ARUNA Overview

Dan Bardayan
University of Notre Dame

ARUNA (Association for Research at University Nuclear Accelerators)

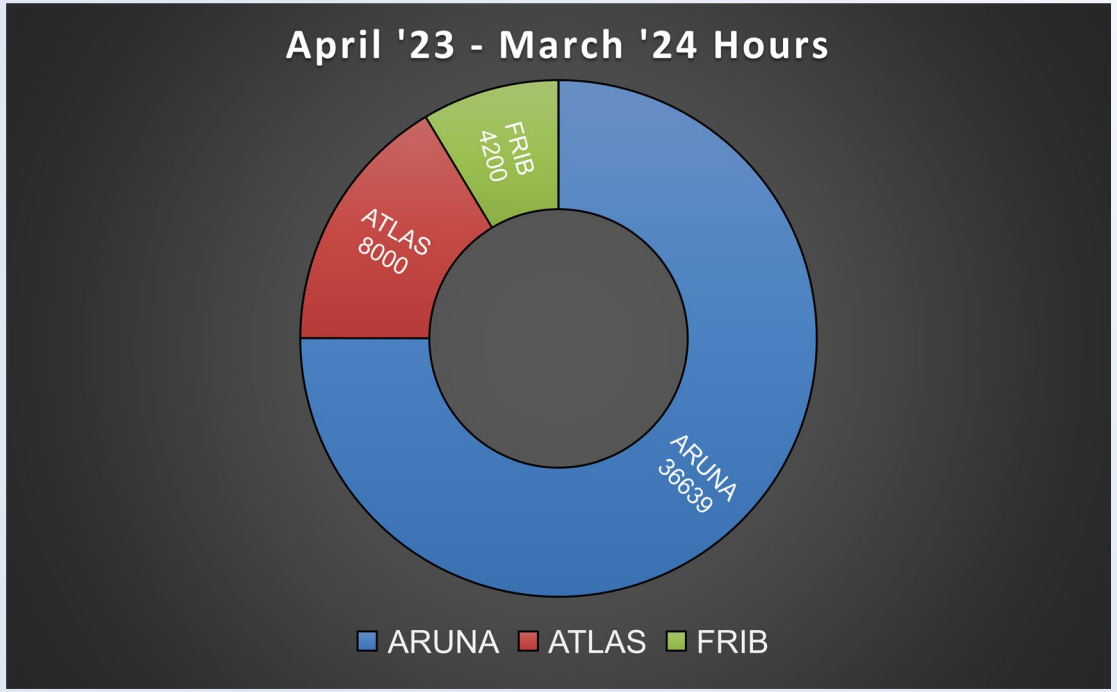
- ARUNA is an association of 13 university-based accelerator laboratories.
- Gettysburg College recently joined as a new member.
- ARUNA was founded in 2010, with the goals to optimize the use of university-based accelerator facilities, increase the opportunities for education around them, and document their scientific impact as part of the U.S. nuclear science enterprise.



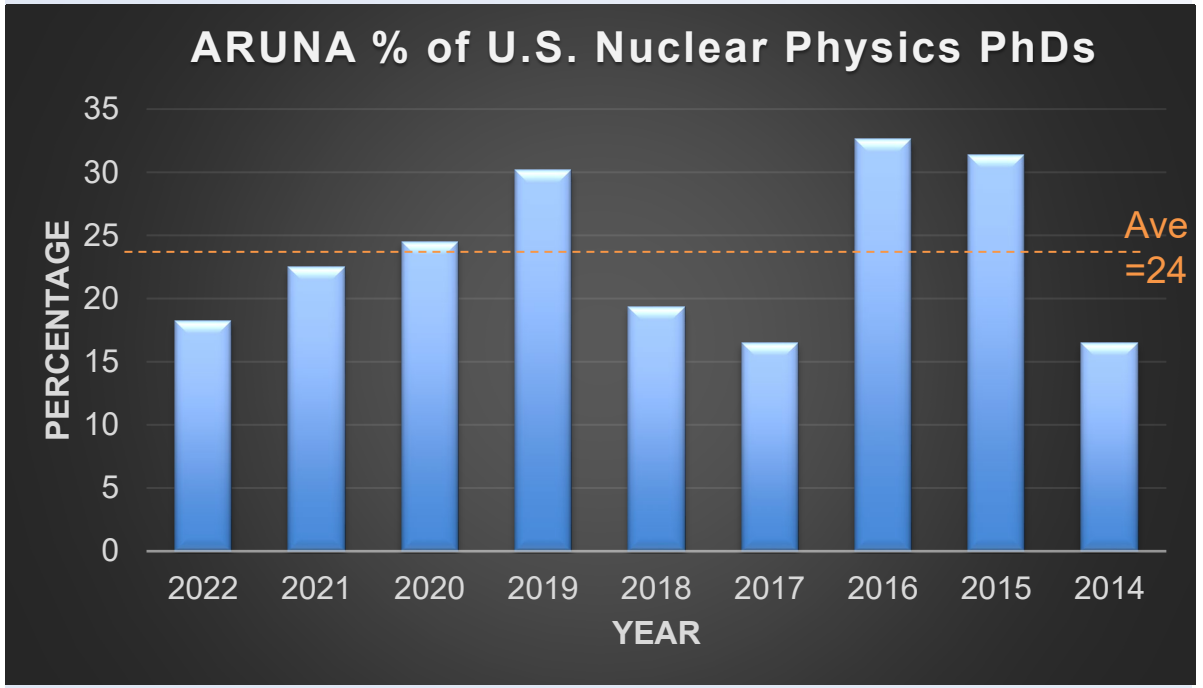
ARUNA impacts low-energy nuclear physics research

- The opportunities available at ARUNA labs provides substantial impacts on nuclear physics research in the U.S. and world-wide.

- High availability of beam time.



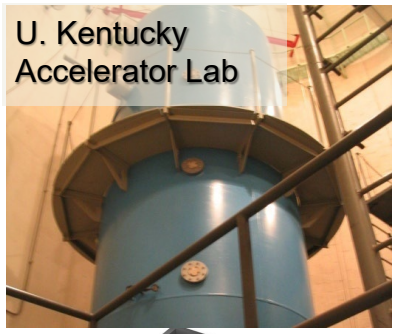
- Educate large number of PhDs.



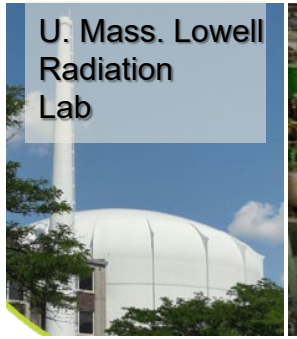
Total nuclear includes low energy, RHIC, JLab, theory, etc...

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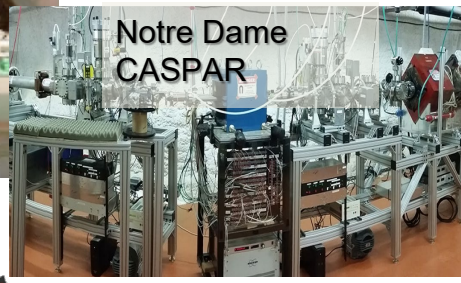


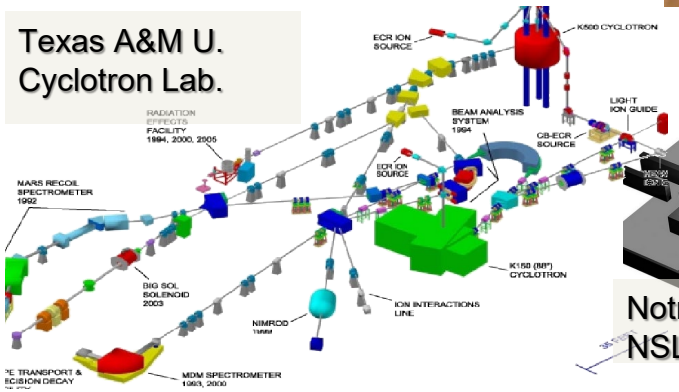


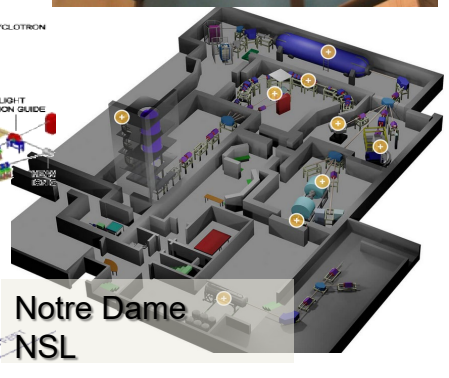


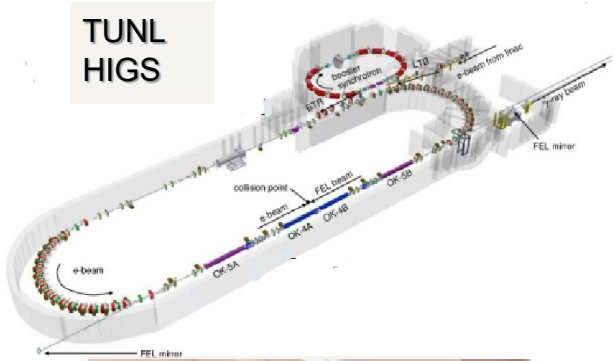


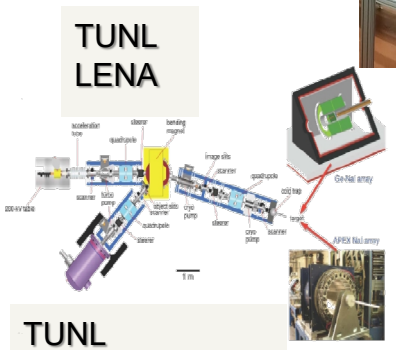








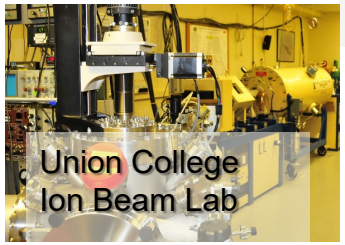




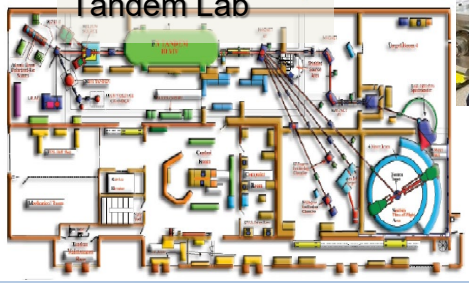






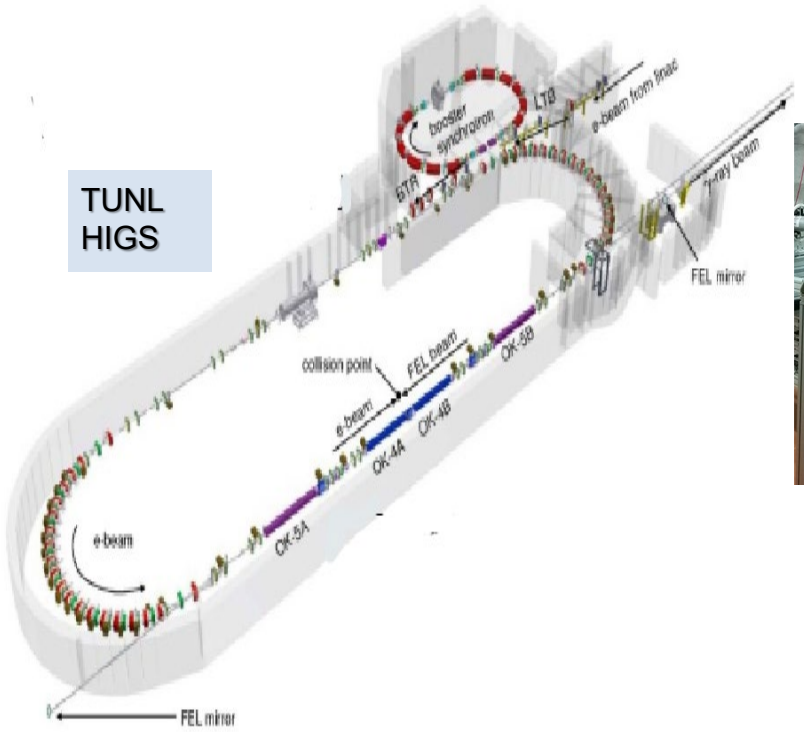






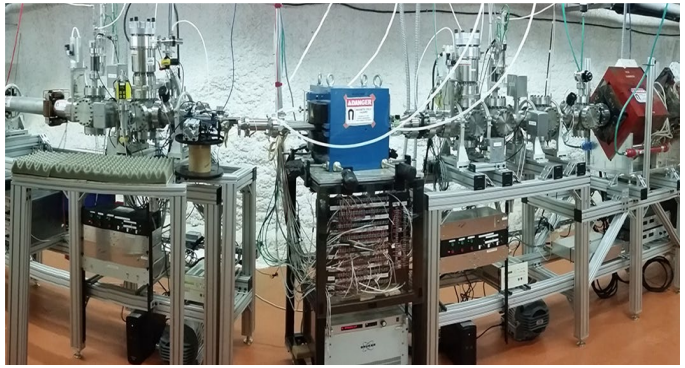
ARUNA labs host unique facilities

TUNL
HIGS

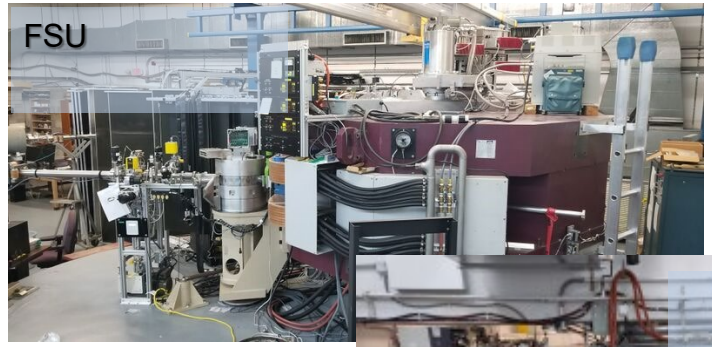


Nearly mono-energetic, polarized gamma-ray beams with energies ranging from 1 to 100 MeV

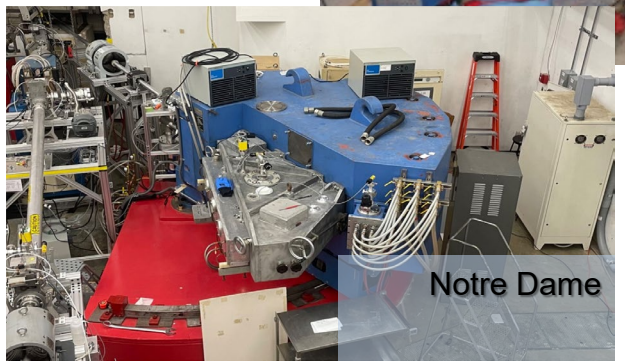
Notre Dame
CASPAR



Only underground nuclear physics accelerator lab in the U.S.







Roughly ½ of operating Enge spectrographs in the world are at ARUNA labs

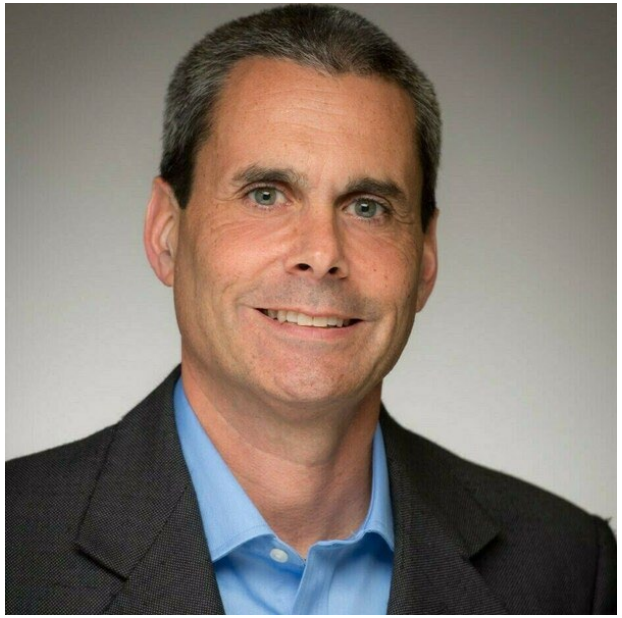
ARUNA Directorship Transition

Ingo Wiedenhoever



2010 - 2024

Dan Bardayan



2024 - present

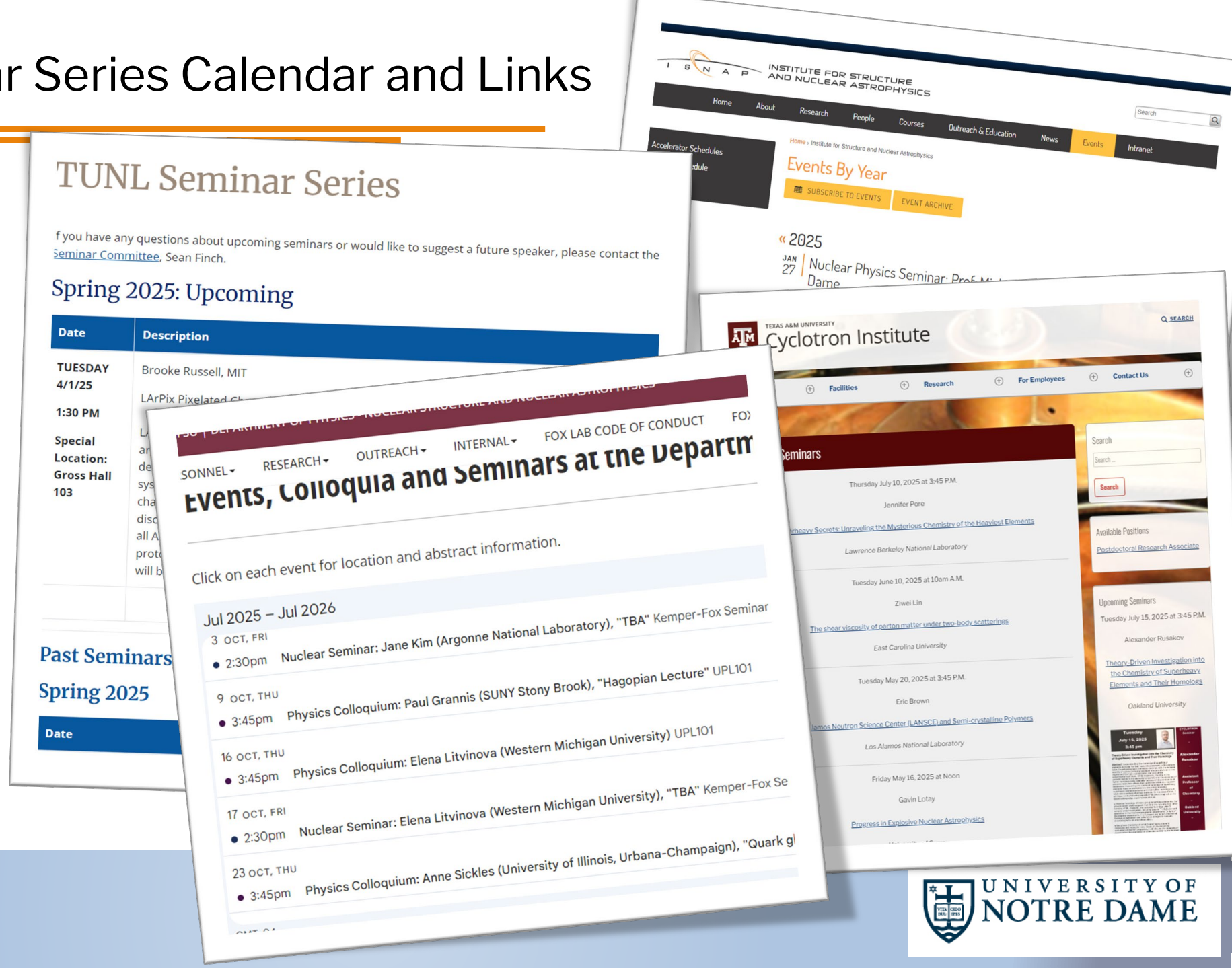
CENAM Frontiers 2024



ARUNA “unconference”

Combined Seminar Series Calendar and Links

- Would like to create unified ARUNA seminar calendar. Ideally would have zoom links.
- Augmented with ARUNA seminar series so that students could learn about the capabilities of the other ARUNA laboratories.



Combined Research Highlights/News

- Plan to unify research highlights and news items to maximize impact of ARUNA accomplishments.



Working Group Made Up of Students/Postdocs

- Will rely on working group made up of students and postdocs to extract and collect data.
- Ideally would have a representative from each of the labs hosting graduate programs.
- Each representative would then focus on collecting data from their “home” lab.

- Sam Porter (Notre Dame) - chair
- Joseph Derkin (Notre Dame)
- Sean Byrne (UMass-Lowell)
- Austin Rambo (Ohio U.)
- Bikash Chauhan (Ohio U.)
- Chris Sehring (Texas A&M)



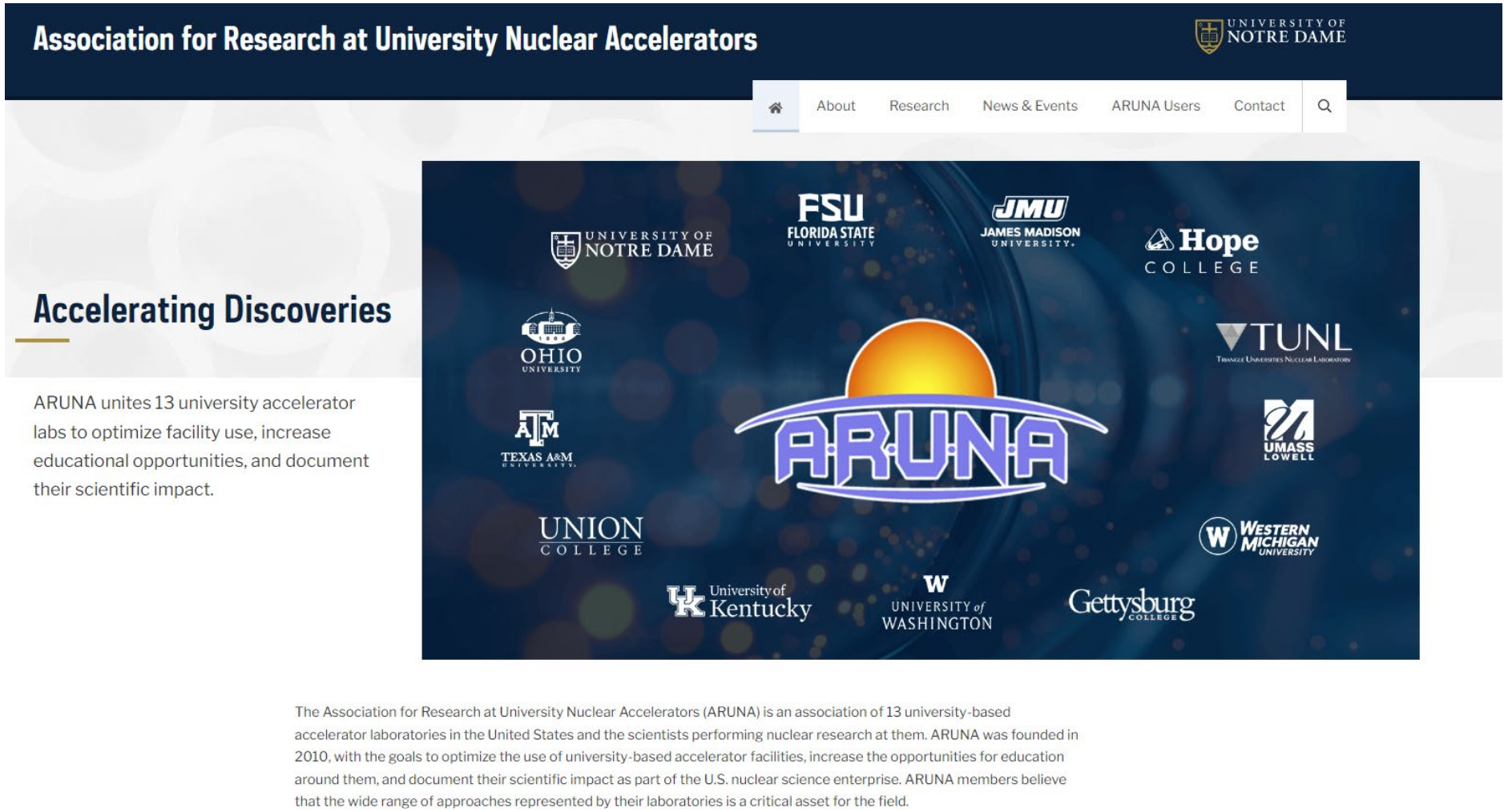





Need representatives from FSU and TUNL!!!!

New ARUNA website (https://aruna.nd.edu)

- Please update your links.
- Old FSU site currently redirects to new ARUNA site.



Other Possible Ideas

- Voluntary Membership Fees

ARUNA Users Meeting
Sponsor Summer Schools/Workshops.

- Combined Experiment Schedule

Some sort of rolling list arranged chronologically that would help create a greater sense of unity and openness to collaboration. Encourage student participation in off-site experiments.



Other Possible Ideas

- Job Listings
- Such as open tenure-track position at Notre Dame.
- Apply at https://apply.interfolio.com/168722 by October 21.

Employment Opportunities

Tenure-Track Faculty Position in Experimental Low-Energy Nuclear Physics

The Department of Physics and Astronomy at the University of Notre Dame invites applications for a tenure track faculty position in Experimental Low-Energy Nuclear Physics. The position is expected to be filled at the assistant professor level, but applications from exceptional researchers at higher ranks will also be considered.

The Nuclear Physics group presently consists of nine experimental and four theoretical tenure track faculty studying problems in nuclear astrophysics, nuclear structure, fundamental symmetries, and nuclear applications. The successful candidate is expected to develop a research program in low-energy nuclear physics centered around the use of the Notre Dame Nuclear Science Laboratory (https://isnap.nd.edu) or CASPAR (https://caspar.nd.edu). Opportunities also exist for additional experimental programs at nearby facilities such as ATLAS and FRIB.

We seek faculty members committed to developing and sustaining an environment of inclusive excellence in research, teaching, and service. The successful candidate must demonstrate the ability to develop a highly successful research program, attract independent research funding, teach effectively at both the graduate and undergraduate levels, and engage with students from diverse backgrounds. Applicants must have a Ph.D. or equivalent advanced degree. Salary and rank will be commensurate with the successful applicant's experience and research accomplishments. Position duties include research, teaching and service. The expected start date is August 2026.

The Department of Physics and Astronomy at Notre Dame has 47 tenured and tenure-track faculty; another 29 research, teaching and concurrent faculty, as well as professors of the practice; more than 100 graduate students; and ~100 undergraduate physics majors. Additional information about the department and the College of Science can be found at http://physics.nd.edu and http://science.nd.edu respectively.

Conclusions

- ARUNA is an association of 13 university-based accelerator laboratories.
- Hopefully convinced you it's an important and thriving asset to the nuclear physics community.
- We are evolving to better meet our users needs.
- Please join the users group by going to the website https://aruna.nd.edu

Thank you!!!!