Prof. Maria Okuniewski, Purdue University, NSUF UO Chair

Agenda

9:00 – 9:10 – Maria Okuniewski (Chair NSUF Users' Organization, Purdue University) – *Welcome and Introduction*

9:10 - 9:30 – Chris Barr (Program Manager, NSUF, DOE-NE) – *Nuclear Science User Facilities*

Machine Learning, Artificial Intelligence, and Automation

9:30 – 9:45 Kevin Field (University of Michigan) – *Accelerating NSUF studies with Artificial Intelligence and Machine Learning at Partner Facilities*

9:45-10:00 Adrien Couet (University of Wisconsin at Madison) – *High-throughput irradiation and characterization capabilities at UW Ion Beam Laboratory to support data-driven modeling and nuclear materials design*

10:00-10:15 James Haley (Oak Ridge National Laboratory) – *Simulation and Sensing Driven Automation in Additive Manufacturing for Adaptive Materials Research*

10:15 – 10:35 *Break and Poster Viewing*

NSUF Nuclear Scienc User Facilities
Users Organization

Agenda

NSUF User Data Storage, Sharing, Data Embargo, Demonstration, and Discussion

10:35 -10:55 Anna Podgorney & Bradlee Jensen (Idaho National Laboratory) – *Nuclear Research Data Search (NRDS)*

10:55-11:15 All Participants - Discussion

Expansion of Capabilities Supported by NSUF Instrument Scientist Awards

11:15-11:30 Sven Vogel (Los Alamos National Laboratory) – *HIPPO Meets ERNI & BERT - Combining Diffraction and Imaging for Characterization of Nuclear Materials*

11:30-11:45 T.S. Byun (Oak Ridge National Laboratory) – *Miniaturized Fracture Toughness Testing Technology for Irradiated Materials*

11:45-1:15 *Lunch (On your own) & Poster Viewing*

NSUF Nuclear Scienc User Facilities
Users Organization

Agenda

New Developments within NSUF

1:15 – 1:35 Brenden Heidrich (Director, NSUF, Idaho National Laboratory) – *State of the NSUF*

1:35 – 2:00 All Participants - NSUF Users Feedback

Election for NSUF User's Organization Executive Committee Members

2:00 – 2:30 All Users

2:30 – 3:00 *Break and Poster Viewing*

New NSUF Capabilities

3:00– 3:15 – Mehmet Topsakal (Brookhaven National Laboratory, NSLS-II) - *Capability upgrades and future plans for nuclear materials research at NSLS-II*

- **3:15-3:30 – Weiying Chen (Argonne National Laboratory, IVEM) - *Capability updates for IVEM-Tandem facility***

NSUF Nuclear Scienc User Facilities
Users Organization

Agenda

Super Rapid Turn-around Experiment

3:30-3:45 – David Frazer (General Atomics) -*Performance of SiC-SiC Cladding and Endplug Joints Under Neutron Irradiation*

Additive Manufacturing in Nuclear

3:45 – 4:00 - Bai Cui (University of Nebraska-Lincoln) – *Compositionally Complex Carbides for Extreme Environments*

Closing Remarks

4:00 – 4:15 - Maria Okuniewski (Chair NSUF Users' Organization, Purdue University)

NSUF Nuclear Scienc User Facilities
Users Organization

Register for *in person* attendance:

Register for *online* attendance:

About 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.
  - Serve as an advocacy group for the experimental activities at the NSUF.
  - Provide a communication channel among users of the NSUF.
  - Educate the public and decision-makers on the benefits of the use of nuclear energy for energy generation.

NSUF Nuclear Scienc User Facilities
Users Organization

Can I join?

- YES - 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.

- www.nsuf.inl.gov
  - My Research → Create an Account

Nuclear Scienc
User Facilities
Users Organization

https://nsuf.inl.gov/Account/Register

Update InPrivate

*NUREG/CR-6551 I... Mail - Okuniewski,... New tab Books(88) Mail - Okuniewski,... Mail - Okuniewski,... Class Schedule Listing Dell definition of a quad... View Proposal

NSUF Nuclear Science User Facilities

Account Registration

Account

Multi-Factor Authentication (MFA) Requirement

NSUF accounts are required to use a third-party authenticator service, such as Microsoft Authenticator, Google Authenticator, OKTA Verify, etc.
A QR code to add this NSUF account to an authenticator will be provided during login.

User Name — Please provide a memorable username for your account. This is ***required***, and must be unique. The minimum length allowed is 6 characters.

NSUF Participation

Tech Reviewer — ☐ I would like to participate as a Technical Reviewer for RTE Proposals

Users Org — ☐ I would like to join the NSUF Users Organization

Sign up for the NSUF UO Mailing List (independent of INL)

Users Organization

Meet the Team

Maria Okuniewski, Purdue University, Chair

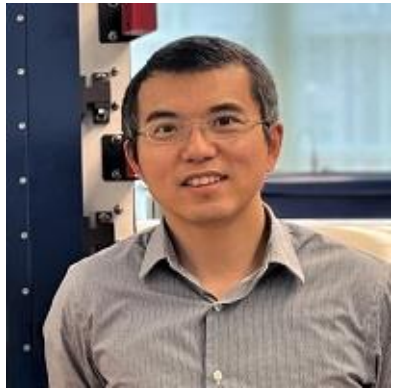
Stephen Taller, Oak Ridge National Laboratory, Vice Chair

Prabhakaran, Pacific Northwest National Laboratory

Gabriel Meric de Bellefon, Kairos Power, Chair Ex-Officio

Peter Hosemann University of California, Berkeley, Representative Member / Ex-Chair

Keyou Mao Florida A & M, Representative Member



Xiaoyuan Lou Purdue University, Representative Member

Simerjeet Gill, Brookhaven National Laboratory, Representative Member

David Frazer, General Atomics, Representative Member

Mukesh Bachav,, Idaho National Laboratory, Representative Member

Malachi Nelson, UCB Representative Member, Emerging Professional

s Organization

Elections

- Seeking 2 positions: Secretary and Emerging Professional Member

1. *Secretary*: Eight year-term - the first two years as a Secretary, transitions to Vice-Chair (two years), then Chair (two years) and finally as a Chair Ex-Officio (final two years).
2. *Emerging professional member*: (graduate student or postdoctoral fellow) for a two-year term.

- Self-nominations must be sent to Ramprashad Prabhakaran (ramprashad.prabhakaran@pnnl.gov) by March 27, 2025.
  - Include a photo, organization name, position, and 2-3 sentences about you and why you would like to serve on the Users Organization Executive Committee.
- New positions start Oct 1, 2025

NSUF Nuclear Scienc User Facilities
Users Organization

Poster Presentations

Academic

Name	Affiliation	Title
Rashed Almasri	North Carolina State University	In-situ TEM Analysis of Xe-Irradiation-Induced Bubble Dynamics and Swelling in Zirconium Carbide (ZrC) and Nitride (ZrN) at 800°C
Nathan Curtis	University of Wisconsin-Madison	Local chemical ordering in a CrFeMnNi compositionally complex alloy under neutron irradiation
Artur Santos Paixao	Texas A & M University	Combination of ion irradiation testing and finite element analysis for risk assessment of Cr-coated fuel cladding over a fuel cycle
Valentin Pauly	University of Michigan	Prediction of Neutron-Irradiated Cavity Microstructures via Dual-Ion Irradiation up to 184 dpa in T91 Steel

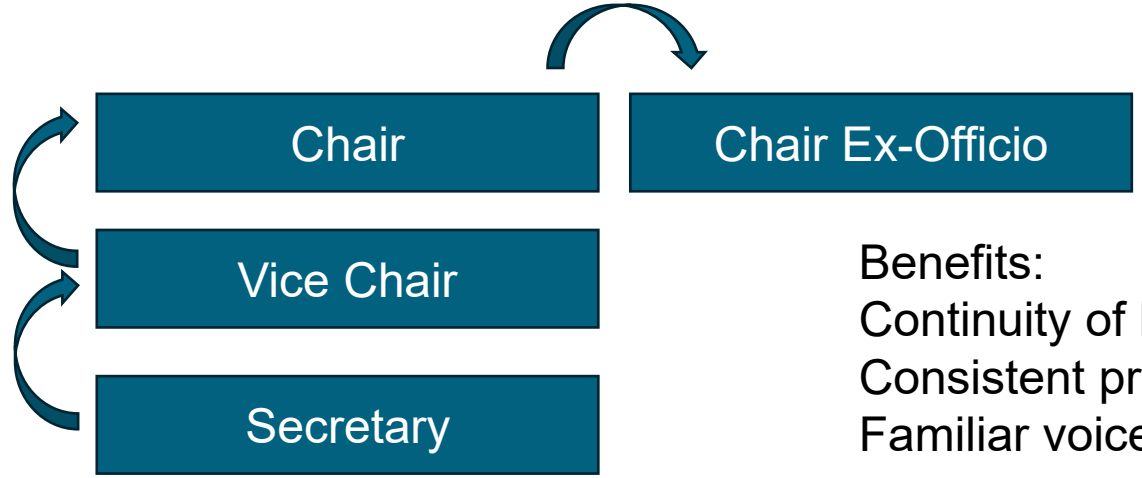
Facilities

Name	Affiliation	Title
Keith Jewell	Idaho National Laboratory	The Advanced Test Reactor
Kenneth Cooper	Oak Ridge National Laboratory	Flexible Irradiations for Accelerated Development of Advanced Nuclear Fuels and Materials
Raymond Cao	Ohio State University	Research Capabilities at The Ohio State University Nuclear Reactor Laboratory: Supporting Sensor and Sensor Materials Irradiation Testing
Ramprashad Prabhakaran	Pacific Northwest National Laboratory	Nuclear materials PIE capability at PNNL
Brandon Bohanon	University of Florida	Nuclear Fuels and Materials Characterization Facility (NFMC) at the University of Florida

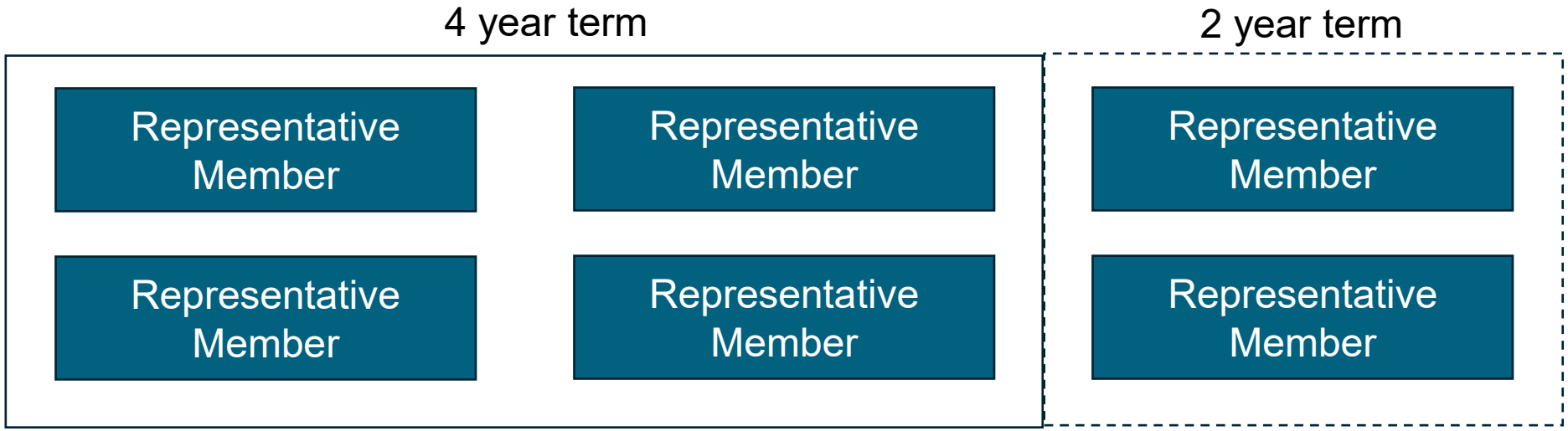
U.S. DEPARTMENT OF ENERGY | *Office of* NUCLEAR ENERGY

Organizational Structure for Executive Committee

Officers
2 year term
in each position



Benefits:
Continuity of Knowledge
Consistent presence at NSUF meetings
Familiar voices for user advocacy



Restrictions imposed:
Exec committee strives to have scientific and institutional diversity reflected and avoid multiple members representing similar interests.
Neither the Chair, Vice-Chair nor Secretary shall be an employee of the organization contracted for the management or operation of Idaho National Laboratory.

Up to 2 positions reserved for emerging professionals (graduate students, postdocs)

NSUF Nuclear Science User Facilities
Users Organization