid Form of Erlotinib: Synthesis by Heterogeneous Complexation and Characterization by NMR Crystallography*	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.	*^{99}Ru Solid-State Nuclear Magnetic Resonance Spectroscopy of Organometallic Compounds: Linking Nuclear Magnetic*	J. Am. Chem. Soc. (JACS)			press	10.1021/jacs.5c04759	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
	Resonance Parameters with Metal-Ligand Bonding						
Hung, I.; Gan, Z.	*High-Resolution $^{1}H/^{17}O$ NMR Correlation under Fast Magic-Angle Spinning: Revisiting Cross-Polarization for Quadrupolar Nuclei*	J. Phys. Chem. Lett.	16	27	7036-7041	10.1021/acs.jpclett.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.	*Structural convergence and membrane interactions of $A\beta_{1-42}$ along the primary nucleation process studied by solid state NMR*	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.	*Magnetophoresis of weakly magnetic nanoparticle suspension around a wire*	J. Chem. Phys.	163	2	24903	10.1063/5.0269000	No
Kimball, J.; Schurko, R.W.	*Acquisition of 1H-Detected 103Rh and 99Ru Solid-State Nuclear Magnetic Resonance Spectra in Stationary Samples*	J. Phys. Chem. Lett.	16	19	4596-4601	10.1021/acs.jpclett.5c00378	Yes
Lake, B.; Siegrist, T.M.; Albrecht-Schmitt, T.E.; Mohammadigoushki, H.; Humayun, M.; Ali, J.N.	*Recent Advances in Rare Earth Element Recovery: Liquid Liquid Extraction and Magnetophoretic Separation*	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.	*Dendrite formation in solid-state batteries arising from lithium plating and electrolyte reduction*	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.	*Isotropic Hyperfine Interactions Drive Cross-Effect Dynamic Nuclear Polarization*	J. Phys. Chem. Lett.	16	46	11955--11963	10.1021/acs.jpclett.5c02845	Yes
Mohammadigoushki, H.; Humayun, M.; Siegrist, T.M.; Ali, J.N.; Rassolov, P.V.	*Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients.*	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.	*Temperature-induced mobility in Octacalcium Phosphate impacts crystal symmetry: water dynamics studied by NMR crystallography*	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.	*$Li_2TaS_{1-x}O_xCl_5$: Triple-Anion Glassy Superionic Conductors for High-Performance Solid-State Batteries*	ACS Mater. Lett.	7	12	4029-4036	10.1021/acsmaterialslett.5c01054	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*Break it down to speed it up: $Na_2ONaTaCl_6$*	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.	*Impact of non-polar solvents in dynamic nuclear polarization at high magnetic fields*	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.	*Influence of Biochar Organic Carbon Composition and Thermal Stability on Nitrate Retention and Tomato Yield on Soilless Biochar Amended Growth Media*	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.	*$Li_{3.6}In_7S_{11.8}Cl$: an air- and moisture-stable superionic conductor*	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.	*Modulating Lithium-Ion Transport in LiAlBr4 via S-Modified Anion Sublattice*	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.	*Capturing and labeling CO_2 in a jar: mechanochemical ^{17}O-enrichment and ssNMR study of sodium and potassium (bi)carbonate salts*	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.	*Experimental and Computational ^{17}O Solid-State NMR Investigation of Na- and K-(Bi)carbonate Salts*	Solid State Nucl. Mag. Reson.			102020	10.1016/j.ssnmr.2025.102020	Yes
Perras, F.A.; Mentink-Vigier, F.; Pylaeva, S.	*Perspectives on the Dynamic Nuclear Polarization Mechanisms of Monoradicals: Overhauser Effect or Thermal Mixing?*	J. Phys. Chem. Lett.			3420-3432	10.1021/acs.jpclett.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.	*$Li_{1.6}AlCl_{3.4}S_{0.6}$: a low-cost and high-performance solid electrolyte for solid-state batteries*	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.	*Dual orexin receptor antagonists as promising therapeutics for Alzheimer's disease*	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.	*Investigating How Lysophosphatidylcholine and Lysophosphatidylethanolamine Enhance the Membrane*	J. Phys. Chem. B	129		210-227	10.1021/acs.jpcb.4c05845	Yes

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	Permeabilization Efficacy of Host Defense Peptide Piscidin 1						
Roy, A.; Driscoll, T.; Grant, S.C.; Li, Y.	*Human Stem Cell-Derived Extracellular Vesicles: A Pioneering Path from Biogenesis to Cerebral Ischemic Stroke Therapy*	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.	*Anionic Lipid Catalyzes the Generation of Cytotoxic Insulin Oligomers*	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.	*Impact of Shared Facilities in Advancing Solid-State NMR Research: 2025 Edition*	Solid State Nucl. Mag. Reson.			102053	10.1016/j.ssnmr.2025.102053	Yes
Scigliani, A.; Mohammadigoushki, H.	*Kinetics of shear banding flow formation: role of geometry curvature and surfactant chemistry.*	Journal of Rheology	69	5	759-774	10.48550/arXiv.2507.07218	No
Sen, S.; Hung, I.; Lovi, J.M.; Gan, Z.	*Application of High-Resolution 95Mo Solid State NMR Spectroscopy in Structural Studies of Complex Alkali Molybdate Crystals and Glasses*	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.	*Mycobacterium tuberculosis CrgA Forms a Dimeric Structure with Its Transmembrane Domain Sandwiched between Cytoplasmic and Periplasmic β-Sheets, Enabling Multiple Interactions with Other Divisome Proteins*	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,	*Thermodynamics, local structure, and transport of protons in triple-conducting oxide,*	Solid State Ionics	429		116962	10.1016/j.ssi.2025.116962	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
M.J.; Page, K.; Haile, S.M.; O'Hayre, R.	*$BaCo_{0.4}Fe_{0.4}Zr_{0.1}Y_{0.1}O_{3-\delta}$ (BCFZY4411)*						
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.	*Advancing Sodium-Ion Battery Cathodes: A Low-Cost, Eco-Friendly Mechanofusion Route from TiO_2 Coating to Ti^{4+} Doping*	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.	*Element-Selective Analysis of Carrier Behavior in Plasmonic Metal-Zinc Oxide (M = Al or Ga) Nanocrystals*	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.	*Expanding the Toolset of Biomolecular NMR with Efficient and Cost-Effective ^{17}O-Labeling via Bacterial Expression*	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.	*Accelerating ion transport in polycrystalline conductors: On pores and grain boundaries*	Sci. Adv.	11	20	eadt7795	10.1126/sciadv.adt7795	Yes
Ungor, O.; Termos, S.; Schurko, R.W.; Zadrozny, J.M.	*^{59}Co Thermal Sensitivity in Co(III) Trisdithiocarbamate Complexes*	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.	*Rietveld refinement and NMR crystallographic investigations of multicomponent crystals containing alkali metal chlorides and urea*	J. Appl. Crys	58	2	333-348	10.1107/S1600576725001360	Yes
Vojvodin, C.S.; Sanchez, J.E.; Holmes, S.T.; Lin, X.; Schurko, R.W.	*Mechanochemical Synthesis and NMR Crystallography of Multicomponent Crystals: New Perspectives from Chlorine and Alkali Metal Solid-State NMR Spectroscopy*	Crys Growth Des			press	10.1021/acs.cgd.5c00540	Yes
Vugmeyster, L.; Frazier, B.; Fu, R.; Ostrovsky, D.	*Multi-mode water dynamics in hydration shells of villin headpiece subdomain protein in the solid state using deuterium and oxygen-17 NMR spectroscopy*	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,	*Systematic Evaluation of Polarizing Agents for Dynamic Nuclear Polarization Enhanced NMR*	Angew. Chem. Intern. Edition	64	31		10.1002/anie.202505944	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
F.; Venkatesh, A.; Ouari, O.; Emsley, L.							
Wi, S.; Anvesh, D.; Lim, K.H.; Li, C.; Cross, T.A.	*Efficient $^{13}C^{13}C$ correlations obtained by AL FRESCO mixing schemes under any arbitrary MAS spinning rates*	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.	*Toward Generalized Solution-State ^{1}H DNP NMR via Particle-Mediated Cross-Relaxation*	J. Phys. Chem. Lett.	16	25	6627--6636	10.1021/acs.jpclett.5c01398	Yes
Wu, G.; Dai, Y.; Hung, I.; Gan, Z.; Matlinska, M.A.; Wasylishen, R.E.	*Probing the Location of Hydrogen Atoms in Low-Barrier Hydrogen Bonds in 1, 3-Diketone Molecules by H/D Isotope Shifts in Solid-State ^{17}O Nuclear Magnetic Resonance and ^{1}H-^{17}O Distance Measurements*	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.	*A Local Structure Analysis of Defects in UiO-66: Insights from Solid-State Nuclear Magnetic Resonance and X-ray Absorption Fine Structure*	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.	*Unlocking Water Adsorption Mechanisms in Y-BTC MOF: Insights from XAFS and SSNMR Spectroscopy*	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.	*Proton-Detected Solid-State NMR for Deciphering Structural Polymorphism and Dynamic Heterogeneity of Cellular Carbohydrates in Pathogenic Fungi*	J. Am. Chem. Soc. (JACS)	147		17416-17432	10.1021/jacs.5c04054	Yes
Zhang, S.; Saha, J.; Li, Y.; Peng, X.; McGlinchey, RP.; Ramamoorthy, A.; Fu, R.	*A simple algorithm to suppress diagonal peaks in high-resolution homonuclear chemical shift correlation NMR spectra*	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.	*Towards complete suppression of diagonal peaks in solid-state MAS NMR homonuclear chemical shift correlation spectra*	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.	*Local order, disorder, and everything in between: using ^{91}Zr solid-state NMR spectroscopy to probe zirconium-based metal-organic frameworks*	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.	*Pushing Limits of Ultra-wideline Solid-State NMR Spectroscopy: NMR Signatures of ^{209}Bi and ^{127}I in Metal-Organic Frameworks at Ultra-high Magnetic Fields*	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.	*A Novel Power Conversion System for SMES in Pulsed Power Applications*	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.	*Competing Electronic Ground States in the Heavy-Fermion Superconductor $CeRh_2As_2$*	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.	*Large magnetoresistance and quantum oscillations in the late transition-metal compounds T_3In_7 (T=Ni,Pd,Pt)*	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.	*Magnetically Driven Quantum Phase Transition in a Low-Dimensional Pyrazine-Bridged Cu^{2+} Chain Magnet*	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.	*Upper critical magnetic field and multiband superconductivity in artificial high-T_c superlattices of nano quantum wells*	Phys. Rev. Mater.	9		74204	10.1103/k2yd-vpbn	Yes
Chan, M.; Schreiber, K.A.; Ayala-Valenzuela, O.; Bauer, E.; Shekhter, A.; Harrison, N.	*Observation of the Yamaji effect in a cuprate superconductor*	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.	*Quantum Oscillations in the Heat Capacity of Kondo Insulator YbB_{12}*	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.	*Colossal magnetoresistance and anisotropic spin dynamics in the antiferromagnetic semiconductor $Eu_5Sn_2As_6$*	Phys. Rev. B	111	5		10.1103/PhysRevB.111.054406	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
Dery, H.; Robert, C.; Crooker, S.; Marie, X.; Van Tuan, D.	*Energy Shifts and Broadening of Excitonic Resonances in Electrostatically Doped Semiconductors*	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.; Eremets, M.	*Superconducting gap of H3S measured by tunnelling spectroscopy*	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.	*Fermi surface and Berry phase analysis for Dirac nodal line semimetals: Cautionary tale from $SrGa_2$ and $BaGa_2$*	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.	*Many-body interference in kagome crystals*	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.	*Nature of quantum criticality in the Ising ferromagnet TbV_6Sn_6*	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.	*Topological Magneto-optics in the Noncoplanar Antiferromagnet $Co_{1/3}NbS_2$: Imaging and Writing Chiral Magnetic Domains*	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.	*Quantum order by disorder is a key to understanding the magnetic phases of $BaCo_2(AsO_4)_2$*	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.	*High-field superconducting halo in UTe_2*	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.	*Possible quantum spin liquid state of $CeTa_7O_{19}$*	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.	*Possible Spin-Triplet Excitonic Insulator in the Ultraquantum Limit of $HfTe_5$*	Phys. Rev. Lett.	135		46601	10.1103/bj2n-4k2w	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*Magnetic Properties Tuning via Broad Range Site Deficiency in Square Net Material UCu_xBi_2*	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.	*Entanglement Randomness and Gapped Itinerant Carriers in a Frustrated Quantum Magnet*	Phys. Rev. X	15	4		10.1103/tx6t-gbxy	Yes
Malick, S.; Winiarski, M.J.; Blawat, J.; Swiatek, H.; Singleton, J.; Klimczuk, T.	*Quantum oscillations and transport properties of layered single-crystal $SrCu_4As_2$*	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.	*The dHvA effect in Sn-doped PbTe topological crystalline insulator*	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.	*High-magnetic-field phases in $U_{1-x}Th_xTe_2$*	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.	*Design and predict tetragonal van der Waals layered quantum materials of MPd5I2 (M=Ga, In and 3d transition metals)*	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.	*Simulations of the fault current limiting operation of a long-length REBCO CORC® superconducting cable cooled by helium gas*	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.	*Development of a capacitance measurement for pulsed magnetic fields*	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.	*Quantum Anomalies in Condensed Matter*	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.;	*Observation of the axion quasiparticle in 2D $MnBi_2Te_4$*	Nat.	641		62-69	10.1038/s41586-025-08862-x	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*Magnetic properties of (Mo2/3Dy1/3)2AlC arc melted polycrystalline samples*	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.	*Magnetic properties of a staggered S=1 chain with an alternating single-ion anisotropy direction*	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.	*THz cyclotron resonance of a 2D hole gas in a GaN/AlN heterostructure*	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.	*Shubnikov--de Haas oscillations reaching the quantum limit in two-dimensional electron systems at SrTiO_2 (111) interfaces*	Phys. Rev. B	112		35153	10.1103/why6-1fl8	Yes
Wu, H.; Pratt, F.; Huddart, B.; Chatterjee, D.; Goddard, P.; Singleton, J.; Prabhakaran, D.; Blundell, S.	*Spin Dynamics in the Dirac U(1) Spin Liquid $YbZn_2GaO_5$*	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.	*Thermodynamic Evidence of Fermionic Behavior in the Vicinity of One-Ninth Plateau in a Kagome Antiferromagnet*	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.	*Unconventional magnetic oscillations in a kagome Mott insulator*	PNAS	122	5	e2421390122	10.1073/pnas.2421390122	Yes

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Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core 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.	*Fabrication and Test of C3a: A Six-Layer Subscale Canted cos 0 Dipole Magnet Using High-Temperature Superconducting corc Wires*	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.	*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*	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.	*Effects of Grain Size and Interstitial Content on Recrystallization in Nb After Cold Rolling*	IEEE Trans. Appl. Supercond.	35	5	1-5	10.1109/TASC.2025.3538673	No
Cheggour, N.; Awaji, S.; Senatore, C.	*Editorial: The 11th Workshop on Mechanical and Electromagnetic Properties of CompositeSuperconductors-MEM24*	IEEE Trans. Appl. Supercond.	35	6	100302	10.1109/TASC.2025.3599247	Yes
Cheggour, N.; Marks, E.L.	*Protocols and methodologies for acquiring and analyzing critical-current versus longitudinal-strain data in $Bi_2Sr_2CaCu_2O_{8+x}$wires*	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.	*Densification Effects on Critical-Current Dependence on Longitudinal Strain in $Bi_2Sr_2CaCu_2O_{8+x}$ Wires*	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.	*Effects of Rolling Reduction on Critical Current Density and Microstructure of Bi-2212 Wires*	IEEE Trans. Appl. Supercond.	35	5	6400105	10.1109/TASC.2024.3519083	Yes
Kametani, F.; Limon, S.A.; Mao, K.; Hellstrom, E.; Tarantini, C.	*Remnant Magnetization Behavior of a K-Doped Ba122 Polycrystalline Bulk*	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.	*Numerical Study of Screening Current on HTS Stellarator Coil and Experimental Validation Through Screening Current Induced Voltage*	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.	*Lengthwise Characterizations of Crystallographic Tilt in Contemporary REBCO Coated Conductors*	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.	*Exceptionally High HC_2 Values in Alloyed Bulk Samples of Nb_3Sn*	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.	*Double-sided van der Waals epitaxy of topological insulators across an atomically thin membrane*	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.	*Impact of contact resistance on current distribution and performance of model CORC cables with physical defects*	J Supercond Sci Technol	38	8		10.1088/1361-6668/adf3e9	Yes
Tarantini, C.; Limon, S.A.; Mao, K.; Hellstrom, E.; Kametani, F.	*Evidence of multiscale supercurrents in K-doped $BaFe_2As_2$*	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.	*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*	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.	*A Comprehensive Characterization of Commercial Pulsed Laser Deposited Coated Conductors*	IEEE Trans. Appl. Supercond.	35	5	1-6	10.1109/TASC.2025.3538638	Yes

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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.	*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*	IEEE Trans. Appl. Supercond.	35	5	1-7	10.1109/TASC.2025.3549409	Yes

Authors	Title	Journal Name	Vol	Issue	Pages	DOI	Cites NSF Core Grant
Cheggour, N.; Marks, E.L.	*Protocols and methodologies for acquiring and analyzing critical-current versus longitudinal-strain data in $Bi_2Sr_2CaCu_2O_{8+x}$ wires*	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.	*Densification Effects on Critical-Current Dependence on Longitudinal Strain in $Bi_2Sr_2CaCu_2O_{8+x}$ Wires*	IEEE Trans. Appl. Supercond.	35	6	8400911	10.1109/TASC.2025.3559406	Yes
Gibson, J.; Elliman, R.; Susi, T.; Mangler, C.	*Self-ion implantation and structural relaxation in amorphous silicon*	J. Appl. Phys.	138	4		10.1063/5.0282943	Yes
Gibson, J.; Treacy, M.	*Quantitative corrections for fluctuation electron microscopy*	Journal of Microscopy	300	3	356--365	10.1111/jmi.70027	Yes
han, K.; Toplosky, V.J.; Niu, R.; Xin, Y.	*Comparison of Cu Strengthened by Ionic Bonded Particles and Cu Strengthened by Metallic Bonded Particles*	Mater.	18	11	2648	10.3390/ma18112648	Yes
Han, K.; Toplosky, V.J.; Xin, Y.; Niu, R.; Lu, J.	*Mechanical Properties of a Ni-Co-Cr-Mo Alloy*	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.	*Long-distance remote epitaxy*	Nat.				10.1038/s41586-025-09484-z	Yes
Kim, K.; Arroyo, E.; Cantrell, K.R.; Rogers, J.	*Design Construction and Operation of a Conduction Cooling-Type HTS Module Testing System*	IEEE Trans. Appl. Supercond.	36	3	9500104	10.1109/TASC.2025.3622553	Yes
Kim, K.; Suetomi, Y.; Bosque, B.; Jarvis, B.; Marshall, W.S.	*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*	IEEE Trans. Appl. Supercond.	35	5	1-4	10.1109/TASC.2025.3538616	Yes
Lu, J.; Levitan, J.W.; Hutley, A.; Bai, H.	*REBCO Delamination Characterization by 90 Degree Peel Test*	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.	*REBCO Delamination by Electromagnetic Stress due to Screening Current in Magnetic Field*	IEEE Trans. Appl. Supercond.	36	3	8400104	10.1109/TASC.2025.3620785	Yes
Lu, J.; Xin, Y.; Zhang, Y.	*Thermal conductivity of REBCO tapes with different stabilizers at 4.2 - 200 K*	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 NSF Core Grant
Niu, R.; Han, K.	*Notch tolerance of high-strength Cu-based nanocomposites*	Mater. Characteri-zation	227		115293	10.1016/j.matchar.2025.115293	Yes
Niu, R.; Han, K.; Toplosky, V.J.; Toth, J.	*Fatigue Properties of Cold-Rolled Cu-Zr Alloy Sheets*	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.; Strempfer, J.; Choi, Y.S.; Zhang, Y.; Meyers, D.; Liu, J.	*Enhancing anomalous Hall effect with suppressed ferromagnetism in theSrTiO3-confined bilayer heterostructure of ultrathin $SrRuO_3$ and $SrIrO_3$*	Applied Materials Today	47		102960	10.1016/j.apmt.2025.102960	Yes
Suetomi, Y.; Kim, K.; Adkins, T.; Bai, H.; Dixon, I.R.	*Combined Axial Pressure and Screening Current Induced Stress Test on REBCO Pancake Coils*	IEEE Trans. Appl. Supercond.	35	5		10.1109/TASC.2024.3520943	Yes
Xin, Y.; Lu, J.; Han, K.	*Study of Delamination in REBCO Coated Conductor by Transmission Electron Microscopy*	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.	*Probing Ice-Rule-Breaking Transition in $Dy_2Ti_2O_7$ Thin Film by Proximitized Transport and Magnetic Torque*	Phys. Rev. Lett.	135	21	216702	10.1103/w6cq-2qwl	Yes

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Alaviani, S.; Katuri, J.; Ali, J.N.; Anubi, O.	*Vision-based learning of magnetic microrobotic swarm using fast dimensionality reduction and feature extraction*	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.;	*The future of the correlated electron problem*	SciPost Physics Community Reports	8		8	10.21468/SciPostPhysCommRep.8

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Amanyazova, B.; Yergeshbayeva, S.; Choi, E.; Erkasov, R.; Shatruk, M.	*Spin-crossover semiconductors based on homoleptic tris-diimine Fe(ii) complexes with fractionally charged TCNQ˙δ− anions*	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.	*Low energy backgrounds and excess noise in a two-channel low-threshold calorimeter*	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.	*Dynamics of Transition Metal Ion Transport in High-Gradient Magnetic Fields*	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.	*Thermodynamics of the dipole-octupole pyrochlore magnet $Ce_2Hf_2O_7$ in applied magnetic fields*	Phys. Rev. B	111		155137	10.1103/PhysRevB.111.155137
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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.	*Statistics on Ab-Plane Offsets in REBCO Coated Conductors and Implications for Non-Twisted Magnets*	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.	*Broken symmetries associated with a Kagome chiral charge order*	Nat. Commun.	16		3782	10.1038/s41467-025-58262-y
Das, J.; Kumar, A.; Tripathi, V.	*Microscopic theory of field-tuned topological transitions in the Kitaev honeycomb model*	Phys. Rev. B	111	4		10.1103/PhysRevB.111.L041111
Dietrich, S.; Akbari-Sharbaf, A.; Edgar, J.; Roubos, A.; Freeman, M.L.; Engel, L.W.	*Hall signal dominated microwave transmission through graphene-loaded waveguides*	Phys. Rev. B	111	19		10.1103/PhysRevB.111.195410
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Garg, T.; Jaroszynski, J.J.; Choi, E.S.; Sumption, M.D.; Majoros, M.; Collings, E.W.	*Magnetization in ReBCO-based CORC Cables in Magnetic Fields up to 30 T for Accelerator Applications*	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.	*High-field flux jump instabilities in cables for accelerator or compact fusion magnets and their effective suppression*	Sci. Rep.	15	1		10.1038/s41598-025-24605-4

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He, M.; Wang, X.; Cai, J.; Herzog-Arbeitman, J.; Peng, R.; Taniguchi, T.; Watanabe, K.; Stern, A.; Bernevig, B.; Yankowitz, M.; Vafek, O.; Xu, X.	*Strongly interacting Hofstadter states in magic-angle twisted bilayer graphene*	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.; Vafek, O.	*Kekule spiral order from strained topological heavy fermions*	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.	*Amplified Circular Photogalvanic Effect in a Strongly Electron−Phonon-Coupled Topological Material*	ACS Nano	19			10.1021/acsnano.5c07434
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Hua, Z.; Niu, C.; Joy, S.; Tan, P.; Shi, G.; Liu, H.; Guo, J.; Graf, D.E.; Ye, P.; Lewandowski, C.K.; Xiong, P.	*Interplay of orbital and spin magnetization in trigonal tellurium*	arXiv	2507		14292	10.48550/arXiv.2507.14292
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Kang, J.; Vafek, O.	*Analytical solution for the relaxed atomic configuration of twisted bilayer graphene including heterostrain*	Phys. Rev. B	112	12		10.1103/s3s7-513d
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Khan, M.; Rassolov, P.V.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.	*Magnetophoresis of weakly magnetic nanoparticle suspension around a wire*	J. Chem. Phys.	163	2	24903	10.1063/5.0269000
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Kumar, A.; Lewandowski, C.K.; Changlani, H.J.	*Origin and stability of generalized Wigner crystallinity in triangular moiré systems*	npj Quantum Mater. (Nat.)	10	1	95	10.1038/s41535-025-00792-1
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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.	*Disorder driven crossover between anomalous Hall regimes in Fe_3GaTe_2*	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.	*Anomalous 140 K electronic transition in Bi_2Se_3: Possible charge order in a defect-engineered system*	Solid State Commun.	426		116176	10.1016/j.ssc.2025.116176

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Li, Z.; Moir, C.; McKee, N.; Lee-Wong, E.; Baumbach, R.; Maple, M.; Liu, Y.	*Observation of odd-parity superconductivity in UTe_2*	PNAS	122	13		10.1073/pnas.2419734122
Lidsky, D.; Hutchins-Delgado, T.; Sharma, P.; Dobrosavljevic, V.; Lu, T.	*Off-state magnetoresistance in long-channel germanium Schottky-barrier MOSFETs*	Appl. Phys. Lett.	126		92104	10.1063/5.0245683
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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.	*Signatures of Floquet electronic steady states in graphene under continuous-wave mid-infrared irradiation*	Nat. Commun.	16	1		10.1038/s41467-025-57335-2
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Mohammadigoushki, H.; Humayun, M.; Siegrist, T.M.; Ali, J.N.; Rassolov, P.V.	*Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients.*	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.	*Structurally Frustrated Remeika Phases: Tolerance Factor and Non-Kramers' Ion Effects*	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.	*Magneto-optical Evidence of the Tilting Effect in Coupled Weyl Bands*	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.	*Diverse magnetic phase diagram and anomalous Hall effect in antiferromagnetic $LuMn_6Sn_6$*	Phys. Rev. B	112		115147	10.1103/hwz4-z9mm

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Padayasi, J.S.; Ma, K.W.; Yang, K.	*Fermion liquids as quantum Hall liquids in phase space: A unified approach for anomalies and responses*	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.	*Electrical transport and torque magnetometry studies of the kagome compound LuV_6Sn_6 under high magnetic fields*	Phys. Rev. B	111		155136	10.1103/PhysRevB.111.155136
Phong, V.; Guinea, F.; Lewandowski, C.K.	*Optical absorption and emission from Wannier-Stark spectra of moirie superlattices*	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.	*Dipolar-octupolar correlations and hierarchy of exchange interactions in Ce_2[illegible]Hf_2O_7*	Phys. Rev. B: Rapid Comm./Ltrs.	112		L180404	10.1103/j451-ztvr
Qi, Y.; Guo, W.	*Advances in understanding vacuum break dynamics in liquid helium-cooled tubes for accelerator beamline applications*	Cryog.	149		104082	10.1016/j.cryogenics.2025.104082
Qi, Y.; Guo, W.	*Particle levitation velocimetry for boundary layer measurements in high Reynolds number liquid helium turbulence*	Phys. Fluids	37	8	85248	10.1063/5.0287550
Rassolov, P.V.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.	*Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients*	Phys. Rev. Fluids	10		73701	10.1103/vm4j-73p6
Sarangi, B.; Sandra, J.; Aramadaka, C.; Majkic, C.; Jaroszynski, J.; Selvamanickam, V.	*High critical current double-sided, thick-film $REBa_2Cu_3O_{7-s}$ tapes byAdvanced MOCVD*	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.	*Rheological Characterization and 3D Fabrication of Artificial Bacterial Biofilms*	ACS Biomat. 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.	*Spin-selective magneto-conductivity in WSe_2*	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.	*Twist-engineered phonon polaritons in $\alpha - V_2O_5$*	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.	*Experimental and theoretical evidence of universality in superfluid vortex reconnections*	PNAS	122	21	e2426064122	10.1073/pnas.2426064122
Tang, Y.; Inui, S.; Xing, Y.; Qi, Y.; Guo, W.	*Turbulent diffusion and dispersion in a superfluid*	Phys. Rev. Res.	7		43215	10.1103/2hdj-qnw3

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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.	*Liquid hydrogen storage, thermal management, and transfer-control system for integrated zero emission aviation (IZEA)*	Appl Energy	393		126054	10.1016/j.apenergy.2025.126054
Wang, C.; Gupta, A.; Singh, S.; Pfeiffer, L.; Baldwin, K.; Winkler, R.; Shayegan, M.	*Competing many-body phases at small fillings in ultrahigh-quality GaAs two-dimensional hole systems: Role of Landau level mixing*	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.	*Developing Fractional Quantum Hall States at Even-Denominator Fillings 1/6 and 1/8*	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.	*^{51}V NMR evidence for interlayer-modulated charge order and a first-order low-temperature transition in CsV_3Sb_5*	Phys. Rev. B	112		235123	10.1103/91c9-z267
Wu, Y.Y.; Balicas, L.; Cheng, R.; Zhang, X.	*Spin excitations and dynamics in 2D magnets: an overview of magnons and magnetic skyrmions*	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.	*Metamagnetic ripples in the UTe_2 high magnetic field phase diagram*	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.	*A Quantum Critical Line Bounds the High Field Metamagnetic Transition Surface in UTe_2*	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.	*Probing Ice-Rule-Breaking Transition in $Dy_2Ti_2O_7$ Thin Film by Proximitized Transport and Magnetic Torque*	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.	*Hidden magnetic phases in i-MAX compounds*	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.	*Mechanical Resonant Sensing of Spin Texture Dynamics in a 2D Antiferromagnet*	Adv. Mater.			2420168	10.1002/adma.202420168

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Yu, O.; Boivin, F.; Silberztein, A.; Gervais, G.	*Observation of Temperature-Independent Anomalous Hall Effect in Thin Bismuth from Near Absolute Zero to 300 K Temperature*	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.	*Kramers nodal lines in intercalated TaS_2 superconductors*	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.	*Twist-programmable superconductivity in spin-orbit-coupled bilayer graphene*	Nat.	641	8063		10.1038/s41586-025-08959-3

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Authors	Title	Journal Name	Vol	Issue	Pages	DOI
Chen, X.; Ostrander, C.; Holdaway, B.; Kendall, B.; Anbar, A.; Nielsen, S.H.; Owens, J.D.	*Transient marine bottom water oxygenation on continental shelves by 2.65 billion years ago*	Nat. Geosci.	18	5	423--429	10.1038/s41561-025-01681-9
Gfatter, C.H.; Owens, J.D.; Martinez-Colon, M.	*Trace metal adsorption in three serial flow-through systems: implications for foraminiferal culturing experiments*	Journal of Micropalaeontology	44	2	381--399	10.5194/jm-44-381-2025
Hacisalihoglu, G.; White, G.A.; Salters, V.J.	*Characterization of Seed Quality Traits Within 61 Chickpea (Cicer arietinum) Genotypes: Ionomes and Daily Values*	Seeds	4	1		10.3390/seeds4010015
Hardy, F.; Wang, X.; Bowman, C.N.; Wang, Y.; Badgley, C.	*Dietary fidelity of Miocene ungulates in the context of environmental change in the Mojave Region, western North America*	Palaeogeogr. Palaeoclimatol. Palaeoecol.	673		113013	10.1016/j.palaeo.2025.113013
Ivanova, M.; Teplyakova, S.; Lorenz, C.; Yang, S.; Humayun, M.	*Origin of the metal in chondritic and achondritic lithologies of the Sierra Gorda 013 Ba-like chondrite*	Met Planet Sci	60	8	1762--1784	10.1111/maps.70005
Kurek, M.; Pokrovsky, O.; Krickov, I.; Lima, A.; Korets, M.; Spencer, R.G.	*Assessing the Molecular-Level Controls of Dissolved Organic Matter Cycling in West Siberian Lowland Rivers*	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.	*Savanna Ecosystems and Mammalian Adaptations in Mid-Miocene Northern China*	Sci. Rep.	15		25586	10.1038/s41598-025-10718-3

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Li, S.; Nielsen, S.H.; Owens, J.D.	*Global cycling of vanadium isotopes from multiple ocean water masses and a restricted euxinic basin*	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.	*A multi-basin comparison of paleoredox conditions during the mid-Silurian Mulde/lundgreni event*	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.	*Evidence for pre-Noachian granitic rocks on Mars from quartz in meteorite NWA 7533*	Nat. Geosci.	18		207-212	10.1038/s41561-025-01653-z
Newby, S.; Li, S.; Severmann, S.; McManus, J.; Scholz, F.; Owens, J.D.	*Refining the signature of thallium isotopes in low oxygen marine environments*	Geochim. Cosmochim. Acta	407		338--356	10.1016/j.gca.2025.08.020
Stracke, A.; Salters, V.J.	*The Role of Peridotite for Oceanic Volcanism*	Geochem. Geophys. Geosyst.	26	8	e2025GC012463	10.1029/2025GC012463
Woelki, D.; Salters, V.J.; Stracke, A.; Genske, F.; White, G.A.; Brunelli, D.	*Abundant Ancient Melt-Depleted Peridotite Beneath the Marion Rise, Southwest Indian Ocean, Effects on Basalt Composition and Dynamic Topography*	Geochem. Geophys. Geosyst.	26	9	e2025GC012418	10.1029/2025GC012418

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Authors	Title	Journal Name	Vol	Issue	Pages	DOI
Benhal, P.G.; Garba, M.J.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.	*Dynamics of Transition Metal Ion Transport in High-Gradient Magnetic Fields*	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.	*Magnetophoresis of weakly magnetic nanoparticle suspension around a wire*	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.	*Recent Advances in Rare Earth Element Recovery: Liquid-Liquid Extraction and Magnetophoretic Separation*	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.	*Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients.*	Phys. Rev. Fluids	10		73701	10.48550/arXiv.2506.04273
Rassolov, P.V.; Ali, J.N.; Siegrist, T.M.; Humayun, M.; Mohammadigoushki, H.	*Magnetophoresis of paramagnetic nanoparticles in suspensions under magnetic field gradients*	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.; Lesha, E.; Mut, M.; Bunyak, F.; Kalani, Y.; Ergul, A.; Seidler, R.D.; Albayram, O.	*Meningeal lymphatic architecture and drainage dynamics surrounding the human middle meningeal artery*	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.	*Fixel-Based Analysis of Diffusion Imaging as a Quantitative Marker of Disease State in Spinocerebellar Ataxia*	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.	*Informing etiological heterogeneity of mild cognitive impairment and risk for progression to dementia with plasma p-tau217*	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.	*Pan-PPAR agonist lanifibranor improves insulin resistance and hepatic steatosis in patients with T2D and MASLD*	J. Hepatol	82	6	979-991	10.1016/j.jhep.2024.12.045
Barrick, T.R.; Ingo, C.; Hall, M.G.; Howe, F.A.	*Quasi-Diffusion Imaging: Application to Ultra-High b-Value and Time-Dependent Diffusion Images of Brain Tissue*	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.	*Neural connectivity underlying core language functions*	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.	*Your brain doesn't look a day past 70! Cross-sectional associations with brain-predicted age in the cognitively-intact oldest-old*	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.;	*"Surviving and Thriving": evidence for cortical GABA stabilization in cognitively-intact oldest-old adults*	Transl. Psychiatry	15	1		10.1038/s41398-025-03302-w

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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.	*The Two Sides of Placebo Analgesia: Differential Functional Connectivity Reveals Mechanisms of Placebo Analgesic Response*	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.	*Subcortical brain volume variations in autistic individuals across the lifespan*	Mol Autism	16	1		10.1186/s13229-025-00673-1
Cox, D.; Byrne, B.; Hammers, D.W.; Landry, J.; Sweeney, H.L.	*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*	Bmc Cardiovascular Disorders	25	1		10.1186/s12872-025-04727-3
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Cruz-Almeida, Y.; Valdes-Hernandez, P.A.; Liang, Y.; Ding, M.; Neubert, J.K.	*Brain aging among individuals with trigeminal neuralgia*	Neurobiol Pain	18		100201	10.1016/j.ynpai.2025.100201
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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.	*Quantitative Magnetic Resonance Imaging of the Forearm in Myotonic Dystrophy Type 1*	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.;	*Neonatal systemic gene therapy restores cardiorespiratory function in a rat model of Pompe disease*	Mol. Therapy	33	9	4276-4289	10.1016/j.ymthe.2025.06.022

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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.	*Metabolite T relaxation times decrease across the adult lifespan in a large multi-site cohort*	Magnet. Reson. in Med.	93	3	916-929	10.1002/mrm.30340
Iriah, S.C.; Rodriguez, N.; Febo, M.; Morrissette, M.; Strandwitz, P.; Kulkarni, P.; Ferris, C.F.	*The microbiome's influence on the neurobiology of opioid addiction and brain connectivity*	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.	*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*	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.	*Functional connectivity in distributed cortical networks associated with semantic processing in healthy older adults*	Frontiers in Aging Neurosci.	17			10.3389/fnagi.2025.1479861
Liu, C.; Pliner, E.M.; Salminen, J.; Downey, R.J.; Hwang, J.; Roy, A.; Swearinger, R.; Richer, N.; Hass, C.J.; Clark, D.J.; Manini, T.M.; Cruz-Almeida, Y.; Seidler, R.D.; Ferris, D.P.	*Age differences in electrocortical dynamics during uneven terrain walking*	Imaging Neurosci	3		IMAG.a.1039	10.1162/IMAG.a.1039
Ma, Y.; Brown, J.A.; Chen, C.; Ding, M.; Wu, W.; Li, W.	*Alpha-Frequency Stimulation Enhances Synchronization of Alpha Oscillations with Default Mode Network Connectivity*	eNeuro	12	3		10.1523/ENEURO.0449-24.2025
Meyyappan, S.; Rajan, A.; Yang, Q.; Mangun, G.R.; Ding, M.	*Decoding Visual Spatial Attention Control*	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.	*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*	Pain Rep	10	1		10.1097/PR9.0000000000001225

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Moore, A.; Lewis, B.; Farrior, H.; Hinckley, J.; Jo Nixon, S.; Bhatia, D.	*Impact of Pre-Adolescent Substance Familiarity on Subsequent Use: Longitudinal Analysis of Risk by Latent Classes in the Adolescent Brain Cognitive Development Sample*	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.	*Age dependency of neurometabolite T1 relaxation times*	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.	*Network segregation is associated with processing speed in the cognitively healthy oldest-old*	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.	*Unconventional Parahydrogen-Induced Hyperpolarization Effects in Chemistry and Catalysis: From Photoreactions to Enzymes*	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.	*Resting state brain network segregation is associated with walking speed and working memory in older adults*	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.	*Correlates of gait speed changes during uneven terrain walking in older adults: differential roles of cognitive and sensorimotor function*	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.	*Transcallosal white matter and cortical gray matter variations in autistic adults aged 30-73 years*	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.	*A Water Relaxation Atlas for Age- and Region-Specific Metabolite Concentration Correction at 3 T*	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.; Kyoon 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.	*Magnetic resonance spectroscopy and the menstrual cycle: A multi-centre assessment of menstrual cycle effects on GABA & GSH*	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.	*Automated Imaging Differentiation for Parkinsonism*	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.	*Widespread and prolonged pain may reduce brain clearance capacity only via sleep impairment: Evidence from participants with knee pain*	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.	*Quantitative Muscle Magnetic Resonance Outcomes in Patients With Duchenne Muscular Dystrophy: An Exploratory Analysis From the EMBARK Randomized Clinical Trial*	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.	*Prospective Harmonization, Common Data Elements, and Sharing Strategies for Multicenter Pre-Clinical Traumatic Brain Injury Research in the Translational Outcomes Project in Neurotrauma Consortium*	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.	*High-quality FLORET UTE imaging for clinical translation*	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.; Betthauser, 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.	*Amyloid PET predicts longitudinal functional and cognitive trajectories in a heterogeneous cohort*	Alzheimer's & Dementia	21	3	e70075	10.1002/alz.70075
Zhang, Y.; Mitelut, C.; Arpin, D.J.; Vaillancourt, D.; Murphy, T.; Saxena, S.	*Behavioral Classification of Sequential Neural Activity Using Time Varying Recurrent Neural Networks*	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.	*Newly trained navigation and verbal memory skills in humans elicit changes in task-related networks but not brain structure*	eLife	14		RP106873	10.7554/eLife.106873

PUBLICATIONS GENERATED BY UF PHYSICS (5)

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.	*Synthesis of cobalt grown from Co-S eutectic in high magnetic fields*	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.	*Thermocouples in Resistive and Induction Furnaces Operated in Strong Magnetic Fields (2025)*	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
	Disorder-induced liquid-solid phase coexistence in 2D electron systems	https://doi.org/10.48550/arXiv.2502.11235	CMT/E
	Interplay of orbital and spin magnetization in trigonal tellurium	https://doi.org/10.48550/arXiv.2507.14292	CMT/E
	Critical Current, Lengthwise Fluctuations, and Flux Jumps in REBCO CC: A Torque Magnetometry Study up to 45 T	https://arxiv.org/abs/2502.02706	DC Field Facility, CMT/E, Applied Superconductivity Center
Joy, S.; Levitov, L.; Skinner, B.	*Chiral Wigner crystal phases induced by Berry curvature*	https://doi.org/10.48550/arXiv.2507.22121	CMT/E
	Single-gap two-band superconductivity well above the Pauli limit in non-centrosymmetric TaIr2B2	https://arxiv.org/abs/2504.00662	DC Field Facility, CMT/E
Lu, J.; Levitan, J.; Suetomi, Y.; Dixon, I. and Jaroszynski, J.	*REBCO delamination by transverse electromagneticstress due to screening current in magnetic field*	https://arxiv.org/abs/2507.21301	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.	*Metamagnetic ripples in the UTe2 high magnetic field phase diagram*		CMT/E

5.3 PRODUCTS (5)

Authors	Title	Product Information	Facilities
Hu, Y.; Chen, Y.; Oyekunle, I.P.	*Solid oxide electrolytes and methods for making the same*	US Patent application US20250158114A1	NMR Facility
Markiewicz, W.D., Bird, M.D., Dixon, I.R., Marshall, W.S., Painter, T.A., Xu, P.	*Symmetric quench protection of resistive insulation coils*	US12347612B2	MS & T
Ogbolu, B.; Hu, Y.; Gamaralalage, T.D.	*High-performance sodium ion electrolytes and efficient methods for making the same*	US Patent number US12304827B2 awarded 5/20/2025	NMR Facility
Oyekunle, I.P.; Truong, E.; Poudel, T.P.; Hu, Y.	*Sulfide electrolytes and efficient methods for making the same*	US patent application US20250171325A1	NMR Facility
Poudel, T.P.; Hu, Y.; Oyekunle, I.P.	*Solid electrolytes and methods for making the same*	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	*White matter in pain and aging*	MBI-UF	UF	M.S. (local)
Bryant, Hannah	*Evaluation of Sodium Redistribution in Preclinical Stroke Models: A Triple Quantum MRI Approach*	NMR Facility	FSU	M.S. (local)
Kamadana, Krishna Saketh	*Development of Computational Tools for Top-Down Proteomics*	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	*Sodium MRI at 21.1 T to Evaluate Longitudinal Sodium Function in an Animal Model of Aging and Alzheimer's Disease*	NMR Facility	FSU	M.S. (local)
Thomason, Riley	*Tracing Storm Runoff from Hurricane Idalia in Two Springs in North Florida Using Oxygen and Hydrogen Isotopes*	Geochemistry Facility	FSU	M.S. (local)
Ofori, Lovia	*High-Frequency Electron Paramagnetic Resonance in the Kagome-lattice YMn_6Sn_6 crystal*	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	*Magnetic Resonance Imaging and Spectroscopy-based Evaluation of Biotherapeutics*	NMR Facility	FSU	Ph.D. (local)
Boloki, Omar	*Fundamental Understanding of Gas Transport in Novel Hybrid Membranes and Porous Materials via Pulsed Field Gradient NMR*	AMRIS Facility at UF	UF	Ph.D. (local)
Chang, Mario	*Investigating Cancer Metabolism and Therapeutic Efficacy with Stable Isotope Tracer Methods*	AMRIS Facility at UF	UF	Ph.D. (local)
Dowdell, Zachary	*Advancing Crystal Engineering through Mechanochemistry: Synthesis and Solid-State NMR of Pharmaceutical Salts, Cocrystals, and Integrative Solid Forms*	NMR Facility	FSU	Ph.D. (local)
Fleischer III, Carl	*Applications of Quadrupolar Nuclear Magnetic Resonance Crystallography Guided Crystal Structure Prediction*	NMR Facility	FSU	Ph.D. (local)
Guzman, Clemente	*Combining SQUID Devices and Microwave Resonators for Coherent Control and Detection of Quantum Spins*	CMT/E	FSU	Ph.D. (local)
Jindal, Vishwas	*[Title not available]*	MBI-UF	UF	Ph.D. (local)
Johnson, Reece	*Surface-supported heterogeneous niobium catalysts for hydrocarbon transformations*	AMRIS Facility at UF	UF	Ph.D. (local)
Kimball, James	*New Methods for Signal Enhancement in Solid-State NMR*	NMR Facility	FSU	Ph.D. (local)
Marshall, Erin	*[Title not available]*	AMRIS Facility at UF	UF	Ph.D. (local)
McCadden, Caitlin	*Discovery of novel terpene synthases and characterization of oxidative transformations in diterpenoid biosynthesis*	AMRIS Facility at UF	UF	Ph.D. (local)
Moore, Andrew	*Identification of prospective predictors of alcohol initiation during early adolescence*	MBI-UF	UF	Ph.D. (local)
Olsen, Stine	*Unveiling marine natural products from cold-water organisms*	AMRIS Facility at UF	UF	Ph.D. (local)
Pabbathi, Smitha	*Investigating the human GPCR ineractions with G protein and allosteric modulators from a structural perspective*	AMRIS Facility at UF	UF	Ph.D. (local)
Ratajska, Adrianna	*Cognition in Essential Tremor: A neuroimaging and biomarker study*	MBI-UF	UF	Ph.D. (local)
Ray, Arka	*Membrane lipids regulate functioning of G protein-coupled receptors*	AMRIS Facility at UF	UF	Ph.D. (local)
Rushin, Anna	*[Title not available]*	AMRIS Facility at UF	UF	Ph.D. (local)
Schundelmier, Benny	*Exploring Quantum Materials for Improving Thermoelectric Properties and Discovering Novel Characteristics*	DC Field Facility	FSU	Ph.D. (local)

Authors	Titles	MagLab Facilities	University	Degrees
Simon, Zachary	*Amyloid-β and apolipoprotein-ε4 differentially affect functional connectivity and network topology in murine models of Alzheimer's disease risk factors*	AMRIS Facility at UF	UF	Ph.D. (local)
Acharya, Gokul	*Synthesis and Properties study of Layered Magnetic Topological Materials*	DC Field Facility	University of Arkansas	Ph.D. (external)
Agarwal, Shiva	*Probing Shielding Tensor Components of Amino Acids Using Nuclear Magnetic Resonance*	NMR Facility	Western Michigan University	Ph.D. (external)
Azizivahed, Tahereh	*Solid-State NMR Study of Adsorption and Selectivity in Metal-organic Frameworks*	NMR Facility	The University of Western Ontario	Ph.D. (external)
Díaz-Sánchez, Luis	*MALDI-MS analysis of biomarkers in phytoplankton*	ICR Facility	Universidad Industrial de Santander	Ph.D. (external)
Lamahewage, Sujeewa	*Expanding the frontiers of solid-state NMR spectroscopy: Techniques and applications for quadrupolar nuclei and structural analysis*	EMR Facility, NMR Facility	iowa state university	Ph.D. (external)
Xu, Jiabin	*Local Structural Characterization of Metal-Organic Frameworks and Their Multifaceted Applications*	NMR Facility	The University of Western Ontario	Ph.D. (external)
Zadorozhnyi, Roman	*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*	EMR Facility	University of Delaware	Ph.D. (external)
Zhang, Wanli	*Characterization of Metal-organic Frameworks via Wideline and High-resolution Solid-state NMR Spectroscopy*	NMR Facility	The University of Western Ontario	Ph.D. (external)

APPENDIX 1 - PERSONNEL

Data as of January 23, 2026

MAGLAB AT FSU (470)

Last Name	First Name	Position Title	Position Category	Division
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
Arbabian	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
Rokonujjaman	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	Hossein	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
Sterenberg	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

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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
Total	**112**	**102**	**0**	**0**	**1**	**9**

[1] Users using multiple facilities are counted in each facility listed.
[2] "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.
[3] "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.
[4] "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
Total	**156**	**120**	**0**	**0**	**0**	**36**

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
TOTAL	**268**	**222**	**0**	**0**	**1**	**45**

Table 2a. *Users by Organization – NSF-Funded*

	Users[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
Total	**112**	**45**	**53**	**14**	**1**	**110**	**1**

[1] Users using multiple facilities are counted in each facility listed.
[2] 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.
[3] Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.
[4] Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.
[5] 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[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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
Total	**156**	**14**	**131**	**11**	**0**	**152**	**4**

Table 2c. *Users by Organization – Summary*

	Users[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
NSF Funded	112	45	53	14	1	110	1
Non-NHMFL Funded	156	14	131	11	0	152	4
TOTAL	**268**	**59**	**184**	**25**	**1**	**262**	**5**

Table 3a. *Users by Discipline – NSF-Funded*

	Users[1]	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
Total	**112**	**1**	**42**	**21**	**1**	**47**	**0**

[1] Users using multiple facilities are counted in each facility listed.

Table 3b. *Users by Discipline – Non-NHMFL Funded*

	Users[1]	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
Total	**156**	**0**	**21**	**19**	**3**	**113**	**0**

Table 3c. *Users by Discipline – Summary*

	Users[1]	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
TOTAL	**268**	**1**	**63**	**40**	**4**	**160**	**0**

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 %
TOTAL	**54**	**12**	**62**		**4**		**66**	

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
TOTAL	**59**	**0**	**8**	**5**	**5**	**41**	**0**

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 Spectro-meter with Cryo-probe	600MHz NMR Spectro-meter Hyper-sense	600MHz Wide Bore Spectro-meter	750MHz Wide Bore Spectro-meter	800MHz, 63mm bore NMR Spectro-meter	800MHz NMR Spectro-meter 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
Total	**1,074**		**127**	**219**	**185**	**152**	**204**	**99**	**88**

Table 6b. *Operations by Magnet System Group – Non-NHMFL Funded*

	Total Days Used	Percentage of Total Days Used	600MHz NMR Spectro-meter with Cryoprobe	600MHz NMR Spectro-meter – Hyper-sense	600MHz Wide Bore Spectro-meter	750MHz Wide Bore Spectro-meter	800MHz, 63mm bore NMR Spectro-meter	800MHz NMR Spectro-meter 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
TOTAL	**697**		**73**	**110**	**69**	**139**	**41**	**136**	**129**

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
TOTAL	**1,771**	**200**	**329**	**254**	**291**	**241**	**235**	**217**

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
Total	**1,074**	**0**	**123.9**	**125.8**	**588.6**	**235.7**	**0**

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
Total	**697**	**0**	**29.5**	**44.3**	**111**	**512.2**	**0**

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
TOTAL	**1,771**	**0**	**153.4**	**170.1**	**699.6**	**747.9**	**0**

Table 8a. *New PIs[1] 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
Total	**30**	**5**	**7**	**23**	**112**	**22**	**23**	**89**

[1] PIs who received magnet time for the first time.

Table 8b. *New PIs[1] 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
Total	**28**	**4**	**4**	**24**	**156**	**29**	**30**	**126**

Table 8c. *New PIs[1] 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
TOTAL	**58**	**9**	**11**	**47**	**268**	**51**	**53**	**215**

Table 9a. *New[1] 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

[1] PIs who received magnet time for the first time.

Table 9b. *New[1] 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

[1] PIs who received magnet time for the first time.

DC FIELD FACILITY

Table 1. *Users by Participation*

	Users[1]	Users Present	User Present Virtually	Users Operating Remotely[2]	Users Sending Sample[3]	Off-Site User[4]
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
TOTAL	**544**	**308**	**19**	**0**	**28**	**189**

[1] Users using multiple facilities are counted in each facility listed.
[2] "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.
[3] "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.
[4] "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[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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
TOTAL	**544**	**439**	**27**	**78**	**56**	**468**	**20**

[1] Users using multiple facilities are counted in each facility listed.
[2] 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.
[3] Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.
[4] Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.
[5] The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

Table 3. *Users by Discipline*

	Users[1]	Condensed Matter Physics	Chemistry	Engineering	Development of Magnet Technology	Biology, Bio-chemistry, 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
TOTAL	**544**	**397**	**62**	**18**	**26**	**2**	**39**

[1] 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)	Experi-ments w/ Usage	Experiments w/ Usage Percentage	Experi-ments Declined	Experiments Declined Percentage	Experi-ments 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[1]	Total Days Used	Days Subscription Rate	Days Subscription Percentage
2,438	1,272.2	62.3	444.2	132.2	1,910.8	1.3	127.6 %

[1] 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
155	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[1]	% 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
TOTAL	**1,910.8**		**39**	**625.8**	**1,246**

[1] 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
NHMFL-Affiliated	444.2	267.2	32.4	0	133.8	0	10.7
Local	62.3	36	6.3	7	0	0	13
University, U.S.	886.5	699.4	106.3	7	9.2	0	64.6
University, non-U.S.	205.2	167.2	28	0	5	0	5
Government Lab, U.S.	65.2	65.2	0	0	0	0	0
Government Lab, non-U.S.	53.3	44	0	0	0	0	9.3
Industry, U.S.	61.9	26.6	0	0	29.6	0	5.8
Industry, non-U.S.	0	0	0	0	0	0	0
Test/ Calibration/ Maintenance	111.2	111.2	0	0	0	0	0
Method Development	21	21	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	**1,910.8**	**1,437.8**	**173**	**14**	**177.5**	**0**	**108.5**

Table 8. *New PIs[1] 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.	100	13	17	83	170	7	10	160
Senior Personnel, non-U.S.	30	6	9	21	69	18	18	51
Postdocs, U.S.	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
TOTAL	**133**	**21**	**29**	**104**	**544**	**121**	**142**	**402**

[1] PIs who received magnet time for the first time.

Table 9 *New PIs*[1]

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 Wyszynski 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

[1] PIs who received magnet time for the first time.

EMR FACILITY

Table 1. *Users by Participation*

	Users[1]	Users Present	User Present Virtually	Users Operating Remotely[2]	Users Sending Sample[3]	Off-Site User[4]
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
TOTAL	**155**	**42**	**0**	**0**	**37**	**76**

[1] Users using multiple facilities are counted in each facility listed.
[2] "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.
[3] "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.
[4] "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[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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
TOTAL	**155**	**102**	**18**	**35**	**7**	**148**	**0**

[1] Users using multiple facilities are counted in each facility listed.
[2] 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.
[3] Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.
[4] Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.
[5] The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

Table 3. *Users by Discipline*

	Users[1]	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
TOTAL	**155**	**24**	**100**	**5**	**2**	**16**	**8**

[1] 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)	Experi-ments w/ Usage	Experiments w/ Usage Percentage	Experi-ments Declined	Experiments Declined Percentage	Experi-ments 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[1]	Total Days Used	Days Subscription Rate	Days Subscription Percentage
1,423	405.8	57	123.2	180	766	1.9	185.9 %

[1] 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
52	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[1]	% of Total Days Used	12.5T SC, Pulsed EPR	17T SCM	Bruker[2]	HiPER
NHMFL-Affiliated	123.2	16.1 %	25.5	5	61.7	31
Local	57	7.4 %	0	21.5	35.5	0
University, U.S.	212.5	27.7 %	49.5	72.5	35.5	55
University, non-U.S.	173.3	22.6 %	28.5	49.5	6.3	89
Government Lab, U.S.	20	2.6 %	0	0	0	20
Government Lab, non-U.S.	0	0 %	0	0	0	0
Industry, U.S.	0	0 %	0	0	0	0
Industry, non-U.S.	0	0 %	0	0	0	0
Test/Calibration/Maintenance	153	20 %	44.5	13.5	12	83
Method Development	8.5	1.1 %	0	0	0	8.5
Analytical Chemistry	0	0 %	0	0	0	0
Upgrade Cell Design/Hardware	3	0.4 %	3	0	0	0
Setup	15.5	2 %	0	12	0	3.5
Repair	0	0 %	0	0	0	0
TOTAL	**766**		**151**	**174**	**151**	**290**

[1] 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	123.2	57.7	49	2.5	0	0	14
Local	57	0	55	0	0	2	0
University, U.S.	212.5	40.5	134.5	2	0	8	27.5
University, non-U.S.	173.3	70	102.3	0	0	0	1
Government Lab, U.S.	20	0	0	0	0	20	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	153	0	0	100	12	0	41
Method Development	8.5	0	0	8.5	0	0	0
Analytical Chemistry	0	0	0	0	0	0	0
Upgrade Cell Design/Hardware	3	0	0	0	0	0	3
Setup	15.5	0	0	15.5	0	0	0
Repair	0	0	0	0	0	0	0
TOTAL	**766**	**168.2**	**340.8**	**128.5**	**12**	**30**	**86.5**

Table 8. *New PIs[1] 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.	34	2	3	31	58	2	5	53
Senior Personnel, non-U.S.	14	2	4	10	19	1	2	17
Postdocs, U.S.	0	0	0	0	25	9	12	13
Postdocs, non-U.S.	0	0	0	0	2	0	0	2
Students, U.S.	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
TOTAL	**48**	**4**	**7**	**41**	**155**	**24**	**33**	**122**

[1] PIs who received magnet time for the first time.

Table 9. *New PIs*[1]

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 Pöppl	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

[1] PIs who received magnet time for the first time.

HIGH B/T FACILITY

Table 1. *Users by Participation*

	Users[1]	Users Present	User Present Virtually	Users Operating Remotely[2]	Users Sending Sample[3]	Off-Site User[4]
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
TOTAL	**20**	**9**	**0**	**0**	**1**	**10**

[1] Users using multiple facilities are counted in each facility listed.
[2] "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.
[3] "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.
[4] "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[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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
TOTAL	**20**	**9**	**2**	**9**	**4**	**16**	**0**

[1] Users using multiple facilities are counted in each facility listed.
[2] 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.
[3] Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.
[4] Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.
[5] The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

Table 3. *Users by Discipline*

	Users[1]	Condensed Matter Physics	Chemistry	Engineering	Development of Magnet Technology	Biology, Bio-chemistry, 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
TOTAL	**20**	**18**	**0**	**1**	**0**	**0**	**1**

[1] 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)	Experi-ments w/ Usage	Experiments w/ Usage Percentage	Experi-ments Declined	Experiments Declined Percentage	Experi-ments 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[1]	Total Days Used	Days Subscription Rate	Days Subscription Percentage
571	275	32	170	94	571	1	100 %

[1] 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[1]	% 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**

[1] 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[1] 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
TOTAL	**5**	**1**	**2**	**3**	**20**	**1**	**3**	**17**

[1] 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

[1] PIs who received magnet time for the first time.

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Table 1. *Users by Participation*

	Users[1]	Users Present	User Present Virtually	Users Operating Remotely[2]	Users Sending Sample[3]	Off-Site User[4]
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
TOTAL	**243**	**52**	**0**	**2**	**3**	**186**

[1] Users using multiple facilities are counted in each facility listed.
[2] "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.
[3] "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.
[4] "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[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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
TOTAL	**243**	**193**	**26**	**24**	**35**	**201**	**7**

[1] Users using multiple facilities are counted in each facility listed.
[2] 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.
[3] Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.
[4] Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.
[5] The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

Table 3. *Users by Discipline*

	Users[1]	Condensed Matter Physics	Chemistry	Engineering	Development of Magnet Technology	Biology, Bio-chemistry, 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
TOTAL	**243**	**0**	**141**	**28**	**1**	**71**	**2**

[1] 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)	Experi-ments w/ Usage	Experiments w/ Usage Percentage	Experi-ments Declined	Experiments Declined Percentage	Experi-ments Reviewed	Experiment Subscription Rate	Experiments Subscription Percentage
102	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[1]	Total Days Used	Days Subscription Rate	Days Subscription Percentage
979	309.5	71.3	82.3	198.8	662	1.5	147.9 %

[1] 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
69	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[1]	% of Total Days Used	9.4T, 220mm bore FT-ICR MS	14.5T Hybrid LTQ/FT-ICR MS	21T Hybrid LTQ/FT-ICR MS
NHMFL-Affiliated	82.3	12.4 %	12	36.3	34
Local	71.3	10.8 %	22	17	32.3
University, U.S.	105.8	16 %	41	0.3	64.5
University, non-U.S.	68.3	10.3 %	12	14	42.3
Government Lab, U.S.	9.7	1.5 %	0	0	9.7
Government Lab, non-U.S.	33.3	5 %	2.5	0	30.8
Industry, U.S.	89.8	13.6 %	0	64.8	25
Industry, non-U.S.	2.5	0.4 %	2.5	0	0
Test/Calibration/Maintenance	1.5	0.2 %	0	1	0.5
Method Development	0	0 %	0	0	0
Analytical Chemistry	197.3	29.8 %	89	85.5	22.8
Upgrade Cell Design/Hardware	0	0 %	0	0	0
Setup	0	0 %	0	0	0
Repair	0	0 %	0	0	0
TOTAL	**662**		**181**	**219**	**262**

[1] User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.
[2] 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
NHMFL-Affiliated	82.3	0	35	0	0	47.3	0
Local	71.3	0	41.8	0	0	29.6	0
University, U.S.	105.8	0	90.6	11.3	0	4	0
University, non-U.S.	68.3	0	56.5	2.3	0	9.5	0
Government Lab, U.S.	9.7	0	9.7	0	0	0	0
Government Lab, non-U.S.	33.3	0	33.3	0	0	0	0
Industry, U.S.	89.8	0	89.8	0	0	0	0
Industry, non-U.S.	2.5	0	2.5	0	0	0	0
Test/ Calibration/ Maintenance	1.5	0	0.5	0	0	1	0
Method Development	0	0	0	0	0	0	0
Analytical Chemistry	197.3	0	157.5	0	0	39.8	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	**662**	**0**	**517.2**	**13.6**	**0**	**131.3**	**0**

[1] User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

Table 8. *New PIs[1] 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.	36	9	9	27	107	24	24	83
Senior Personnel, non-U.S.	10	5	5	5	29	9	9	20
Postdocs, U.S.	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
TOTAL	**55**	**22**	**22**	**33**	**243**	**87**	**88**	**155**

[1] PIs who received magnet time for the first time.

Table 9. *New [1] 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

[1] PIs who received magnet time for the first time.

NMR FACILITY

Table 1. *Users by Participation*

	Users[1]	Users Present	User Present Virtually	Users Operating Remotely[2]	Users Sending Sample[3]	Off-Site User[4]
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
TOTAL	**225**	**85**	**0**	**24**	**37**	**79**

[1] Users using multiple facilities are counted in each facility listed.
[2] "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.
[3] "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.
[4] "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[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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
TOTAL	**225**	**146**	**35**	**44**	**16**	**209**	**0**

[1] Users using multiple facilities are counted in each facility listed.
[2] 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.
[3] Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.
[4] Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.
[5] The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

Table 3. *Users by Discipline*

	Users[1]	Condensed Matter Physics	Chemistry	Engineering	Development of Magnet Technology	Biology, Bio-chemistry, 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
TOTAL	**225**	**5**	**100**	**35**	**1**	**64**	**20**

[1] 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	Experi-ments Declined	Experiments Declined Percentage	Experi-ments 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[1]	Total Days Used	Days Subscription Rate	Days Subscription Percentage
3,098	1,883	432.5	305	138.5	2,759	1.1	112.3 %

[1] 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
65	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[1]	% 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
TOTAL	**2,759**		**349**	**339**	**347**	**352**	**335**	**365**	**261**	**57**	**354**

[1] 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
TOTAL	**2,759**	**0**	**1,213.5**	**300**	**0**	**1,083.5**	**162**

[1] User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.

Table 8. *New PIs[1] 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
TOTAL	**51**	**8**	**8**	**43**	**225**	**66**	**71**	**154**

[1] PIs who received magnet time for the first time.

Table 9. *New[1] 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

[1] PIs who received magnet time for the first time.

PULSED FIELD FACILITY

Table 1. *Users by Participation*

	Users[1]	Users Present	User Present Virtually	Users Operating Remotely[2]	Users Sending Sample[3]	Off-Site User[4]
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
TOTAL	**182**	**89**	**0**	**0**	**15**	**78**

[1] Users using multiple facilities are counted in each facility listed.
[2] "Users Operating Remotely" refers to users who operate the magnet system from a remote location. Remote operations are not currently available in all facilities.
[3] "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.
[4] "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[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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
TOTAL	**182**	**153**	**5**	**24**	**55**	**126**	**1**

[1] Users using multiple facilities are counted in each facility listed.
[2] 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.
[3] Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.
[4] Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.
[5] The TOTAL of university, industry, and national lab users will equal the TOTAL number of users.

Table 3. *Users by Discipline*

	Users[1]	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
TOTAL	**182**	**144**	**6**	**3**	**8**	**0**	**21**

[1] 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)	Experi-ments w/ Usage	Experiments w/ Usage Percentage	Experi-ments Declined	Experiments Declined Percentage	Experi-ments 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[1]	Total Days Used	Days Subscription Rate	Days Subscription Percentage
816	386	0	110	45	541	1.5	150.8 %

[1] 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[1]	% 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 PIs[1] 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.	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
TOTAL	**46**	**6**	**13**	**33**	**182**	**45**	**67**	**115**

[1] PIs who received magnet time for the first time.

Table 9. *New[1] 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

[1] PIs who received magnet time for the first time.

APPENDIX 3 – USER FACILITY OVERVIEW

Table 1a. *Users by Participation of All Facilities*

	Users[1]	Users Present[2]	Users Present Virtually[3]	Users Operating Remotely[4]	Users Sending Sample[5]	Off-Site Users[6]
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
TOTAL	**1,637**	**807**	**19**	**26**	**122**	**663**

[1] 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.
[2] *User Present:* This person will be physically present in the MagLab user facility during the experiment.
[3] *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.
[4] *User Operating Remotely:* This person will be operating the magnet system from a remote location. Remote operations are not currently available in all facilities.
[5] *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.
[6] *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
TOTAL	**1,637**	**807**	**19**	**26**	**122**	**663**

Table 2a. *Users by Organization of All Facilities*

	Users[1]	External Users	Local Users[2]	NHMFL-Affiliated Users[2,3,4]	Laboratory[3,5]	University[4,5]	Industry[5]
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
TOTAL	**1,637**	**1,101**	**297**	**239**	**174**	**1,430**	**33**

[1] Users using multiple facilities are counted in each facility listed.
[2] 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.
[3] Users with primary affiliations at NHMFL/LANL are reported in NHMFL-Affiliated Users and National Laboratory.

[4] Users with primary affiliations at FSU, UF, or FAMU are reported in NHMFL-Affiliated Users and National University.
[5] 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
TOTAL	**1,637**	**1,101**	**297**	**239**	**174**	**1,430**	**33**

Table 3a. *Users by Discipline of All Facilities*

	Users[1]	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
TOTAL	**1,637**	**589**	**472**	**130**	**42**	**313**	**91**

[1] 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
TOTAL	**1,637**	**589**	**472**	**130**	**42**	**313**	**91**

Table 4a. *Subscription Rate (Experiments) by Facilities*

	Experiments Submitted (Current Year)	Experiments Submitted (Deferred from prev. year)	Experi-ments With Usage	Experiments With Usage Percentage	Experiments Declined	Experiments Declined Percentage	Experiments Reviewed	Experiment Subscrip-tion 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 %

	Experiments Submitted (Current Year)	Experiments Submitted (Deferred from prev. year)	Experi-ments With Usage	Experiments With Usage Percentage	Experiments Declined	Experiments Declined Percentage	Experiments Reviewed	Experiment Subscrip-tion 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 %
TOTAL	**1,330**	**123**	**1,268**		**185**		**1,453**		

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 Subscriptio n Rate	Days Subscriptio n 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 %
TOTAL	**9,472**	**4,951.4**	**1,171.6**	**1,484.7**	**1,373.1**	**8,980.8**		

Table 5. *Research Proposals[1] Profile with Magnet Time by Facilities*

	Total Proposals[1]	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
TOTAL	**453**	**175**	**117**	**19**	**19**	**99**	**24**

[1] 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[8]	Days Used by Local User[9]	Days Used by NHMFL-Affiliated User[10]	Days of Instrumentation Development and Maintenance[11]
AMRIS – NSF-Funded[1]	**1,074**	312.4	169.7	7.3	584.6
AMRIS – Non-NHMFL Funded[1]	**697**	107.5	346.8	242.7	0
DC Field[2]	**1,910.8**	1,272.2	62.3	444.2	132.2
EMR[3]	**766**	405.8	57	123.2	180
High B/T[4]	**571**	275	32	170	94
ICR[5]	**662**	309.5	71.3	82.3	198.8
NMR[6]	**2,759**	1,883	432.5	305	138.5

	Total Days Used	Days Used by External User[8]	Days Used by Local User[9]	Days Used by NHMFL-Affiliated User[10]	Days of Instrumentation Development and Maintenance[11]
Pulsed Field[7]	**541**	386	0	110	45
TOTAL	**8,980.8**	**4,951.4**	**1,171.6**	**1,484.7**	**1,373.1**

[1] 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.
[2] 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.
[3, 4, 5, 6] User Units are defined as magnet days. One magnet day is defined as 24 hours in superconducting magnets.
[7] User Units are defined as magnet days. Magnets are scheduled typically 12 hours a day.
[8] 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.
[9] Days to local => local only
[10] Days to NHMFL-Affiliated (in-house) research => NHMFL-Affiliated only
[11] 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
TOTAL	**8,980.8**	**2,688**	**2,407.9**	**626.3**	**899.1**	**1,992.6**	**367**

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
TOTAL	**8,980.8**	**2,688**	**2,407.9**	**626.3**	**899.1**	**1,992.6**	**367**

Table 8a. *New PIs[1] and New Users of All Facilities*

	All PIs	New PIs at the MagLab	New PIs at the Facility	Returning PIs 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
TOTAL	**396**	**71**	**92**	**304**	**1,637**	**395**	**457**	**1,180**

[1] PIs who received magnet time for the first time.

Table 8b. *New PIs and New Users by Facilities*

	All PIs	New PIs at the MagLab	New PIs at the Facility	Returning PIs 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
TOTAL	**396**	**71**	**92**	**304**	**1,637**	**395**	**457**	**1,180**

Table 9a. *Funding Source of Users' Research-Day Allotted (Counts) by Facilities*

	Total Days Used	NSF[1]	NIH	DOE	DOD[2]	VSP	FFI	UF MBI	EPA	Inter-national	National	Industry[3]	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
TOTAL	**8,980.8**	**3,829**	**1,414.8**	**1,677.2**	**138.4**	**10.5**	**0**	**0**	**0**	**671.4**	**876.2**	**91.2**	**265.1**

[1] Includes NSF, UCGP, and 'No other support'.
[2] Includes NASA, US Army, US Navy, and US Air Force.
[3] Includes US Industry and Non-US Industry.

Table 9b. *Funding Source of Users' Research-Day Allotted (Percentage) by Facilities*

	NSF[1]	NIH	DOE	DOD[2]	VSP	FFI	UF MBI	EPA	Inter-national	National	Industry[3]	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 %

	NSF[1]	NIH	DOE	DOD[2]	VSP	FFI	UF MBI	EPA	Inter-national	National	Industry[3]	Other
High B/T	61.8 %	0 %	22.2 %	0 %	0 %	0 %	0 %	0 %	0 %	15.9 %	0 %	0 %
ICR	68.7 %	5.4 %	7.8 %	4 %	0 %	0 %	0 %	0 %	3.8 %	7.4 %	0.7 %	0.5 %
NMR	18.5 %	27.5 %	21.3 %	0.2 %	0 %	0 %	0 %	0 %	9.5 %	12.6 %	0.9 %	9.5 %
Pulsed Field	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, Rasaq	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, Tuscaloosa	AL	USA
AMRIS	Barrick, Thomas	St George's University of London	--	UK
AMRIS	Batra, Abhinandan	University of Florida	FL	USA
AMRIS	Batra, Ayush	Northwestern University Feinberg School of Medicine	IL	USA
AMRIS	Bepari, Mousumi	University of Alabama, Tuscaloosa	AL	USA
AMRIS	Bivins, Rebecca	Georgia Institute of 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 University	FL	USA
AMRIS	Caban-Rivera, Diego	Northwestern University Feinberg School of 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 Technology	MA	USA
AMRIS	Hall, Matt	National Physical 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 (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 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 Technology	MA	USA
AMRIS	Jenkins, Kelly	University of Florida	FL	USA
AMRIS	Jones, John	Center for Neurosciences 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 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 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, 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 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 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 (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 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 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 University	FL	USA
AMRIS	Taran, Katie	Northwestern University Feinberg School of Medicine	IL	USA
AMRIS	Thiagarajan, Sandhiya	University of Alabama, Tuscaloosa	AL	USA
AMRIS	Toriano, Roxana	University of Buenos Aires	--	Argentina
AMRIS	Tundidor Camba, Alain	University of Alabama, 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 AMRIS	Abisambra, Jose	University of Florida	FL	USA
Non-NHMFL AMRIS	Adury, Rabeya Zinnat	University of Florida	FL	USA
Non-NHMFL AMRIS	Alvarez, David	University of Florida	FL	USA
Non-NHMFL AMRIS	Alzamora, Eiko	University of Florida	FL	USA
Non-NHMFL AMRIS	Ande, Sanjana	University of Florida	FL	USA
Non-NHMFL AMRIS	Aplin, Abigail	University of Florida	FL	USA
Non-NHMFL AMRIS	Arpin, David	University of Florida	FL	USA
Non-NHMFL AMRIS	Atasanova, Kalina	University of Florida	FL	USA
Non-NHMFL AMRIS	Athota, Guna Teja	University of Florida	FL	USA
Non-NHMFL AMRIS	Azam, Armina	University of Florida	FL	USA
Non-NHMFL AMRIS	Badar, Arshee	University of Florida	FL	USA
Non-NHMFL AMRIS	Baisden, Jared	Scripps Research Institute, Florida	FL	USA
Non-NHMFL AMRIS	Banerjee, Antara	University of Florida	FL	USA
Non-NHMFL AMRIS	Bara, Jason	University of Alabama, Tuscaloosa	AL	USA
Non-NHMFL AMRIS	Batucan , Jeremiah	University of the Philippines	--	Philippines
Non-NHMFL AMRIS	Bivins, Rebecca	Georgia Institute of Technology	GA	USA
Non-NHMFL AMRIS	Bizon, Jen	University of Florida	FL	USA
Non-NHMFL AMRIS	Boloki, Omar	University of Florida	FL	USA
Non-NHMFL AMRIS	Brook, Chelsea	University of Florida	FL	USA
Non-NHMFL AMRIS	Buck, Ta-Tyonna	University of Florida	FL	USA
Non-NHMFL AMRIS	Bunnell, Amelia	University of Florida	FL	USA
Non-NHMFL AMRIS	Buraima, Joy	University of Florida	FL	USA
Non-NHMFL AMRIS	Burke, Sara	University of Florida	FL	USA
Non-NHMFL AMRIS	Burns, Matthew	University of Florida	FL	USA

Facilities	Name	Organization	State	Country
Non-NHMFL AMRIS	Butcher, Rebecca	University of Florida	FL	USA
Non-NHMFL AMRIS	Candelario-Jalil, Eduardo	University of Florida	FL	USA
Non-NHMFL AMRIS	Carter, Alan	University of Florida	FL	USA
Non-NHMFL AMRIS	Centanni, Tracy	University of Florida	FL	USA
Non-NHMFL AMRIS	Chakrabarty, Paramita	University of Florida	FL	USA
Non-NHMFL AMRIS	Chang Reyes, Mario	University of Florida	FL	USA
Non-NHMFL AMRIS	Chen, Manyun	University of Florida	FL	USA
Non-NHMFL AMRIS	Chen, Qiyin	University of Florida	FL	USA
Non-NHMFL AMRIS	Chen, Robin	University of Florida	FL	USA
Non-NHMFL AMRIS	Choi, Haeyeon (Haley)	University of Florida	FL	USA
Non-NHMFL AMRIS	Christou, Evangelos	University of Florida	FL	USA
Non-NHMFL AMRIS	Cooper, Brenton	Texas Christian University	TX	USA
Non-NHMFL AMRIS	Costa de Almeida, Larissa	University of Florida	FL	USA
Non-NHMFL AMRIS	Cuestas Torres, Diana	University of Florida	FL	USA
Non-NHMFL AMRIS	Das, Sreyashi	University of Florida	FL	USA
Non-NHMFL AMRIS	Ding, Yousong	University of Florida	FL	USA
Non-NHMFL AMRIS	Duff, Savannah	University of Florida	FL	USA
Non-NHMFL AMRIS	Dyer, Grace	University of Florida	FL	USA
Non-NHMFL AMRIS	Eddy, Matthew	University of Florida	FL	USA
Non-NHMFL AMRIS	Ellis, Emma	University of Florida	FL	USA
Non-NHMFL AMRIS	Espinoza, Freydell	University of Florida	FL	USA
Non-NHMFL AMRIS	Farrer, Matthew	University of Florida	FL	USA
Non-NHMFL AMRIS	Febo, Marcelo	University of Florida	FL	USA
Non-NHMFL AMRIS	Fernandes, Phillippe	University of Florida	FL	USA
Non-NHMFL AMRIS	Foroohar, Camelia	University of Florida	FL	USA
Non-NHMFL AMRIS	Glanz, Max	University of Florida	FL	USA
Non-NHMFL AMRIS	Gopal Pour, Niloofar	University of Florida	FL	USA
Non-NHMFL AMRIS	Green, Sajan	University of Florida	FL	USA
Non-NHMFL AMRIS	Grudny, Matteo	University of Florida	FL	USA

Facilities	Name	Organization	State	Country
Non-NHMFL AMRIS	Hardegree, Hannah	University of Florida	FL	USA
Non-NHMFL AMRIS	Harris, Michael	University of Florida	FL	USA
Non-NHMFL AMRIS	Hayworth, John	University of Florida	FL	USA
Non-NHMFL AMRIS	Jin, Beining (Kim)	University of Florida	FL	USA
Non-NHMFL AMRIS	Johnson, Ryan	University of Florida	FL	USA
Non-NHMFL AMRIS	Jullienne, Amandine	University of California, Irvine	CA	USA
Non-NHMFL AMRIS	Kaczorowski, Catherine	Jackson Laboratory	ME	USA
Non-NHMFL AMRIS	Kathe, Mallesh	University of Florida	FL	USA
Non-NHMFL AMRIS	Keller, Owen	University of Florida	FL	USA
Non-NHMFL AMRIS	Khanna, May	University of Florida	FL	USA
Non-NHMFL AMRIS	Khemtong, Chalermchai	University of Florida	FL	USA
Non-NHMFL AMRIS	Kokkaliari, Sofia	University of Florida	FL	USA
Non-NHMFL AMRIS	Koren, John	University of Florida	FL	USA
Non-NHMFL AMRIS	Kothawala, Abbas	University of Florida	FL	USA
Non-NHMFL AMRIS	Kovtun, Valeria	University of Florida	FL	USA
Non-NHMFL AMRIS	Kummathi, Kamalika	University of Florida	FL	USA
Non-NHMFL AMRIS	Laitano, Orlando	University of Florida	FL	USA
Non-NHMFL AMRIS	Laxmi, Sree	University of Florida	FL	USA
Non-NHMFL AMRIS	Lee, Joonhoo	University of Florida	FL	USA
Non-NHMFL AMRIS	Leimkuhler, Allison	University of Florida	FL	USA
Non-NHMFL AMRIS	León, Jason	University of Florida	FL	USA
Non-NHMFL AMRIS	Li, Hong	Florida State University	FL	USA
Non-NHMFL AMRIS	Li, Wen	University of Florida	FL	USA
Non-NHMFL AMRIS	Li, Yuelan	University of Florida	FL	USA
Non-NHMFL AMRIS	Li, Yuqing	University of Florida	FL	USA
Non-NHMFL AMRIS	Ligon, John	University of Florida	FL	USA
Non-NHMFL AMRIS	Lin, Max	University of Florida	FL	USA
Non-NHMFL AMRIS	Liu, Xingui	University of Florida	FL	USA
Non-NHMFL AMRIS	Lively, Ryan	Georgia Institute of Technology	GA	USA

Facilities	Name	Organization	State	Country
Non-NHMFL AMRIS	Loesgen, Sandra	University of Florida	FL	USA
Non-NHMFL AMRIS	Long, Joanna	University of Florida	FL	USA
Non-NHMFL AMRIS	Luesch, Hendrik	University of Florida	FL	USA
Non-NHMFL AMRIS	Maczis, Melissa	University of Florida	FL	USA
Non-NHMFL AMRIS	Madheswaran, Manoj	University of Florida	FL	USA
Non-NHMFL AMRIS	Malut, Vinay	University of Florida	FL	USA
Non-NHMFL AMRIS	Mangun, Joseph	University of Florida	FL	USA
Non-NHMFL AMRIS	Maptue, Nesmine	University of Florida	FL	USA
Non-NHMFL AMRIS	Marcinko, Joseph	Polymer Synergies, LLC	FL	USA
Non-NHMFL AMRIS	Marshall, Erin	University of Florida	FL	USA
Non-NHMFL AMRIS	McDonald, William	University of Florida	FL	USA
Non-NHMFL AMRIS	McFarland, Nikolaus	University of Florida	FL	USA
Non-NHMFL AMRIS	Merritt, Matthew	University of Florida	FL	USA
Non-NHMFL AMRIS	Mondal, Amit	University of Florida	FL	USA
Non-NHMFL AMRIS	Moon, Joshua	University of Florida	FL	USA
Non-NHMFL AMRIS	Moor, Rachel	University of Florida	FL	USA
Non-NHMFL AMRIS	Moraes, Michele	University of Florida	FL	USA
Non-NHMFL AMRIS	Naik, Sameer	University of Florida	FL	USA
Non-NHMFL AMRIS	Ngo, Kelsey	University of Florida	FL	USA
Non-NHMFL AMRIS	Noarbe, Brenda Patricia	University of California, Irvine	CA	USA
Non-NHMFL AMRIS	Nogueira , M Luiza	University of Florida	FL	USA
Non-NHMFL AMRIS	Obenaus, Andre	University of California, Riverside	CA	USA
Non-NHMFL AMRIS	Okun, Michael	University of Florida	FL	USA
Non-NHMFL AMRIS	Patel, Shrina	University of Florida	FL	USA
Non-NHMFL AMRIS	Peng, Qingqing (Emily)	University of Florida	FL	USA
Non-NHMFL AMRIS	Pesaran Afsharian, Nessa	University of Florida	FL	USA
Non-NHMFL AMRIS	Petit, Bastien	University of Florida	FL	USA
Non-NHMFL AMRIS	Pfukwa, Cathrine	University of Florida	FL	USA
Non-NHMFL AMRIS	Pierre, Geraldine	University of Florida	FL	USA

Facilities	Name	Organization	State	Country
Non-NHMFL AMRIS	Pizzi, Michael	University of Florida	FL	USA
Non-NHMFL AMRIS	Raccioppi, Jai	University of Florida	FL	USA
Non-NHMFL AMRIS	Rajaram, Akash	University of Florida	FL	USA
Non-NHMFL AMRIS	Rakshit, Surasree	Advanced Magnet Lab, Inc.	FL	USA
Non-NHMFL AMRIS	Ratnayake, Ranjala	University of Florida	FL	USA
Non-NHMFL AMRIS	Ravi, Sakthivel	University of Florida	FL	USA
Non-NHMFL AMRIS	Ray, Arka Prabha	University of Florida	FL	USA
Non-NHMFL AMRIS	Reznikov, Leah	University of Florida	FL	USA
Non-NHMFL AMRIS	Richardson, Cate	University of Florida	FL	USA
Non-NHMFL AMRIS	Rodriguez Sanchez, Marina	University of Florida	FL	USA
Non-NHMFL AMRIS	Ross, Aleyna	University of Florida	FL	USA
Non-NHMFL AMRIS	Roth, Regan	University of Florida	FL	USA
Non-NHMFL AMRIS	Rushin, Anna	University of Florida	FL	USA
Non-NHMFL AMRIS	Saluja, Krish	University of Florida	FL	USA
Non-NHMFL AMRIS	Selimos, Dimitri	University of Florida	FL	USA
Non-NHMFL AMRIS	Setlow, Barry	University of Florida	FL	USA
Non-NHMFL AMRIS	Shah, Neel	University of Florida	FL	USA
Non-NHMFL AMRIS	Sharma, Gaurav	University of Florida	FL	USA
Non-NHMFL AMRIS	Shen, Qingyang	University of Florida	FL	USA
Non-NHMFL AMRIS	Simon, Zachary	University of Florida	FL	USA
Non-NHMFL AMRIS	Skwarek, Hannah	University of Florida	FL	USA
Non-NHMFL AMRIS	Smith, Ryan	University of Florida	FL	USA
Non-NHMFL AMRIS	Smith, Zachary	Massachusetts Institute of Technology	MA	USA
Non-NHMFL AMRIS	Soundara, Nirvana	University of Florida	FL	USA
Non-NHMFL AMRIS	Sprague, Gabriella	University of Florida	FL	USA
Non-NHMFL AMRIS	Tam Pham, Hoan Dan	University of Florida	FL	USA
Non-NHMFL AMRIS	Tan, Jingru	University of Florida	FL	USA
Non-NHMFL AMRIS	Tavasoli, Bahareh	University of Florida	FL	USA
Non-NHMFL 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	Ioro-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, Liguo	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	Maiorov, 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	Murphhy, 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 Wyszynski 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	Sengupts, 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, Kyryl	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	Toemtrisna, 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	Doerrer, 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	Pöppl, 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	Agblemanyo, 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	Repeta, 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	Equbal, Asif	New York University	NY	USA
NMR	Fan, Jiaxing	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	Gunnoe, 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	Iuliucci, 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	Šoltésová, 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, Mijkhail	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	Maiorov, 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 Mudiyanselage, 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 AMRIS NSF Funded

Participants (Name, Role, Org., Dept.)				Funding Sources (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	NIAMS - 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 Zerpa (T)	C	University of Florida	Pharmacology and Therapeutics								
Malisa Sarntinoranont (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 cortab, 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								

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2025 MagLab User Proposals

Participants (Name, Role, Org., Dept.)				Funding Sources (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	CBET2312001	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	CBET2312000					
Sandhiya 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 13C NMR isotopomer analysis of human liver metabolite enrichment from [U-13C]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	AG083902	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 Mullapudi (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	NS126509	P20436	Investigation of the power-law inflection 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	NIGMS - National Institute of General Medical Sciences	GM142574	P20449	ML-RUDOLF-002 Exploring the Chemical Space of Bacterial Terpenes	Chemistry	1	2
Mohammed Ahmed (P)	C	University of Florida	Chemistry	NIH	NIGMS - 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	NICHD - Eunice Kennedy Shriver National Institute of Child Health and Human Development	HD103479	P20455	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	CBET2034734	P20583	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 Farrokhpey (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								

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Participants (Name, Role, Org., Dept.)				Funding Sources (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 Palmerolide Biosynthesis	Chemistry	1	15.75
Sam Afoullouss (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								
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	P20791	Quantifying Diffusion of Liquid Sorbates Inside Mixed-Matrix Membranes Based on Carbon Molecular Sieves	Engineering	1	32.83
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								
Emily Mevers (S)	PI *	Virginia Polytechnic Institute and State University	Department of Chemistry	No other support			P20804	Ecology driven natural product discovery	Biology, Biochemistry, Biophysics	1	4.33
Jeannine Brady (S)	PI	University of Florida	Oral Biology	UCGP		ML- Pasin-001	P20908	Structural insights into KH domain RNA-binding proteins and Ribonuclease P from Streptococcus mutans	Biology, Biochemistry, Biophysics	1	4
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			P20923	In vivo Detection and Quantification of Pegylated Protein using diffusion-filtered MRI and MRS	Biology, Biochemistry, Biophysics	1	3
Advait 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								
William R. Kem (S)	PI *	University of Florida	Pharmacology/ Therapeutics	No other support			P20924	Determining the pH of the biophasewithin the venomous nemertean in which anabaseine is stored before it is secreted during prey envenomation	Biology, Biochemistry, Biophysics	1	5.5
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	P20943	Characterization of ß-hairpin conformations in macrocyclic peptides containing sulfonyl-?-AAs as turn inducers	Chemistry	1	1.5
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	P20945	Structural characterization of dynamic microbial natural products	Chemistry	1	7.5
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								
Matthew Eddy (S)	PI	University of Florida	Chemistry	NIH	NIGMS - National Institute of General Medical Sciences	GM138291	P20949	NMR characterization of an enzymatic subunit from Shiga toxin and evaluation of potential small molecule inhibitors	Biology, Biochemistry, Biophysics	1	7
Nessa Pesaran Afsharian (G)	C	University of Florida	Chemistry	NSF	DMR - Division of Materials Research	DMR2339330					
Adrian Roitberg (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			P20952	Incorporation of NMR technique to targeted protein degradation platform	Biology, Biochemistry, Biophysics	1	6.83
Linfei Li (S)	PI *	Florida International University	Civil & Environmental Engineering	No other support			P21009	Elucidating the Role of Cellulose Nanofibrils in Internal Curing of Cement Using 1H NMR and MRI Techniques	Engineering	1	7.33
Priyan Roy Tamil Eniyan (G)	C	Florida International University	Civil and Environmental Engineering								
Adam Veige (S)	PI	University of Florida	Chemistry	No other support			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
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								
Dayalan Sampath (P)	C	University of California, San Diego	Emergency Medical Services								
Huadong Zeng (S)	C	University of Florida	AMRIS								
								Total Proposals: 33		Experiments: 34	Days: 1,074

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Participants (Name, Role, Org., Dept.)				Funding Sources (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	NIGMS - 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								
Sreyashi 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 Buraima (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-Jalil (S)	C	University of Florida	Neuroscience								
Paramita Chakrabarty (S)	C	University of Florida	Biology								
Matthew Farrer (S)	C	University of Florida	Neurology								
Matteo Grudny (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								
Lakiesha 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
Eiko 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 Jullienne (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								
Qingyang 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	NIGMS - 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
Daylin Barroso (O)	C	University of Florida	Neuroscience	NIH	NIA - National Institute on Aging	AG075900					
Diana Cuestas Torres (P)	C	University of Florida	Neuroscience								
Camelia Foroohar (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								

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Participants (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
Sergey Vasenkov (S)	PI	University of Florida	Chemical Engineering	Honeywell Inc		#S0581942	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		LAW-2023-0950 (EM11709.TO7)					
Rebecca Bivins (G)	C	Georgia Institute of Technology	Chemical and Biomolecular Engineering	NSF	CBET - Chemical, Bioengineering, Environmental, and Transport Systems	CBET2312001					
Omar Boloki (G)	C	University of Florida	Chemical Engineering	NSF	CBET - Chemical, Bioengineering, Environmental, and Transport Systems	CBET2427603					
Abbas Kothawala (U)	C	University of Florida	Chemical Engineering	NSF	CBET - Chemical, Bioengineering, Environmental, and Transport Systems	CBET2135662					
Sree Laxmi (G)	C	University of Florida	Chemical Engineering Department	NSF	CBET - Chemical, Bioengineering, Environmental, and Transport Systems	CBET2135766					
Ryan Lively (S)	C	Georgia Institute of Technology	School of Chemical & Biomolecular Engineering,	NSF	CBET - Chemical, Bioengineering, Environmental, and Transport Systems	CBET2034734					
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					
Arshee 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 Pfukwa (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								
Evangelos 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 Ngo (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 Traiger (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 (Name, Role, Org., Dept.)					Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
Hendrik Luesch (S)	PI		University of Florida	College of Pharmacy	NIH	NIGMS - National Institute of General Medical Sciences	GM145426	P20353	[Independently-funded Research Proposal]	Biology, Biochemistry, Biophysics	1	13.5
Kalina Atasanova (T)	C		University of Florida	Medicinal Chemistry								
Jeremiah Batucan (G)	C		University of the Philippines	Marine Science Institute								
Manyun Chen (S)	C		University of Florida	Medicinal Chemistry								
Qiyin Chen (P)	C		University of Florida	unknown								
Haeyeon (Haley) 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								
Mallesh 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	Chadtough Defeat DIPG Foundation	US Foundation	AGR00028228	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 Loesgen (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					
Sajan Green (G)	C		University of Florida	Whitney Laboratory for Marine Bioscience								
Joseph Manqun (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								
Jinqru 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	NIGMS - National Institute of General Medical Sciences	R35 GM128742	P21100	[Independently-funded Research Proposal]	Biology, Biochemistry, Biophysics	1	5
Amit Mondal (G)	C		University of Florida	Medicinal Chemistry	NIH	NIGMS - National Institute of General Medical Sciences	RM1 GM145426					
					NSF	CHE - Chemistry	CHE2108383					
									Total Proposals:		Experiments:	Days:
									26		28	697

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Participants (Name, Role, Org., Dept.)				Funding Sources (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 Brumm (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								
Zhengguang Lu (S)	C	Florida State University	Physics								
Clyde Martin (T)	C	National High Magnetic Field Laboratory	DC Instrumentation								
Robby Nowell (T)	C	National High Magnetic Field Laboratory	DC User Support								
Danilo 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 DCFF 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 Hannahs (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								
Brandon Sorbom (S)	PI	Commonwealth Fusion Systems	Research & Development	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
Yingtai 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								
Aixia Xu (S)	C	Florida State University	ASC								
Qianhui Shi (S)	PI	University of California, Los Angeles	Physics	UCLA start-up fund	Other		P19890	Probing spin and pseudospin degrees of freedom in 2D semiconducting transition metal dichalcogenide heterostructures	Condensed Matter Physics	2	14
Edgar Elias Bernabe (G)	C	University of California, Los Angeles	physics								
Milan Mandigo-Stoba (G)	C	University of California, Los Angeles	Physics								
Luis Jauregui (S)	PI	University of California, Irvine	Department of Physics and Astronomy	NSF	DMR - Division of Materials Research	DMR2146567	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 Welser (G)	C	University of California, Irvine	Department of Physics and Astronomy								
Jian Liu (S)	PI	University of Tennessee, Knoxville	Physics	DOE	BES – Basic Energy Sciences	DE-SC0020254	P19938	Emergent magnetotransport phenomena of geometrically frustrated heterostructures	Condensed Matter Physics	1	7
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 Dhital (S)	PI	Kennesaw State University	Physics	DOE	BES – Basic Energy Sciences	DE-SC0025735	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	Non US Council		P19943	High magnetic field study of a spin-triplet superconductor candidate	Condensed Matter Physics	1	5.9
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								
Christianne Beekman (S)	PI	National High Magnetic Field Laboratory	Physics	NSF	DMR - Division of Materials Research	DMR1847887	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								
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								
Wei Pan (S)	PI	Sandia National Laboratories	Materials Physics Department	DOE	BES – Basic Energy Sciences	DE-SC0024486	P20027	Electronic transport and optical studies of semiconductor artificial quantum materials	Condensed Matter Physics	2	14
Kent Smith (S)	C	Sandia National Laboratories	8351	Sandia National Laboratories	US Government Lab						
Henry Travaglini (P)	C	Sandia National Laboratories	Materials Physics								
Z. Valy Vardeny (S)	PI	University of Utah	Department of Physics & Astronomy	DOE	BES – Basic Energy Sciences	DE-AC36-08G028308	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
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								
Binod Pandey (G)	C	University of Utah	Physics and Astronomy								
Dmitry Smirnov (S)	C	National High Magnetic Field Laboratory	Instrumentation & Operations								
Sergei Zvyagin (S)	PI	Helmholtz Zentrum Dresden-Rossendorf	Dresden High Magnetic Field Laboratory	SFB 1143	Other Non US Federal Agency		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								
Joachim 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	DMR - Division of Materials Research	DMR2104771	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	DOE	BES – Basic Energy Sciences	DEFG02-00-ER45841					
Adbhut Gupta (P)	C	Princeton University	Electrical and Computer Engineering								
Siddharth Kumar Singh (G)	C	Princeton University	Electrical Engineering								
Chia-Tse Tai (G)	C	Princeton University	Electrical and Computer Engineering								
Chengyu Wang (G)	C	Princeton University	Electrical and Computer Engineering								
Venkat Selvamanickam (S)	PI	University of Houston	Mechanical Engineering	DOE	HEP – High Energy Physics	DE-SC0016220	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								

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Participants (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days 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 Dioxolenes 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	Multifonctionnal 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								
Dmitry Smirnov (S)	C	National High Magnetic Field Laboratory	Instrumentation & Operations								
Keshav Shrestha (S)	PI	Texas A&M University	Chemistry and Physics	NSF	Other	2336011	P20127	Electronic properties of topological materials under high pressure	Condensed Matter Physics	2	16.29
David Graf (S)	C	National High Magnetic Field Laboratory	DC Field / CMS	VSP		VSP, Project # 12707					
Cole Phillips (G)	C	West Texas A&M University	Chemistry and Physics								
Kyryl Shtefienko (U)	C	West Texas A&M University	Chemistry and Physics								
Albert Gapud (S)	PI	University of South Alabama	Department of Physics	No other support			P20131	Low-temperature measurements of 51V NMR relaxation times in single crystal of V3Si	Condensed Matter Physics	3	20
Rong Cong (S)	C	National High Magnetic Field Laboratory	Condensed Matter Science	VSP		433					
Arneil Reyes (S)	C	National High Magnetic Field Laboratory	Condensed Matter Science/DCFF	University of South Alabama	US College and University						
Daniel Smith (U)	C	University of South Alabama	Physics								
Jin Hu (S)	PI	University of Arkansas	Physics	NSF	DMR - Division of Materials Research	DMR2238254	P20144	Unusual Magnetotransport in Layered Materials	Condensed Matter Physics	2	12.29
Gokul Acharya (G)	C	University of Arkansas	Physics	DOE	BES – Basic Energy Sciences	GR017341					
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								
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		P20145	Magneto-infrared spectroscopy of magnetic Weyl semimetals	Condensed Matter Physics	2	14
Yuhan Du (G)	C	East China Normal University	State Key Laboratory of Precision Spectroscopy								
Xiangyu Jiang (G)	C	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								
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	DMR - Division of Materials Research	DMR2003117	P20149	New multiferroicity of new layered compounds	Condensed Matter Physics	1	7
Alexander Brassington (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, Gradurate 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		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
Min Hyuk Choi (G)	C	Pohang University of Science and Technology	Physics								
YounJung Jo (S)	C	Kyungpook National University	Physics								
Woun Kang (S)	C	Ewha Womans University	Department of Physics								
Hoil 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								
Hyeongwoo Seo (G)	C	Pohang University of Science and Technology	Physics Department								
Dmitri Basov (S)	PI	Columbia University	Physics	NSF	DMR - Division of Materials Research	DMR2210186	P20238	Magneto-infrared spectroscopy and quantum oscillations of novel quantum materials	Condensed Matter Physics	1	7
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								
Yinming Shao (S)	C	Pennsylvania State University	Physics								
Dmitry Smirnov (S)	C	National High Magnetic Field Laboratory	Instrumentation & Operations								
Haidong Zhou (S)	PI	University of Tennessee, Knoxville	Physics and Astronomy	NSF	DMR - Division of Materials Research	DMR2003117	P20243	The exploration of field induced quantum spin liquid state in new quantum magnets	Condensed Matter Physics	3	21
Alexander Brassington (G)	C	University of Tennessee, Knoxville	Physics	DOD	US Air Force	FA9550-23-1-0502					
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								
Seunghoon Song (G)	C	University of Tennessee, Knoxville	Department of Physics and Astronomy								
Chengkun Xing (G)	C	University of Tennessee, Knoxville	Physics								

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Participants (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
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	5.49
Alimamy Bangura (S)	C	National High Magnetic Field Laboratory	CMS								
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								
Danilo 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 Abraimov (S)	C	National High Magnetic Field Laboratory	The Applied Superconductivity Center								
Jeremy Levitan (T)	C	National High Magnetic Field Laboratory	MS&T								
Nathanael Fortune (S)	PI	Smith College	Department of Physics	Smith College	US College and University	SD-60175 CFCD - Fortune, Nathanael	P20259	Development and characterization of low-magnetoresistance ceramic metal alloy composites (cermets) for high field, low temperature thermometry	Material Science	1	6
Alimamy Bangura (S)	C	National High Magnetic Field Laboratory	CMS								
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 regalias 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								
Jose Galvis Echeverri (S)	C	University of Rosario	School of Sciences and Engineering								
Isabel Guillamon (P)	C	University of Bristol	Physics								
Edwin Herrera Vasco (P)	C	Autonomous University of Madrid	Condesed 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 Politano (S)	PI	University of L'Aquila	Physical and Chemical Sciences	No other support			P20261	High Magnetic Fields to explore Shubnikov–de Haas quantum oscillations in Pt3Te4	Condensed Matter Physics	2	28
Shermane Benjamin (S)	C	National High Magnetic Field Laboratory	Physics								
Tsotne 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								
Sumedh Rathi (G)	C	Georgia Institute of Technology	Physics								
Nikolai Simonov (G)	C	Georgia Institute of Technology	School of Physics								
Dmitry Smirnov (S)	C	National High Magnetic Field Laboratory	Instrumentation & Operations								
Naipeng 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	Determination of the exchange energy distribution in spin glasses	Condensed Matter Physics	1	8.08
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 ?-(BETS)2GaCl4	Condensed Matter Physics	1	4.22
Alimamy Bangura (S)	C	National High Magnetic Field Laboratory	CMS								
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 Kobyashi (S)	C	University of Tokyo	Research Centre for Spectrochemistry								
Lily Phillips (U)	C	Smith College	Physics								
Danilo 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								
Philip Moll (S)	PI	Max Planck Institute for Structure and Dynamics of Matter, Hamburg	Max Planck Institute for Structure and Dynamics of Matter	European Research Council (ERC)	Non US Council	101164280	P20283	True nature of exotic high field state in UTe2: a field-polarized metal or a field-boosted superconductor?	Condensed Matter Physics	1	4
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 Mielke (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	Pressure study of LuV6Sn6 and (Sc,Lu)V6Sn6	Condensed Matter Physics	1	11
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								
Gang Shi (P)	C	Florida State University	Department of Physics								
Michael Shatruk (S)	PI	National High Magnetic Field Laboratory	Department of Chemistry and Biochemistry	DOE	BES – Basic Energy Sciences	DESC0019330	P20300	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	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								
Dibya 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								

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Participants (Name, Role, Org., Dept.)				Funding Sources (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	31.44
Yanhong Gu (P)	C	University of Tennessee, Knoxville	Chemistry								
Kavishka Jayarathna (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 Lakshan 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								
Christianne 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 Plank 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 Aliments (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 (Jeanie) 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
Jeseok Bang (S)	C	National High Magnetic Field Laboratory	ASC								
Jonathan Lee (G)	C	National High Magnetic Field Laboratory	ASC								
Garfield Murphhy (T)	C	Florida State University	ASC								
Rastislav Ries (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 Maiorov (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								
Zili Feng (P)	C	California Institute of Technology	Physics, Mathematics and Astronomy								
Takashi 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								
Qianni 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			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					
Zizhong 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								

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Participants (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
James Analytis (S)	PI	University of California, Berkeley	Physics	DOD	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								
Kohtaro Yamakawa (G)	C	University of California, Berkeley	Physics								
Qixuan Zhang (G)	C	University of California, San Diego	MATERIAL SCIENCE AND ENGINEERING								
Arnab Banerjee (S)	PI	Purdue University	Physics and Astronomy	DOE	BES – Basic Energy Sciences	DOE BES DE-0002896	P20413	Low-Temperature AC Magnetic susceptibility Measurementon 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								
Arjun 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 onthe Static and Dynamic Properties of Lanthanide and Actinide Molecular Nanomagnets	Chemistry	1	7
Maximilian Bernbeck (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								
Kin 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
Himadri 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								
yiyu 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	P20492	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								
Hoil 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								
Hyeongwoo 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 Suslov (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 Drichko (S)	C	Ioffe Physical-Technical Institute of the Russian Academy of Sciences	Physics of Semiconductors and Dielectrics								
Ivan Smirnov (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 Alberi (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 Agollari (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								
Somnath 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
Jeseok 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								

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Participants (Name, Role, Org., Dept.)				Funding Sources (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 Checkelsky (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 Majoros (S)	C	Ohio State University	Materials Science and Engineering								
Fnu 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 Cenker (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 antiferromagets	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 Blawat (P)	PI *	National High Magnetic Field Laboratory	NHMFL	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 Kulichenko (S)	C	National High Magnetic Field Laboratory	Condensed matter science								
Johnpierre 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								
Hyeok Yoon (P)	C	University of Maryland, College Park	Department of Physics								
Badih 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								
Hoil 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								

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Participants (Name, Role, Org., Dept.)				Funding Sources (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
Anna Champ (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	Chemsitry								
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								
Chaowei 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 Axion 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 DCFF 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								
Clyde 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								
Gicela 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 Dilanthanide 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								
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								
William Iliffe (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
Dmytro Abraimov (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 (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
Sara Haravifard (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								
Peide 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								
Arnab 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								
Arjun 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 Larbalestier (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								
Km 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								
Zhengguang Lu (S)	C	Florida State University	Physics								
Susanne Stemmer (S)	C	University of California, Santa Barbara	Materials								
Darrell 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
Yorick Birkhölzer (P)	C	Cornell University	Materials Science & Engineering								
Luka Mitrovic (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
Zhigang 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 Abraimov (S)	PI	National High Magnetic Field Laboratory	The Applied Superconductivity Center	No other support			P20728	Comparative study of Ic(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 0042023 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					
Kaila 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								
Guoxin 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 NdRh2Ge2	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 PtSn4 with extreme magnetoresistance	Condensed Matter Physics	1	5.65
Philip 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								

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Stephen Holmes (S)	PI	University of Missouri, St Louis	Chemistry and Biochemistry	NSF	CHE - Chemistry	CHE1800578	P20759	FIRMS 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)	CALT								
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 Abraimov (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 Karaiskaj (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								
Yinming 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 Smirnov (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 altermagnet 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 Schundelmier (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 Ba1.2Mn8-xAxO16 Hollandite's (A = Mn, Co, Fe, Cu, Ni)	Condensed Matter Physics	1	14
Benny Schundelmier (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 DCFF 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 CuxAlyCr4-zSe8	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 Pr0.5La0.5CrO3 and PrCrO3	Condensed Matter Physics	1	7
Benny Schundelmier (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								
Taichi Terashima (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								
Yuya 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 AbdelMalak (G)	C	University of Virginia	Physics								
Tomoya Asaba (S)	C	University of Virginia	Physics								
Jui-Lin Chin (G)	C	University of Virginia	physics								
Paul Corbae (P)	C	University of California, Santa Barbara	ECE/Materials								
Gabriel Foss (U)	C	Taylor University	Physics and Engineering								
Mark Lee (U)	C	Taylor University	Mathematics								
Nianen Lin (U)	C	Taylor University	Physics								

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Participants (Name, Role, Org., Dept.)				Funding Sources (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 Ising 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 MnBi2Te4	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	NHMFL								
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 Engineerg	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 BYI	P20877	Investigating the Field-induced Tunability of Magnetic States in New Diamond-lattice Antiferromagnet CaCo2TeO6	Material Science	1	3.96
James Analytis (S)	C	University of California, Berkeley	Physics								
Xudong Huai (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
Christianne 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								
Kaya 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								
Adbhut 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 Toemtrisna (G)	C	Princeton University	Electrical and Computer Engineering								
Chengyu Wang (G)	C	Princeton University	Electrical and Computer Engineering								
Pawel Peczkowski (S)	PI *	Cardinal Stefan Wyszynski University	Department of Physics	Cardinal Stefan Wyszynski 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	LTCC 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, NHMFL: Maintenance, Research and 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 candida	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								
Thenmozhi Elango (G)	C	University of Cambridge	Physics								
Siya Valecha (U)	C	University of Durham	Physics								
Yunyin Xie (U)	C	University of Cambridge	Physics								

2025 MagLab User Proposals

Participants (Name, Role, Org., Dept.)				Funding Sources (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
Thenmozhi Elango (G)	C	University of Cambridge	Physics								
Nicholas Popiel (G)	C	University of Cambridge	Physics								
Suchitra Sebastian (S)	C	University of Cambridge	Physics								
Siya Valecha (U)	C	University of Durham	Physics								
Yunyin 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 NHMFL 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 Alkidim (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								
Andrej Pustogow (P)	C	University of California, Los Angeles	Physics and Astronomy								
Yohei Saito (S)	C	Goethe University Frankfurt	Department of physics								
Yuxin 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								
Suguru 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 NHMFL DC Field Facility; 2025	Condensed Matter Physics	4	36
Samaresh 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 Abraimov (S)	C	National High Magnetic Field Laboratory	The Applied Superconductivity Center								
Jeseok Bang (S)	C	National High Magnetic Field Laboratory	ASC								
Jan Jaroszynski (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 Zvyagin (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 Karaiskaj (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 Terilli (G)	C	Rutgers University	Physics								
Tsung-Chi Wu (G)	C	Rutgers University	Physics								
Christian Zaprianov (G)	C	Rutgers University	Physics and Astronomy								
Hanwei Geo (S)	PI *	Florida State University	Physics	NSF	DMR - Division of Materials Research	DMR2110814	P20966	Magneto optics for 2D hyrbid perovksite	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 Travaglini (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 Semenov (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 Superatomic 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 Sõõsk (G)	C	University of California, Berkeley	College of Chemistry								

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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	6.02
JL (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: 155		**Experiments:** 265	**Days:** 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 Telser (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			P20140	Maintenance and testing	Condensed Matter Physics	7	47.5
Tomas Orlando (S)	C	National High Magnetic Field Laboratory	Electron Magnetic Resonance	UCGP							
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 Ngompe 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 Kapodistrain 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 HFEPR	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 Doerrer (S)	PI	Boston University	Chemistry Department	NSF	CHE - Chemistry	CHE1800313	P20278	Dimeric {MnIII2(□2-CO3)} Compound, Mixed-valent {Mn6} 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	NHMFL	DOE	BES – Basic Energy Sciences	DE-SC0019330					
Shubham Bisht (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								
Dibya 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								

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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	NIGMS - 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 onthe Static and Dynamic Properties of Lanthanide and Actinide Molecular Nanomagnets	Chemistry	1	14
Maximilian Bembeck (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								
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
Jhersie Cabigting (U)	C	California State University, East Bay	Chemistry/Biochemistry	UCGP		UCGP Orlando					
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 Burrill (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								
Ifeoluwa 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	NIGMS - National Institute of General Medical Sciences	GM148766	P20530	Improving biradicals for MAS-DNP at high field: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								
Ayyalusamy Ramamoorthy (S)	C	Florida State University	Chemical and Biomedical Engineering								

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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 Koay (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	Chemsitry								
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								
Arka 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	CIMAR								
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 Alférez (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 FIRMS Spectroscopy of Structurally Distorted High-Spin Fe(II) Complexes and High-/Low-Spin Fe(III) 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 Telser (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
Sabastian Atwood (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 (Name, Role, Org., Dept.)				Funding Sources (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 X/Q 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 Telser (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 (?-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	CRMN	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					
Johan van Tol (S)	PI	National High Magnetic Field Laboratory	EMR	No other support			P21020	Creation of facility for photoexcited EPR	Material Science	1	5
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 Theodros (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: 52		Experiments: 112	Days: 766

2025 HBT

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Participants (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days 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-lowtemperatures - 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 (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
Thomas Borch (S)	PI	Colorado State University	Soil and Crop Science	Cutrale 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	NHMFL 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 Biofilm 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 Dieser (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 Biofilm 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	University of Florida	US College and University						
Ryan Champiny (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	P20215	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 Natural Resources and Environmenta	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	Serrapilheira Institute	Non US Foundation	Serra-1708-15009	P20219	Identification of bioactive fractions of açaí (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)								
Renxing Liang (S)	PI	Princeton University	Department of Geosciences	DOE	BER - Biological & Environmental Research	DE-SC0020369	P20221	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 Senko (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 Polák (P)	C	National High Magnetic Field Laboratory	ICR group								
John Quinn (T)	C	National High Magnetic Field Laboratory	Ion Cyclotron Resonance Program								
Chad Weisbrod (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	P20340	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	P20359	Comprehensive insights into surfactant dynamics in seawater and the sea surface microlayer of the North Atlantic	Chemistry	2	1.33
Felix Agblemanyo (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								
Puspa Adhikari (S)	PI	Florida Gulf Coast University	Marine and Earth Sciences	NSF	OCE - Ocean Sciences	OCE2309659	P20423	Remineralization effects of enhanced allochthonous dissolved organic matter in the West Florida Shelf impacted by Hurricane Ian	Chemistry	3	4.33
Adam Catasus (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 (Name, Role, Org., Dept.)				Funding Sources (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 Terrigenous 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					
Amy 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								
Sasha Wagner (S)	C	Rensselaer Polytechnic Institute	Earth and Environmental Sciences								
Oriane 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	P20437	How Does Glacial Melt Affect Dissolved Organic Matter Composition and Transformations in the Amundsen Sea Polynya?	Chemistry	1	5.5
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	NSF	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 Fettrow (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								
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	P20441	El Niño Event Impacts on Organic Matter Export and Composition in the Amazon and Tapajós River	Chemistry	2	5.25
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								
Xuefeng Peng (S)	PI *	University of South Carolina	School of Earth, Ocean and Environment	NSF	DEB - Division of Environmental Biology	DEB2303089	P20470	Investigating lignocellulose degradation by salt marsh sediment fungi	Chemistry	2	1.75
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								
Lhini 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 Ruttenberg (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 Dyhrman (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 Lalk (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 Bouyssiere (S)	PI	University of Pau and the Adour Region	IPREM	DOE	Other	DE-EE0010457	P20493	Molecular characterization of lignocellulosic pyrolysis bio-oils and their solubility-separated fractions.	Chemistry	2	8
Carlos Afonso (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								
Germain Salvato Vallverdu (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			P20494	Analyzing larger molecular weight fractions of DOM by 21 T FT-ICR MS	Chemistry	1	12.5
Amy McKenna (S)	C	National High Magnetic Field Laboratory	ICR								
Ann Ojeda (S)	C	Auburn University	Geosciences								

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Participants (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
Jon Hawkings (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 ofglacial 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 Hatton (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 Klímová (P)	C	Charles University, Prague, Czechia	Ecology								
Emma Kocik (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 Stehrer Polášková (G)	C	Charles University, Prague, Czechia	Department of Ecology								
Marek Stibal (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 CH4 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 Seyfferth (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 DeFiglia (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	NIGMS - 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 Akongwi (S)	PI *	University of Buea	Organic Chemistry	No other support			P20610	Search for novel compounds from a Cameroonian medicinal plants Garcinia brevipedicellata (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								

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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 organohalogens, 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	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	US Government Lab	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 Tfaily (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								
Blazenka Gasparovic (S)	PI *	Institut Ruder Bošković	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	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	US Government Lab	U. S. Geological Survey Environmental Health Program of the Ecosystems Mission Area					
Mahbub Alam (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								
Caitlin Petro (P)	C	Georgia Institute of Technology	Biological Sciences								
Christopher Schadt (S)	C	Oak Ridge National Laboratory	Biosciences Division								
Alexis Slentz (G)	C	Florida State University	Earth, Ocean, & Atmospheric Sciences								
Robert Spencer (S)	C	Florida State University	Earth, Ocean & Atmospheric Science								
Malak Tfaily (S)	C	University of Arizona	Environmental Science								
Rachel Wilson (S)	C	Florida State University	EOAS								
Pierre Giusti (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 Bouyssiere (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								

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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 Doting (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								
Oriane Yvin (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								
Oriane Yvin (G)	C	Florida State University	Earth,Ocean,and Atmospheric Science								
Collin 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 DeFiglia (P)	C	Florida State University	ICR								
Nathan Kaiser (S)	C	National High Magnetic Field Laboratory	ICR								
Neven Mikawy (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								
Iulia Streanga (G)	C	Woods Hole Oceanographic Institution	Marine Chemistry and Geochemistry								
Jens Blotevogel (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 Dixit (P)	C	University of California, Berkeley	Civil and Environmental Engineering								
Christopher Higgins (S)	C	Colorado School of Mines	Civil and Environmental Enginnering								
Emily Hughes (U)	C	Florida State University	Ion Cyclotron Resonance								
John Kornuc (S)	C	U.S. Naval Research Laboratory	Emerging contaminants, site characterization								
Sylvia Long (U)	C	Florida State University	NHMFL 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 tereticornis 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 Victória de Aguiar (P)	C	Federal University of Goiás	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 Polák (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								

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Participants (Name, Role, Org., Dept.)				Funding Sources (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 Fettrow (P)	C	Colorado State University	Soil and Crop Sciences								
Bonnie McDevitt (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-FECM1610260	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	NIGMS - 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								
Juju Bonilla (G)	C	Florida State University	Chemistry								
Neven Mikawy (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 Biocrudes 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 21T 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 Slentz (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								
Farid B. Cortés (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 21T 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	AI52210_	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 Wildfire 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								

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Participants (Name, Role, Org., Dept.)					Funding Sources (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
Lissa 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 Weisbrod (S)	C		National High Magnetic Field Laboratory	ICR								
Samuel Katz (P)	PI	*	University of Delaware	School of Marine Science and Policy	NSF	OCE - Ocean Sciences	OCE2148471	P21026	DOM 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: 69		Experiments: 117	Days: 662

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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	NHMFL	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	NIGMS - National Institute of General Medical Sciences	GM148766					
Malathy Elumalai (O)	C	National High Magnetic Field Laboratory	NMR-MRI								
Riqiang Fu (S)	C	National High Magnetic Field Laboratory	NMR								
Zhehong Gan (S)	C	National High Magnetic Field Laboratory	NHMFL								
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								
Sungsool Wi (S)	C	National High Magnetic Field Laboratory	NMR								
Hadi Mohammadigoushki (S)	PI	Florida State University	Chemical and Biomedical Engineering	NIH	NIAID - National Institute of Allergy and Infectious Diseases	AI163988	P19875	Protein spectroscopy in emulsions	Engineering	34	205
Jamini Bhagu (G)	C	Florida State University	Chemical ENG	NSF	CAREER - Faculty Early Career Development Program	1942150					
Malathy Elumalai (O)	C	National High Magnetic Field Laboratory	NMR-MRI	NSF	CBET - Chemical, Bioengineering, Environmental, and Transport Systems	CBET1942150					
Reza Foudazi (S)	C	University of Oklahoma	School of Chemical, Biological and Materials Engineering	MagLab REU	Other						
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	NHMFL								
Sean Holmes (G)	C	Florida State University	NMR-MRI/S								
Ivan Hung (S)	C	National High Magnetic Field Laboratory	CIMAR/NMR								
Frederic Mentink (S)	C	National High Magnetic Field Laboratory	CIMAR								
Jazmine 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	MCB - Molecular and Cellular Biosciences	MCB1942665	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		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	NHMFL								
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	NINDS - National Institute of Neurological Disorders and Stroke	NS072497	P20016	CSF Dynamics, 23Na Fluxes and Ventricular Anatomy Interplay Between Migraine and Choroid Plexus	Biology, Biochemistry, Biophysics	21	30
Samuel Grant (S)	C	National High Magnetic Field Laboratory	CIMAR								
Abe Kolko (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	CHE - Chemistry	CHE2047325	P20082	Solid-state NMR characterization of 59Co NMR thermometers	Chemistry	9	19
Zhehong Gan (S)	C	National High Magnetic Field Laboratory	NHMFL								
Josef Grundy (G)	C	Colorado State University	Chemistry								
Sean Holmes (G)	C	Florida State University	NMR-MRI/S								
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								
Okten Ungor (P)	C	Colorado State University	Chemistry								
Hui Xiong (S)	PI	Boise State University	Materials Science and Engineering	DOE	ASCR - Advanced Scientific Computing Research	DE-SC0019121	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	NIA - National Institute on Aging	AG010700	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		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								
Lynmarie Thompson (S)	PI	University of Massachusetts	Chemistry	NIH	NIGMS - National Institute of General Medical Sciences	GM120195	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 (Name, Role, Org., Dept.)				Funding Sources (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 Bioreactor 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 Chantra (G)	C	Florida State University	Department of Chemistry & Biochemistry								
Sean Holmes (G)	C	Florida State University	NMR-MRI/S								
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								
Liliya Vugmeyster (S)	PI	University of Colorado, Denver	Chemistry	NIH	NIGMS - 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-MRI/S	NIH	NIGMS - 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 Truong (G)	C	Florida State University	Chemistry and Biochemistry								
Rongfu Zhang (P)	C	Florida State University	Chemistry and Biochemistry Department								
Ryan O'Hayre (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 Haile (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 Ojelade (G)	C	Florida State University	Chemistry and Biochemistry								
Ifeoluwa Oyekunle (G)	C	Florida State University	Chemistry								
Yewon Shin (P)	C	Colorado School of Mines	Metallurgical and Materials Engineering								
Erica Truong (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 andphotoluminsecent 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
Riqiang Fu (S)	C	National High Magnetic Field Laboratory	NMR								
Zhehong Gan (S)	C	National High Magnetic Field Laboratory	NHMFL								
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-MRI/S								
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								
Jamini 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 Aß 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 rocksalt cathode materials	Material Science	2	3
Changgyu Seok (G)	C	Virginia Polytechnic Institute and State University	Chemistry								
Sungsool 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	P20484	Understanding the role of Li substitution in layered oxide cathode materials for Sodium- Ion batteries	Chemistry	21	110
Yan-Yan Hu (S)	C	Florida State University	Chemistry & Biochemistry								
Mahinur Islam (G)	C	Florida State University	Chemistry and Biochemistry								
Yongkang Jin (G)	C	Florida State University	Chemistry and Biochemistry								
Islamiyat Ojelade (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								
Ifeoluwa 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 27Al Nuclei in Nanostructured Solids	Engineering	1	7
Alyssa McNamey (G)	C	University of California, Santa Barbara	Chemical Engineering	Chevron							
Anna Pischer (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 (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
Snorri Sigurdsson (S)	PI	University of Iceland	Chemistry	NIH	NIGMS - National Institute of General Medical Sciences	GM148766	P20530	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 Mentink (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	NIGMS - 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 Azizivahed (G)	C	University of Western Ontario	Chemistry	NSERC of Canada	Other						
Zhehong Gan (S)	C	National High Magnetic Field Laboratory	NHMFL								
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								
Jiabin Xu (G)	C	University of Western Ontario	Chemistry								
Wanli Zhang (G)	C	University of Western Ontario	Chemistry								
Sungsool Wi (S)	PI	National High Magnetic Field Laboratory	NMR	No other support			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	CHE - Chemistry	CHE2203405					
Navneet Dwivedi (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								
Taigyu 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
Arshia 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 Mattoussi (S)	C	Florida State University	Chemistry & Biochemistry								
Jeff Procida (G)	C	Florida State University	Chemistry & Biochemistry								
Fan Lam (S)	PI	University of Illinois at Urbana-Champaign	Bioengineering	NIH	NIGMS - National Institute of General Medical Sciences	GM142969	P20584	Noninvasive Imaging of DNA Methylation in Rodent Brains using Epigenetic MRI	Engineering	13	15
Arshia 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 Chemsitry 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 reseach consortium	Other	101008500					
Shubha Gunaga (P)	C	National High Magnetic Field Laboratory	NMR								
Anika Mauel (G)	C	University of Bayreuth	Inorganic Chemistry III								
Frederic Mentink (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	NHMFL								
Jiashan 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
Shoyab 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 Mentink (S)	C	National High Magnetic Field Laboratory	CIMAR								
Faith Scott (P)	C	National High Magnetic Field Laboratory	Biochemistry & Molecular Biology								
Hadi Mohammadigoushki (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								

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Ayyalusamy Ramamoorthy (S)	PI	Florida State University	Chemical and Biomedical Engineering	NIH	NIDDK - National Institute of Diabetes and Digestive and Kidney Diseases	DK132214	P20653	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 Rokonujjaman (P)	C	National High Magnetic Field Laboratory	NMR								
Jhinuk Saha (P)	C	National High Magnetic Field Laboratory	NMR- College of Engineering								
Myungwoon 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
Yoongyeong 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	P20678	Solid-state NMR studies of toxic misfolded oligomers	Biology, Biochemistry, Biophysics	2	14
Zhehong Gan (S)	C	National High Magnetic Field Laboratory	NHMFL								
Robert Irving (G)	C	East Carolina University	Chemistry								
Sungsool 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	CBET - Chemical, Bioengineering, Environmental, and Transport Systems	CBET2420733	P20764	Solid-state NMR characterization of Polymer-MOF Composites	Material Science	2	11.5
Ankit Dhakal (G)	C	University of Virginia	Chemical Engineering								
Riqiang Fu (S)	C	National High Magnetic Field Laboratory	NMR								
Amrit 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 BaTiS3	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
Riqiang Fu (S)	C	National High Magnetic Field Laboratory	NMR								
Zhehong Gan (S)	C	National High Magnetic Field Laboratory	NHMFL								
Evan Goodell (G)	C	College of William and Mary	Applied Science								
Mary Rooney (G)	C	College of William and Mary	Applied Science								
Sungsool Wi (S)	C	National High Magnetic Field Laboratory	NMR								
Rongfu Zhang (P)	C	Florida State University	Chemistry and Biochemistry Department								
Andrea Zourou (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
Zoheb Ahasan (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	NHMFL								
Ivan Hung (S)	C	National High Magnetic Field Laboratory	CIMAR/NMR								
Zhehong Gan (S)	PI	National High Magnetic Field Laboratory	NHMFL	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	46
William Brey (S)	C	National High Magnetic Field Laboratory	NMR								
Ahsly 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 Schlamkowitz (G)	C	University of Florida	Chemistry								
Robbie Iuliucci (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 Quiñones (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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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 Chantra (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 Friscic (S)	C	University of Birmingham	School of Chemistry								
Zhehong Gan (S)	C	National High Magnetic Field Laboratory	NHMFL								
Shubha Gunaga (P)	C	National High Magnetic Field Laboratory	NMR								
Sean Holmes (G)	C	Florida State University	NMR-MRI/S								
Ivan Hung (S)	C	National High Magnetic Field Laboratory	CIMAR/NMR								
Robbie Iuliucci (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								
Jazmine 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	P20851	Development of highly hydrophilic trityl-nitroxide biradical for high field DNP-NMR	Chemistry	4	32.5
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								
Ribal 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	AI541707	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					
Changmiao 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 UsingHyperpolarized 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								
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	2	10.5
Lucio 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 Luiza Nogueira (S)	C	University of Florida	AMRIS								
Cathrine Pfukwa (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	NHMFL								
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	NHMFL	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 Resqearch Council	Non US Council	101008500					
Isha Gautam (G)	C	Michigan State University	Chemistry								
Shubha Gunaga (P)	C	National High Magnetic Field Laboratory	NMR								
Tomáš 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 Šoltésová (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								

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Joseph Zadrozny (S)	PI	Ohio State University	Chemistry and Biochemistry	NSF	CHE - Chemistry	CHE2419717	P20992	Analyses of 59Co and 57Fe NMR Thermal Sensitivities	Chemistry	6	19
Dominic Chantra (G)	C	Florida State University	Department of Chemistry & Biochemistry								
Jazmine 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	AI173270					
Malitha Chathuranga Dickwella Widanage (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								
Kalpana Singh (G)	C	Michigan State University	Chemistry								
Peng Xiao (P)	C	Michigan State University	Chemistry								
Jayasubba Reddy Yarava (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	Cl 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								
Jhinuk 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: 2,759

2025 MagLab User Proposals

Participants (Name, Role, Org., Dept.)				Funding Sources (Funding Agency, Division, Award #)			Proposal #	Proposal Title	Discipline	Exp. #	Days Used
Venkat Selvamanickam (S)	PI		University of Houston	Mechanical Engineering	DOE	HEP – High Energy Physics	DE-SC0016220	P19815	Critical current characterization of 4+ um thick film Zr- and Hf-doped RE-Ba-Cu-O tapes in ultra-high magnetic fields	Development of Magnet Technology	1	10
Bhabesh Saranoi (G)	C		University of Houston	Material Science and Engineering							
Manoj Thevalapplly Paulose (G)	C		University of Houston	Mechanical and Aerospace Engineering							
Lingfeng 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	Kitaev 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							
Haidong 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 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							
Sihyun 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 Giraldo-Gallo (S)	PI	*	University of Los Andes	Physics	MinCiencias	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
Ian Fisher (S)	C		Stanford University	Applied Physics							
Jose Galvis Echeverri (S)	C		University of Rosario	School of Sciences and Engineering							
Isabel Guillamon (P)	C		University of Bristol	Physics							
Edwin Herrera Vasco (P)	C		Autonomous University of Madrid	Condesed Matter							
Edwin Ramos Rodríquez (S)	C		University of the Andes	Física							
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							
Mijkhail Eremets (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 Mielke (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							
Anyuan 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 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	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 Blawat (P)	C		National High Magnetic Field Laboratory	NHMFL							
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-xEuxNiO2 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 Maiorov (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							
James Analytis (S)	PI		University of California, Berkeley	Physics	Moore Fundation	Other		P20412	High Magnetic field Investigations of the Eu122 candidate Axionic Insulators	Biology, Biochemistry, Biophysics	1	10
Yacine Benkirane (G)	C		University of California, Berkeley	Physics							
Augusto Ghiotto (P)	C		University of California, Berkeley	Physics							
Darian 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							
Gicela 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 Corbae (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							

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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 XPt5P magnetic topological semimetals	Condensed Matter Physics	1	7
Joanna Blawat (P)	C	National High Magnetic Field Laboratory	NHMFL								
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								
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	5
Minseong Lee (S)	C	National High Magnetic Field Laboratory	MPA-MAG								
Shengzhi Zhang (S)	C	National High Magnetic Field Laboratory	CMS								
Joseph Checkelsky (S)	PI	Massachusetts Institute of Technology	Physics	NSF	DMR - Division of Materials Research	DMR1231319	P20531	High Field Studies of Superconducting Superlattices	Condensed Matter Physics	1	5
Alan Chen (G)	C	Massachusetts Institute of Technology	EECS								
Maximilien Debbas (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								
Joanna Blawat (P)	PI	National High Magnetic Field Laboratory	NHMFL	No other support			P20538	High magnetic field studies of CePd-based heavy fermion compounds	Condensed Matter Physics	2	9
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								
Tomasz Klimczuk (S)	PI	Gdansk University of Technology	Department of Applied Physics	No other support			P20544	High magnetic field study of topological superconductors	Condensed Matter Physics	1	10
Sudip Malick (P)	C	Gdansk University of Technology	Faculty of Applied Physics and Mathematics and Advanced Materials Center								
Bartlomiej Wiendlocha (S)	C	AGH University of Science and Technology	Faculty of Physics and Applied Computer Science, Department of Condensed Matter Physics								
Michal 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			P20546	Entangled Magnetic Phase in EuM2X2 Compounds in High Magnetic Fields	Condensed Matter Physics	1	3
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	DOE	BES – Basic Energy Sciences	DE-SC0020184	P20635	Search for novel electronic and magnetic state in ultraintensive magnetic fields	Condensed Matter Physics	5	40
Kaila Jenkins (G)	C	University of Michigan	Department of Physics	NSF	DMR - Division of Materials Research	DMR2317618					
Noah West (G)	C	University of Michigan	Physics Department								
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	Leibniz Gemeinschaft	Other	K74/2017	P20639	Investigating High-Field Magnetotransport in Two-Dimensional Electron Gas at the LaInO3/BaSnO3 Interface	Condensed Matter Physics	1	5
Neil Harrison (S)	C	National High Magnetic Field Laboratory	Physics								
Georg Hoffmann (P)	C	Paul Drude Institute for Solid State Electronics	Epitaxy								
Km Rubi (S)	C	Los Alamos National Laboratory	MPA-MAGLAB								
Bing Lv (S)	PI	University of Texas, Dallas	Physics	NSF	Other	N00014-23-1–2020.	P20642	High-field studies on a new high entropy Kagome system	Condensed Matter Physics	1	5
Wenhao Liu (P)	C	University of Texas at Dallas	Physics								
Christopher Mizzi (S)	C	National High Magnetic Field Laboratory	MPA-MAGLAB: MPA-MAG LAB NHMFL GROUP								
Connor Smith (G)	C	University of Texas at Dallas	Materials Science and Engineering/Physics								
William Iliffe (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	10
Dmytro Abraimov (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								
Jarrod Lewis (P)	C	University of Oxford	Department of Materials								
Boris Maiorov (S)	C	National High Magnetic Field Laboratory	MPA-MAGLAB								
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								
Sara Haravifard (S)	PI	Duke University	Department of Physics	NSF	DMR - Division of Materials Research	DMR2218058	P20700	Investigating Properties of Quantum Materials at High Magnetic Fields	Condensed Matter Physics	1	5
Rabindranath Bag (P)	C	Duke University	Physics								
Wesley Collyer (G)	C	Duke University	Physics								
Minseong Lee (S)	C	National High Magnetic Field Laboratory	MPA-MAG								
Nathan Wang (G)	C	Duke University	Physics								
Ho Nyung Lee (S)	PI *	Oak Ridge National Laboratory	Materials Science and Technology Division	DOE	BES – Basic Energy Sciences	KC0202024	P20703	Fractional quantum states in correlated CaNbO3	Condensed Matter Physics	1	5
Yunkyu Park (P)	C	Oak Ridge National Laboratory	Materials Science and Technology Division								
Km Rubi (S)	C	Los Alamos National Laboratory	MPA-MAGLAB								
Jeongkeun Song (P)	C	Oak Ridge National Laboratory	Materials Science and Technology Divisio								
Lin Jiao (S)	PI *	Zhejiang University	Physics	NSF	DMR - Division of Materials Research	DMR2128556	P20707	Pulsed Magnetic Field and High-Pressure Studies on Nickelate Superconductors	Condensed Matter Physics	1	10
Fedor Balakirev (S)	C	National High Magnetic Field Laboratory	PFF								
Kaixin Ye (G)	C	Zhejiang University	school of physics								
Huiqiu Yuan (S)	C	Zhejiang University	Physics Department								
Yanan Zhang (P)	C	Zhejiang University	School of Physics								
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	20
Mun Chan (S)	C	National High Magnetic Field Laboratory	Pulsed field Facility	Ministry of Education, Singapore	Non US Ministry	MOET2EP50121-0018					
Lin Er Chow (P)	C	National University of Singapore	Physics	Ministry of Education, Singapore	Non US Ministry	MOE-T2EP50123-0013					
Neil Harrison (S)	C	National High Magnetic Field Laboratory	Physics								
Km 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								
Junho Choi (S)	PI *	Kyung Hee University	Department of Physics	0	Non US College and University		P20770	Optical investigation of composite many-body excitons in heavily electron-doped MoS2 monolayers	Condensed Matter Physics	1	9
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								
Yihyun Moon (G)	C	Kyung Hee University	Department of Physics								
Scott Crooker (S)	PI	National High Magnetic Field Laboratory	Nat High Magnetic Field Lab	Los Alamos LDRD Program	Other	20250126DR	P20773	Spin-Exchange Interactions and Photoemission in Magnetically-Doped Colloidal Nanocrystals	Condensed Matter Physics	2	15
Victor Klimov (S)	C	Los Alamos National Laboratory	C-PCS	Los Alamos LDRD	Other	20250126DR					
Gary Noe (T)	C	National High Magnetic Field Laboratory	National High Magnetic Field Laboratory - Pulsed Field Facility								
Km Rubi (S)	C	Los Alamos National Laboratory	MPA-MAGLAB								
Km Rubi (S)	PI	Los Alamos National Laboratory	MPA-MAGLAB	DOE	BES – Basic Energy Sciences	F101	P20774	Interfacial Superconductivity in Oxide Heterostructures	Condensed Matter Physics	3	18
Anand Bhattacharya (S)	C	Argonne National Laboratory	Materials Science Division & Center for Nanoscale Materials	DOE	BES – Basic Energy Sciences	F10100					
Andrea Caviglia (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								
Neil Harrison (S)	C	National High Magnetic Field Laboratory	Physics								
Arun Kumar Jaiswal (P)	C	University of Geneva, Switzerland	Department of Quantum Matter Physics								

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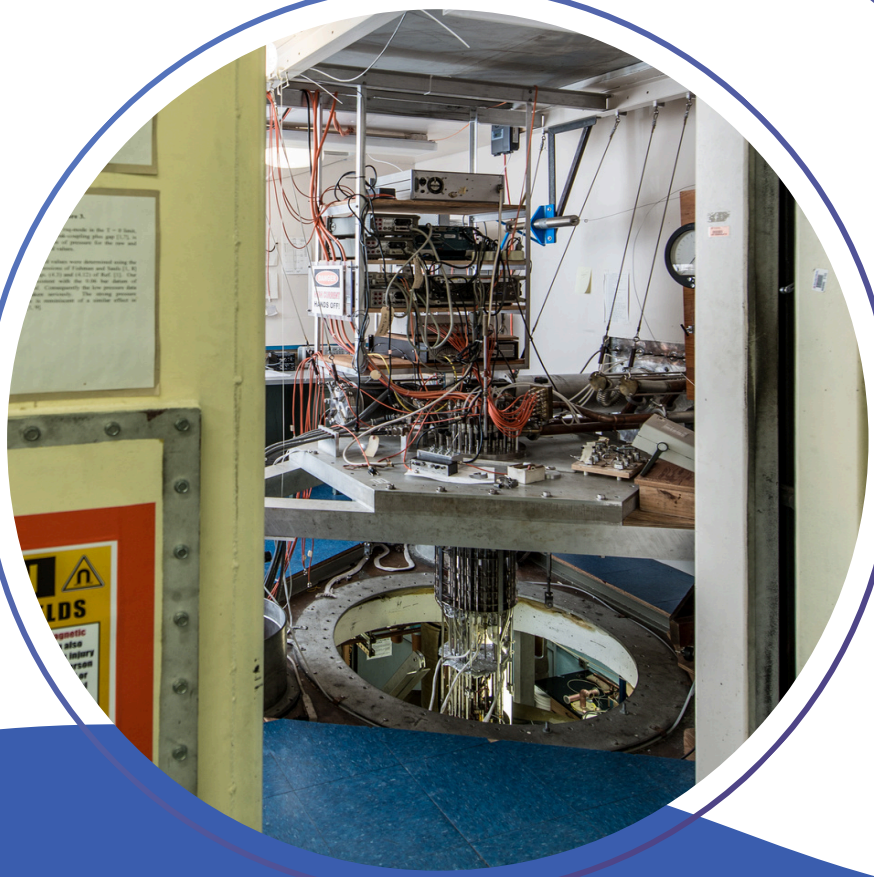
Sara Haravifard (S)	PI		Duke University	Department of Physics	DOE	BES – Basic Energy Sciences	DE-SC0023405	P20782	Investigating Magnetocaloric Effect in Quantum Magnets	Condensed Matter Physics	1	5
Sanjay Bachhar (P)	C		Duke University	Physics								
Rabindranath Bag (P)	C		Duke University	Physics								
Minseong Lee (S)	C		National High Magnetic Field Laboratory	MPA-MAG								
Shengzhi 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					
Neil 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 CuxAlyCr4-zSe8	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 Miura (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	LDRD - Laboratory Directed R&D	DE-AA00-00AA00000	P20863	High field measurements in triangular-lattice Ising 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								
Sunil Karna (S)	PI		Prairie View A&M University	Physics Department	University of Warwick	Other		P20878	Fermi surface of non-centrosymmetric HfSn2	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 Saini(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-SC0020211	P20894	Investigation of Anomalous Hall Effect in Epitaxial RuO2 Ultrathin Films	Condensed Matter Physics	1	5
Seunggyo Jeong (P)	C		University of Minnesota, Twin Cities	Chemical engineering and Material science	DOE	BES – Basic Energy Sciences	DE-SC0024710					
Sreejith Thampan Nair (G)	C		University of Minnesota, Twin Cities	Chemical Engineering and Materials Science	DOD	US Air Force	FA9550-21-1-0025					
Zhifei 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 curates across critical doping.	Condensed Matter Physics	1	5
Mun Chan (S)	C		National High Magnetic Field Laboratory	Pulsed field Facility								
Neil 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	Canadian Institute for Advanced Research	Other						
Amit Nathwani (U)	C		Institute of Science and Technology Austria	Physics								
Gulnaz 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								
Valeska Zambra (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								
Asiri Ashoka Bandara Thennakoon Thennakoon Mudiyanselage (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								
Mahathi 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 CeCoIn5 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 Khansili (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: 48		Experiments: 74	Days: 541

2025



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