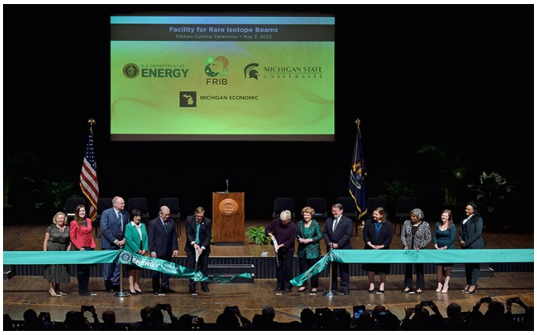
FRIB LABORATORY UPDATE for USERS

Summer 2022



FRIB ribbon-cutting 2 May

FRIB opened its doors with a ribbon-cutting ceremony on 2 May. U.S. Secretary of Energy Jennifer M. Granholm and MSU President Samuel L. Stanley Jr., M.D., cut the ribbon to officially mark the start of FRIB's scientific mission. About 900 guests attended the ribbon-cutting to celebrate FRIB opening for scientific research. FRIB was completed in January, ahead of schedule and on budget. FRIB's first scientific-user experiments started 9 May. **Read more about the ribbon-cutting event.**

First experiment concludes successfully

The first experiment at FRIB concluded successfully. Experiment spokespersons James "Mitch" Allmond (ORNL), Heather Crawford (LBNL), Ben Crider (Mississippi State University), Robert Grzywacz (UTK), and Vandana Tripathi (FSU) used the FRIB Decay Station initiator (FDSi) to study the beta-decay of calcium-48 fragments. **Read more in FRIB's article** and the **ORNL article**.

NEWS CENTER

Program Advisory Committee update: FRIB anticipates a call for proposals in fall 2022 and an FRIB Program Advisory Committee (PAC) meeting in March 2023. An announcement with details will be made later this year. Contact FRIB Manager for User Relations Jill Berryman at useroffice@frib.msu.edu with questions.

Long Range Plan: A Nuclear Science Advisory Committee (NSAC) Long Range Planning process is expected to begin this summer. The American Physical Society Division of Nuclear Physics Executive Committee is organizing and running town meetings to provide input to NSAC from the nuclear physics community. The white papers from these town meetings should convey the open science questions and the tools used to answer the questions while training the next generation of scientists. FRIB is looking forward to working with the community to articulate user priorities during this process. Contact FRIB Scientific Director Brad Sherrill at sherrill@frib.msu.edu with questions.

FRIB400 energy upgrade: The energy upgrade of the FRIB linear accelerator to 400 MeV/u for uranium (FRIB400) will double the reach of FRIB along the neutron dripline from Z=30 (zinc) to Z=60 (neodymium) into a region relevant for neutron-star crusts and to allow study of extreme, neutron-rich nuclei such as calcium-68. FRIB400 will expand the scientific impact of harvested isotopes by increasing the available yield of many isotopes by 10 times. The FRIB science community laid out the scientific opportunities in the FRIB400 white paper which was subsequently endorsed at following Low Energy Community Meetings. The energy upgrade will be further discussed with the community in the context of the Long Range Plan. To get involved or to ask questions, contact FRIB Deputy Scientific Director Alexandra Gade at gade@frib.msu.edu.

Operations Proposal review update: The U.S. Department of Energy Facilities and Project Management Division in the Office of Nuclear Physics conducted a panel review for the FRIB Operations Proposal 10-12 May. The purpose of the review was to evaluate the scientific and technical goals proposed to be accomplished at FRIB over the five-year period from January 2023 to January 2028. The review panel congratulated FRIB on achieving a 1 kW beam and providing secondary beam on target for the first experiment. The panel commended FRIB for working with the user community in developing the FRIB day-one science program, including engaging the users through the FRIB Users Organization and FRIB Theory Alliance and clearly communicating the expected available beams, as well as holding proposal preparation workshops and calculating all secondary beams for the proposals.

High Rigidity Spectrometer (HRS) update: HRS will substantially increase FRIB's scientific reach and productivity in nuclear structure and nuclear astrophysics research, tests of fundamental symmetry, and applications of rare isotopes. At present the detailed design of HRS is ongoing. HRS will likely be completed when FRIB has reached its maximum beam power, and the added capabilities of HRS will result in another jump in scientific reach of the facility. There are two upcoming reviews this year to move the project along.

Accelerator Traineeship Advisory Panel meeting held 2 June: The Accelerator Traineeship Advisory Panel held a meeting on 2 June. The focus was to review the Accelerator Science and Engineering Traineeship (ASET) program at MSU and to provide recommendations to the FRIB Laboratory director. ATAP's key findings included that it believes the program is functioning well and is encouraged by the current experience of the students at the national labs.

FRIB Users Organization update: The FRIB Users Organization (FRIBUO) has an update on its recent election, DC Day, the upcoming Low Energy Community Meeting, and its user-community survey. **Read more**

International research network welcomes new partners to expand science potential: In its quest to answer questions about the evolution and properties of cosmic matter and the origin of the world's chemical elements, the International Research Network for Nuclear Astrophysics (IReNA) is expanding to include three new crucial research partners. **Read more**

Nuclear Physics News features the Association for Research at University Nuclear Accelerators: The Nuclear Physics News has an article on the Association for Research at University Nuclear Accelerators (ARUNA). As part of its science mission, ARUNA produces a wealth of new tools, techniques, and people, all of which help to expand the reach of the field, including toward the scientific goals of FRIB. **Read more**

For more FRIB news items, visit the FRIB website.

UPCOMING EVENTS

NSCL celebration set for 12 August: The National Superconducting Cyclotron Laboratory (NSCL) ran the first experiment in September 1982. The last experiment was run 25-31 May 2022. To celebrate the intervening 40 years of NSCL operation, a hybrid (in person and virtual) "Celebration of 40 Years of NSCL Science" meeting will be held on 12 August. The meeting will start with lunch and tours and include comments and presentations on the science and history of NSCL. Register for the event online.

CONGRATULATIONS TO OUR COMMUNITY MEMBERS

Sofia Quaglioni earns 2021 Ernest Orlando Lawrence Award: A member of the FRIB Users Organization has been named as a winner of the 2021 Ernest Orlando Lawrence Award: Sofia Quaglioni. Quaglioni is a physicist and group leader in the Nuclear Data and Theory group at Lawrence Livermore National Laboratory (LLNL). **Read more**

First winners of FRIB Achievement Award for Early Career Researchers named: The FRIB Users Organization Executive Committee and the FRIB Theory Alliance Executive Board have announced the winners of the 2022 FRIB Achievement Award for Early Career Researchers: Amy Lovell, from Los Alamos National Laboratory, and Jaspreet Singh Randhawa, from the University of Notre Dame. **Read more**

2022 FRIB Visiting Scholar Program for Experimental Science names award winner: Vandana Tripathi from Florida State University is the award recipient for the 2022 FRIB Visiting Scholar Program for Experimental Science. **Read more**

Members of FRIB Users Organization named 2021 American Association for the Advancement of Science Fellows: Three members of the FRIB user community have been named 2021 Fellows of the American Association for the Advancement of Science (AAAS): Michael Annan Lisa, from Ohio State University, Filomena Nunes, from Michigan State University, and James Vary, from Iowa State University. **Read more**

FRIB graduate student receives prestigious DOE-SC grant: The U.S. Department of Energy Office of Science has awarded FRIB graduate assistant Hannah Christine Berg a highly competitive Office of Science Graduate Student Research Program grant. Berg, a PhD student in nuclear astrophysics working at FRIB, plans to conduct her on the astrophysical i-process with researchers at Lawrence Livermore National Laboratory (LLNL) in California. As part of this work she will travel to Argonne National Laboratory (ANL) to use low-energy beams from ANL's Californium Rare Isotope Breeder Upgrade (CARIBU) to constrain relevant neutron-capture reactions. **Read more**

COMMUNITY ENGAGEMENT

FRIB provides nearly 1,000 tours during Countdown event

Nearly 1,000 people toured FRIB during the FRIB Countdown on 23 April. The public event included activities, demonstrations, presentations, and tours that offered the public a glimpse at FRIB prior to the start of FRIB's scientific research program. Attendees had the opportunity to learn more about FRIB and rare-isotope research before FRIB opened its doors to scientific users from around the world on 2 May. **Read more about FRIB's public event.**

IN THE NEWS

Many national and international outlets highlighted FRIB. Below are some highlights from select outlets.

New U.S. lab to create versions of atoms never recorded on Earth (The Guardian)

Long-awaited accelerator ready to explore origins of elements (Nature)

Rare isotopes for the choosing (APS Physics)

MSU's FRIB: Ready to accelerate discoveries in nuclear physics and applications (American Nuclear Society's Nuclear Newswire)

Facility for Rare Isotope Beams opens its doors to discovery (Business Telegraph)

In search of the origin of the elements (ARD, German public radio) – Note: audio interview in German

A liquid method to prepare ion beams (Physics)

For more FRIB "In the News" items, visit the FRIB website

LOOKING AHEAD

24-29 July 2022	International Conference on Nuclear Data for Science and Technology
8-10 August 2022	Low Energy Community Meeting
12 August 2022	Celebration of 40 Years of NSCL Science
22 August 2022	DOE OPA HRS Review

For more upcoming FRIB events, visit the FRIB website.

THANK YOU TO OUR CONTRIBUTOR THIS ISSUE: Kelly Chipps

IF YOU HAVE NEWS TO SHARE, PLEASE LET US KNOW! Email communications@frib.msu.edu

The FRIB Laboratory Update for Users is published by the FRIB Laboratory and distributed via email. Please e-mail questions, comments and contributions to communications@frib.msu.edu

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Michigan State University operates FRIB as a user facility for the U.S. Department of Energy Office of Science (DOE-SC), supporting the mission of the DOE-SC Office of Nuclear Physics.