



# Nuclear Science User Facilities (NSUF) Annual Program Review

**Monday May 11 to Wednesday May 13, 2026**

**Objective:**

- Provide program overview including recent accomplishments.
- Provide technical highlights from recently completed and active NSUF-supported user access projects.
- Engage with program stakeholders and obtain feedback.

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## Monday May 11 Morning Session - Program Review

MST/EST

9:00/11:00	Welcome and Introductions .....	Brenden Heidrich <i>NSUF Director</i>
9:10/11:10	DOE-NE Perspective and FY 2026 Outlook .....	Christopher Barr <i>DOE-NE NSUF Program Manager</i>
	.....	Suibel Schuppner <i>DOE-NE Office Director-Office of Crosscutting Capabilities</i>
9:25/11:25	NSUF Overview .....	Brenden Heidrich <i>NSUF Director</i>
10:10/12:10	Break	
10:30/12:30	CINR Experiment Awards and Status .....	Derek Whipple <i>NSUF Program Administrator</i>



11:00/1:00 RTE Experiment Awards and Status.....Kathy Johns Swartz  
*NSUF Program Administrator*

**Monday May 11 Morning Session - Program Review**

11:30/1:30 PIE Status at Westinghouse Churchill ..... Catherine Cmar  
*Westinghouse Churchill*

12:00/2:00 Lunch

**Monday, May 11 Afternoon Panel Session - NSUF User Access Awards: Structural Materials**

*Panel Chair – Rongjie Song, Chief Scientist*

MST/EST

1:00/3:00 Session Introduction – Structural Materials Related R&D under NSUF

1:10/3:10 Enhancing Irradiation Tolerance of Steels via Nanostructuring by Innovative Manufacturing Techniques..... Haiming Wen  
*Missouri University of Science and Technology*

1:30/3:30 Assessment of Irradiated Microstructure and Mechanical Properties of FeCrAl Alloy Fabrication Routes.....Haozheng Qu  
*General Electric Research*

1:50/3:50 Post Irradiation Examination of High Entropy Carbides ..... Todd Sherman  
*Idaho National Laboratory*

2:10/4:10 Investigating effect of dose rate on microstructure evolution in 800H alloy at high doses..... Xingyu Liu  
*Penn State University*

2:30/4:30 Hybrid proton and heavy ion irradiation for void swelling testing ..... Benjamin Mejia Diaz  
*Texas A&M University*

2:50/4:50 Wrap-up and Discussion

3:00/5:00 Adjourn

## Tuesday, May 12 NSUF Program Update

MST/EST

- 9:00/11:00 NSUF User Organization Overview..... Stephen Taller  
*NSUF User Organization Chair*
- 9:20/11:20 Nuclear Fuels and Materials Library.....Anna Podgorney  
*NSUF Program Administrator*
- 9:40/11:40 Activated Materials Laboratory ..... Xuan Zhang  
*Argonne National Laboratory*
- 10:00/12:00 MaCS Lab at the Critical Materials and Energy Systems Innovation Center  
..... Mukesh Bachhav  
*Idaho National Laboratory*
- 10:20/12:20 Break

## Tuesday, May 12 NSUF Program Capabilities and Instrument Scientists

### *Panel Chair – Jeff Giglio*

- 10:40/12:40 Extraction of Bulk-like Properties through Nanoindentation to Enhance Utilization  
of the NSUF Nuclear Fuels and Materials Library ..... Stephen Taller  
*Oak Ridge National Laboratory*
- 10:55/12:55 Advanced Measurement, Analysis, Control, and Thermal Conductivity Mapping of  
Nuclear Fuels Using the Thermal Conductivity Microscope  
.....Ethan Hisle  
*Idaho National Laboratory*
- 11:10/1:10 In-Situ Study of Interface under Irradiation and Deformation.....Wei-Ying Chen  
*Argonne National Laboratory*
- 11:25/1:25 Zeiss XRADIA 620 VERSA X-ray Microscope  
..... William Chuirazzi  
*Idaho National Laboratory*
- 11:40/1:40 Enabling Specific Heat Measurements via the Laser Flash Technique: Improving  
Throughput and Measurement Accuracy ..... Tsveti Pavlov  
*Idaho National Laboratory*
- 11:55/1:55 Lunch



**Tuesday, May 12 Panel Session – NSUF User Access Awards: Fuel and Cladding Materials**

**Panel Chair – Allen Roach, NSUF Chief Scientist**

MST/EST

- 1:00/3:00 Session Introduction – Fuel Related R&D under NSUF
- 1:10/3:10 UN Multi-design Irradiation Campaign: a critical assessment of accelerated burnup and main correlations for mechanistic fuel performance modeling ..Elizabeth Sooby  
*University of Texas at San Antonio*
- 1:30/3:30 Measurement of Fission Product production yields .....Andrea Mattera  
*Brookhaven National Laboratory*
- 1:50/3:50 In situ irradiation of spent nuclear fuels .. Cameron Howard  
*Idaho National Laboratory*
- 2:10/4:10 Self-Alpha Irradiation of UO<sub>2</sub>-UB<sub>2</sub> Fuel ..... Sadman Sakib  
*North Carolina State University*
- 2:30/4:30 Characterization of fluff region in a EBR-II metallic fuel pin ..... Jake Fay  
*Idaho National Laboratory*
- 2:50/4:50 In-Situ TEM Characterization of Ion-Irradiated U-10Mo Alloys at Sub-Eutectoid Temperatures.....Sukanya Majumder  
*Purdue University*
- 3:10/5:10 Wrap-Up and Discussion
- 3:20/5:20 Adjourn

**Wednesday, May 13 NSUF Program Update – High Performance Computing**

MST/EST

- 9:00/11:00 High Performance Computing Accomplishments .....Matthew Anderson  
*Idaho National Laboratory*
- 9:45/11:45 Idaho National Laboratory Computing Facility (INL CF)..... Jason Hales  
*Idaho National Laboratory*
- 10:00/12:00 Nuclear Research Data System (NRDS) .....Bradlee Jensen  
*Idaho National Laboratory*

**Wednesday, May 13 NSUF Program Update – High Performance Computing**



- 10:30/12:30 Break
- 11:00/1:00 Semantic Intelligence: A RAG-Based Knowledge Discovery Platform on HPC for NSUF ..... TK Yao  
*Idaho National Laboratory*
- 11:30/1:30 Updates on Sample Preparation Laboratory and Materials and Fuels Complex ..... Anne Demma  
*Director, Materials and Fuels Complex*
- 11:50/1:50 Lunch

**Wednesday, May 13 Panel Session – NSUF User Access Awards, Sensor Materials**

***Panel Chair – Allen Roach, NSUF Chief Scientist***

MST/EST

- 1:00/3:00 Session Introduction – Sensor Related R&D under NSUF
- 1:10/3:10 Measurement of Time-Dependent Transmissivity of Materials for Optical Sensors and Instrumentation ..... Igor Jovanovic  
*University of California Berkeley*
- 1:30/3:30 Nondestructive Evaluation of Fracture Properties in Irradiated Light Water Reactor Pressure Vessel Steels..... James Wall  
*EPRI*
- 1:50/3:50 Temperature effects of rhodium self-powered neutron detectors in a gamma field ..... Kevin Tsai  
*Idaho National Laboratory*
- 2:10/4:10 Examination of irradiation effects on printed strain gauges..... Amey Khanolkar  
*Idaho National Laboratory*
- 2:30/4:30 Wrap-Up Discussion and Meeting Closeout
- 3:00/5:00 Adjourn