

Nuclear Science User Facilities (NSUF) User Access Opportunities

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Neutron
Reactors



12 reactor facilities at national laboratories and universities including the Advanced Test Reactor at INL



Gamma & Ion
Irradiation



7 gamma irradiation facilities and 7 ion beam facilities at national laboratories and universities



Post-Irradiation
Examination



Multiple hot cell and broad post-irradiation examination facilities including advanced characterization methods



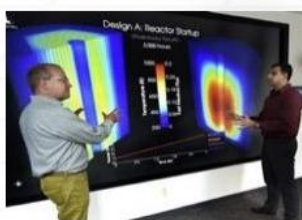
Beamlines



Synchrotron and neutron beamlines for nuclear fuel and materials studies



Computational
Resources



Scientific high-performance computing capabilities for advanced modeling and simulation at INL

NSUF offers the **best** capabilities across the nation

Cutting-Edge Resources:

Access to infrastructure and associated capabilities across 21 partner sites

Open access: Available to industry, academia, and national labs for non-proprietary R&D

Education and training:

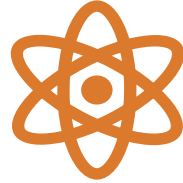
Workshops, webinars, and hands-on skill development

Impact: Increase understanding to drive innovation across nuclear energy technologies

NSUF Objective

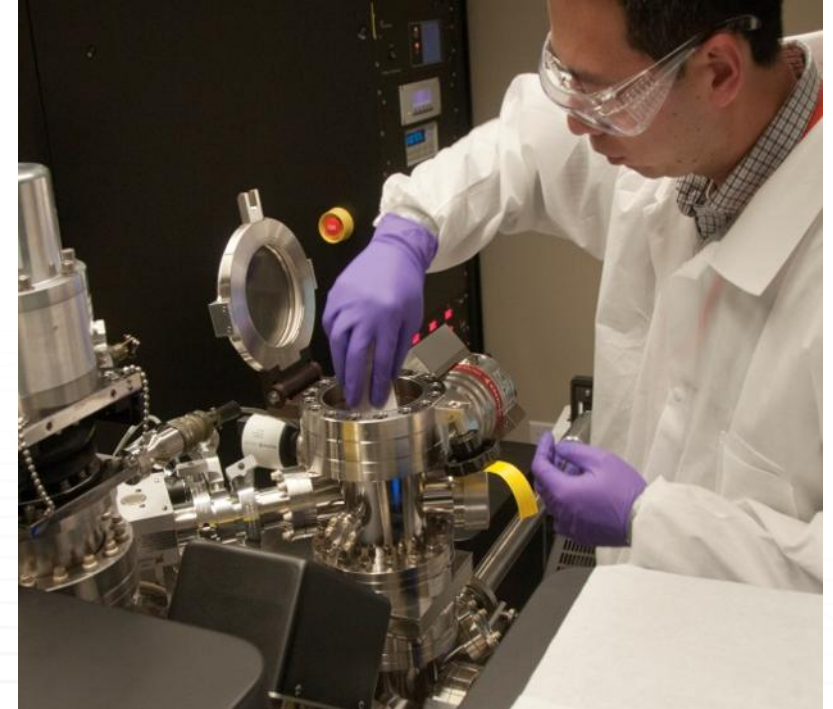


Offer an avenue for researchers to perform irradiation effects studies on nuclear fuels and materials



Access to NSUF capabilities is granted through competitive proposal processes:

1. Rapid Turnaround Experiments (RTEs)
2. Consolidated Innovative Nuclear Research (CINR) Notice of Funding Opportunity (NOFO) Announcement



RTE Overview: Traditional RTEs and Super RTEs

Rapid Turnaround Experiments (RTEs) offer researchers the opportunity to perform irradiation effects studies of *limited* scope on a *small* number of samples, at no cost to researcher.

Traditional RTE

- Completion within 9 months of award.
- RTE solicitations typically run on a 4-month cycle from the opening of the call to announcement of awards. Calls are typically opened 2 times per year.
- <https://nsuf.inl.gov/Page/rte>

Super RTE

- Twice the allowable time at partner facilities and up to 2 partner institutions for post-irradiation examination (PIE).
- Completion of RTE projects is expected within 12 months of award.
- Super RTE solicitations typically solicited and are awarded annually.

https://nsuf.inl.gov/Page/super_rte

RTE Rules Highlights

- RTEs must support the Department of Energy (DOE) Office of Nuclear Energy mission.
- Produced data will lead to scientific or engineering outcomes that are suitable for publication and will be attributed to the NSUF.
- Studies must focus on irradiated or radioactive materials or nuclear fuels research, including in-situ sensor performance characterization.
- Multiple partner institutions may be requested:
 - Sample preparation/shipping;
 - Irradiation;
 - PIE
- Completion report summarizing work completed and data obtained is required.

Principal Investigator Information

- Proposals are welcome from principal investigators (PIs) affiliated with a U.S. university, government laboratory, or industry.
- International applicants will be accepted if proposal includes a significant collaborator from a U.S. entity.
- A PI may only submit one proposal per call.
- A PI may have only two active RTE projects at any given time.
- The NSUF does not provide funding to the PI to support salaries, tuition, travel, or other costs. Applicants must have a source of R&D funding that will fund all components of the proposed project not funded by the NSUF.

Facility Guidelines for RTE Experiments

- Requests for NSUF facilities should remain within Facility Guidelines to ensure appropriate scope and budget.
 - Facility Guidelines for RTE Experiments <https://nsuf.inl.gov/Page/rte>
 - Facility Guidelines for Super RTE Experiments https://nsuf.inl.gov/Page/super_rte

Institution	Facility	Irradiated Sample Preparation	Irradiation	PIE	Beamline	Allowed Time
Argonne National Laboratory Proposals that request irradiation and PIE at IVEM or APS should assume approximately one week of irradiation access and one week of PIE access to remain within the suggested guidelines.	Activated Materials Laboratory at the Advanced Photon Source	Yes		Yes	X-ray	72 hours
	Intermediate Voltage Electron Microscopy - Tandem Facility		Ion	Yes		80 hours
	Irradiated Material Laboratory	Yes		Yes		80 hours
Brookhaven National Laboratory	NSLS II X-ray Powder Diffraction (XPD) Beamline				X-ray	24 hours
Center for Advanced Energy Studies	Microscopy and Characterization Suite	Yes		Yes		120 hours
Idaho National Laboratory	Analytical Laboratory			Yes		80 hours
	Electron Microscopy Laboratory*	Yes		Yes		80 hours
*Restricted access facility: U.S. citizenship required for on-site access.						

FY 2026 RTE Calls

1st Call:

- Opened December 2025, closed January 29, 2026
- Under review & awards expected soon

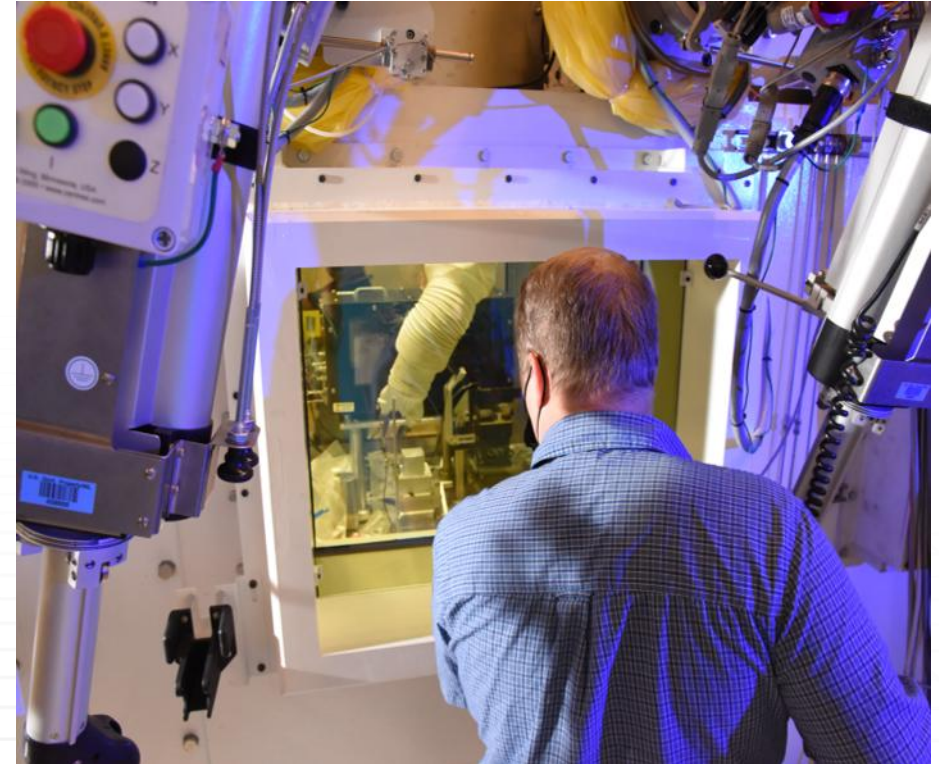
Super RTE Call:

- Opened May 4, 2026; Closed June 1, 2026
- Under review & awards expected in September

2027

1st Call expected to open October 1, 2026

Super RTE expected to open April 1, 2027



Tips for Success



Plan ahead and start application early



Work with facility representative(s) *before* submitting proposal



Ensure sample readiness



Request samples from the NSUF Nuclear Fuels and Materials Library when possible



Read RTE or Super RTE Rules for Proposal Submission



Seek feedback

NSUF CINR Overview

- In close coordination with the Nuclear Energy University Program, Nuclear Science User Facilities (NSUF) seeks proposals that will utilize NSUF irradiation, post-irradiation examination and beamline capabilities through the **Consolidated Innovative Nuclear Research (CINR) Notice of Funding Opportunity (NOFO)** formerly called the **Funding Opportunity Announcement (FOA)**.
- Through the NSUF CINR topic areas, NSUF provides no-cost access to world class capabilities to facilitate the advancement of nuclear science and technology. In addition to access to state-of-the-art facilities, NSUF provides technical assistance including the design and analysis of reactor experiments.



FY 2026 CINR NSUF Topic Areas

NSUF-1: NSUF Access with R&D

- U.S. University-led
- R&D support is only permitted for tasks associated with the execution of the requested NSUF capabilities
- Up to \$1,000,000 per award

NSUF-2: NSUF Access Only

- U.S. University-, National Laboratory-, or Industry-led
- This topic does NOT provide R&D support
- Access value determined by NSUF office

Proposals with NSUF access can include:

- Ion, neutron, and gamma irradiation
- X-ray synchrotron beam or neutron beam interrogation
- Post-irradiation examination
- Advanced materials characterization
- High-performance computing

How to find RTE and CINR information at NSUF website

- Guidance:
 - <https://nsuf.inl.gov/Page/cinr>
 - <https://nsuf.inl.gov/Page/rte>
 - https://nsuf.inl.gov/Page/super_rte
- Previously awarded projects:
<https://nsuf.inl.gov/Home/Projects>
- More information



The screenshot shows the 'CINR Notice of Funding Opportunity' page on the NSUF website. The header features the title 'CINR Notice of Funding Opportunity' over a background image of a modern building. Below the header, the page is divided into sections. The first section, 'Solicitations / CINR Notice of Funding Opportunity', includes the title 'Fiscal Year 2026 CINR NOFO'. The text explains that the NSUF seeks proposals for utilizing its irradiation, post irradiation examination, and beamline capabilities through the 'Consolidated Innovative Nuclear Research (CINR) Notice of Funding Opportunity (NOFO)'. It also mentions that the NSUF provides no cost access to world class capabilities to facilitate the advancement of nuclear science and technology. A second paragraph states that in addition to access to state of the art facilities, the NSUF provides technical assistance including the design and analysis of reactor experiments, and that NSUF Technical Leads can be found on the 'Contacts page'. A third paragraph notes that application information is available in Part IV in the 'FY26 CINR NOFO'. Below the text, there are two orange buttons: 'FY 2026 CINR NOFO' and 'Submit CINR Application'. The next section, 'Important Dates', states that all deadlines are at 5 p.m. ET. It contains a table with three rows of deadlines.

Letter of Intent	January 5, 2026 5:00 PM EST
R&D/NSUF Pre-Applications	January 28, 2026 5:00 PM EST
Full R&D/NSUF and IRP Applications	June 9, 2026 5:00 PM EST

NSUF User Association

<https://nsuf.inl.gov/nsuo>

The NSUF Users Organization aims to provide a formal and clear channel for the exchange of information and advice between the investigators who perform reactor-based nuclear technology experiments and the NSUF management.

Membership in the organization is open to all users and potential users of the various NSUF facilities and scientists and engineers engaged in the operation and development of these facilities.

Potential members can join by self-nomination.



Questions?



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