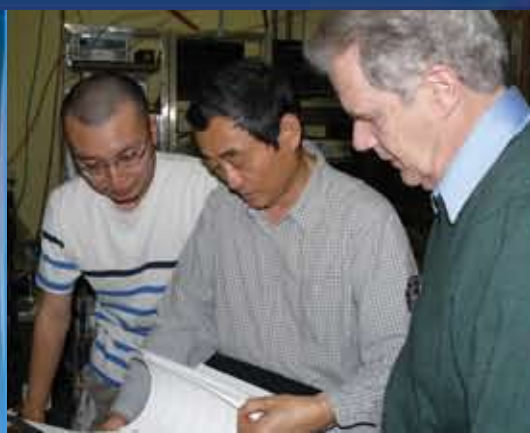
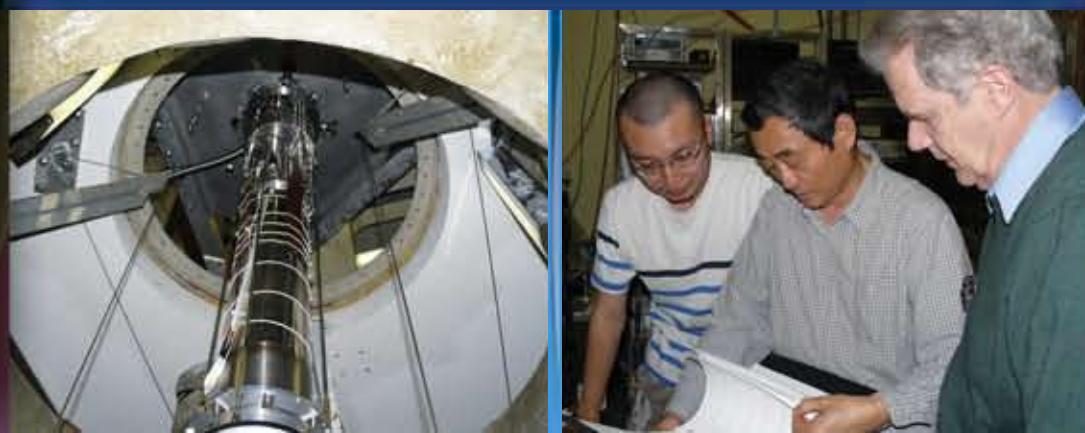


NATIONAL HIGH MAGNETIC FIELD LABORATORY
1800 E. PAUL DIRAC DR. TALLAHASSEE, FL 32310
850-644-0311
www.magnet.fsu.edu

Supported by the National Science Foundation and the state of Florida.



The National High Magnetic Field Laboratory is a national resource that centralizes the country's greatest magnet-related research tools, resources and expertise. This approach is efficient and cost-effective, and encourages fruitful, collaborative research – across disciplines – at the highest level. The Magnet Lab's flagship magnets, designed and built in-house, are unrivalled anywhere in the world, and lab engineers are constantly striving to push fields higher still. But it's not only the magnets that pull in upwards of 1,000 researchers each year; it's also the world-class scientific support available at the Magnet Lab. The lab's scientists and technicians develop the experimental instrumentation and techniques.

Whether they are active collaborators or consultants, the scientists know how to get the most from the magnets, from set up and ramp up to data acquisition and interpretation. The National High Magnetic Field Laboratory spans three sites, with the main campus located at Florida State University in Tallahassee, Florida. The main campus is home to the DC Field, Ion Cyclotron Resonance (ICR), Nuclear Magnetic Resonance (NMR) and Electron Magnetic Resonance (EMR) user programs. The Advanced Magnetic Resonance Imaging and Spectroscopy (AMRIS) and High B/T user programs are located at the University of Florida in Gainesville; and Los Alamos National Lab in New Mexico houses the lab's Pulsed Field user program.

FLORIDA STATE UNIVERSITY – TALLAHASSEE

DC Field

The DC Field user program provides the strongest, quietest, steady and slowly varying magnetic fields in the world coupled with state-of-the-art instrumentation and experimental expertise. The program maintains very close ties with the Pulsed Field program at Los Alamos as well as the High B/T program in Gainesville, and the expertise in each program is complimentary. The DC Field program supports research in transport, magnetization, magneto-optics, specific heat, dilatometry, high pressure, low to medium resolution NMR in highest fields, EPR, temperatures from 20 mK to 800 K and more.

EMR

The EMR program provides users with several high-field and high-frequency (9 GHz to 1.2 THz) instruments, including pulsed operation at 9, 95, 110, 220, 240 and 336 GHz. EMR techniques – electron spin resonance, electron paramagnetic resonance and electron cyclotron resonance – have extensive applications in chemistry, biochemistry, biology, physics and materials research.

ICR

The ICR program is charged with developing and exploiting the unique capabilities of Fourier Transform-ICR mass spectrometry. This program leads the world in instrument and technique development as well as pursuing novel applications for FT-ICR. Four complete FT-ICR mass spectrometers are available and feature high magnetic field and multiple ionization techniques. This versatile technique applies to many disciplines including chemistry, biology and environmental science.



NMR

The NMR spectroscopy and imaging user program features state-of-the-art facilities and unique capabilities that are available to users in solution and solid state NMR spectroscopy, as well as in MR and diffusion measurements at the highest possible magnetic fields. The user program is charged with developing instrumentation, methodology and applications at high magnetic fields through both in-house and external user activities.

UNIVERSITY OF FLORIDA – GAINESVILLE

AMRIS

AMRIS houses a variety of state-of-the-art magnet systems and instruments for biological solid-state NMR, solution NMR, microimaging, animal imaging and human imaging. AMRIS also is home to a 600 MHz, triple-resonance probe that appears to deliver the highest mass sensitivity of any probe at any frequency.

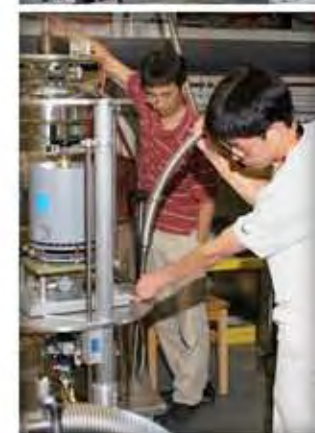
High B/T

The High B/T user program provides an experimental environment for studies that require ultra-low temperatures and high magnetic fields simultaneously. The facility is housed in an ultra-quiet environment with electromagnetic shielding and vibration isolation of the experimental station to permit high sensitivity measurements, including thermodynamic and transport properties, NMR spectra, magnetization, viscosity, diffusion and pressure.

LOS ALAMOS NATIONAL LABORATORY – NEW MEXICO

Pulsed Field

The Pulsed Field users program provides researchers with a balance of the highest magnetic fields and robust scientific diagnostics. The Pulsed Field Facility is home to a wide variety of experimental capabilities. The facility – with both short-pulse and long-pulse magnets – is equipped for experiments such as magneto-transport and magneto-optics, Hall measurement, high field spectroscopy, magnetization/susceptibility, resonance ultrasound and more.



100 Tesla Multi-Shot magnet
Photo by LeRoy N. Sanchez