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Nuclear Energy

Nuclear Science User Facilities
Communications Update

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NSUF Communications Specialist



FY 2016 NSUF Annual Program Review
Germantown, Maryland
Tuesday, Nov. 1



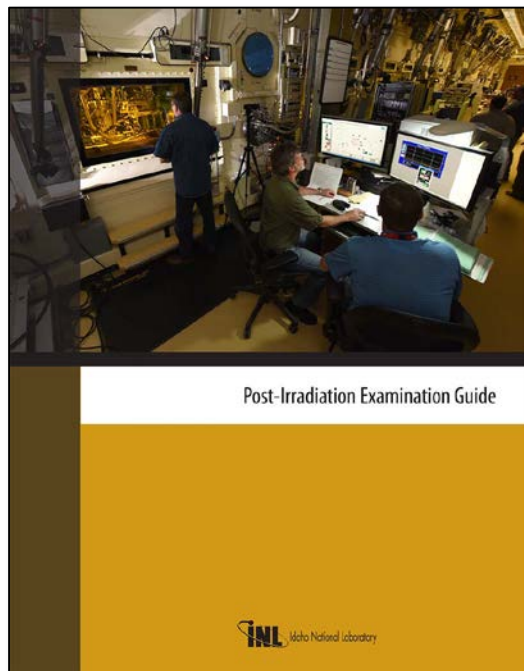
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Branding Initiatives



■ New handouts/brochures



INL Post-Irradiation Examination Guide

- 50 pages of comprehensive information on INL PIE capabilities

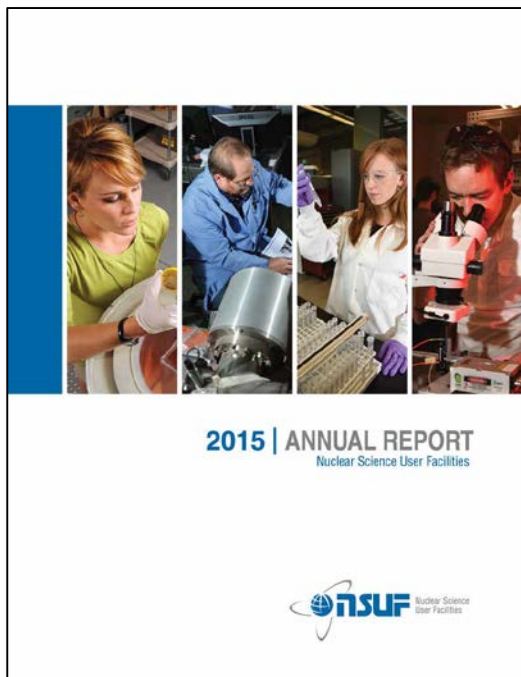


NSUF Users Organization fact sheet

- Companion piece to NSUF fact sheet



■ NSUF 2015 Annual Report



- Streamlined production process
- Created new form for project reporting
- Better coordinated mailing
- Feature stories written in-house
- New index section





■ Exhibit materials



- Scaled down one-panel display
- For use when big display would be impractical



- Three-panel pop-up display
- Partner videos play on-screen at display
- New trinkets
- New fitted tablecloths with NSUF logo
- Magazine/brochure stand



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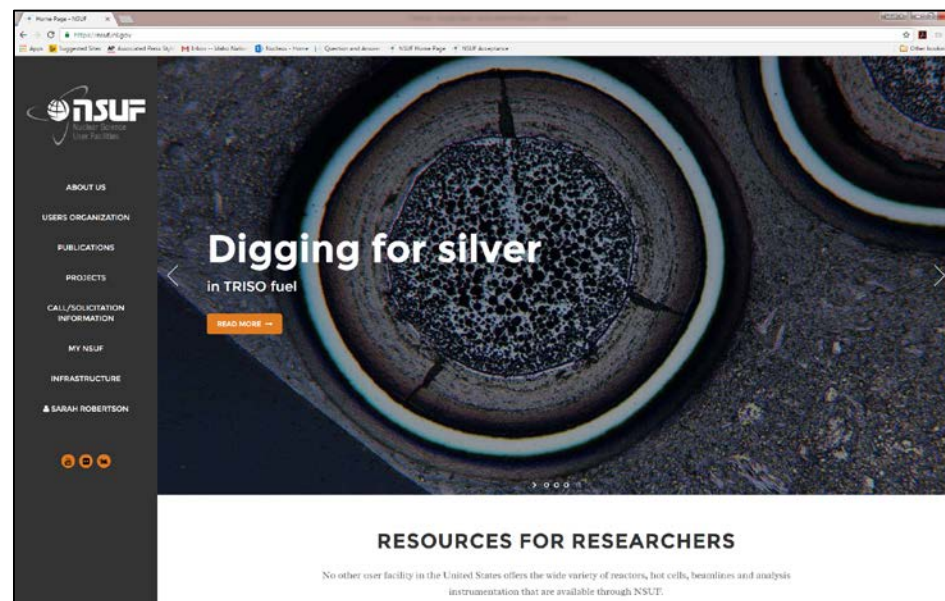
New Website (Launched in September)



Old home page



New home page



- Designed to adapt from desktop computer screen to tablets or mobile devices
- Incorporates single sign-on for proposal system and NEID
- Allows us to better highlight the work we do



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New Website



■ Scroll down on the home page to access more website areas

RESOURCES FOR RESEARCHERS

No other user facility in the United States offers the wide variety of reactors, hot cells, beamlines and analysis instrumentation that are available through NSUF.

- POST-IRRADIATION EXAMINATION**
Users can be awarded access to a broad range of PIE facilities.
- REACTORS**
NSUF offers four reactor facilities for users whose programs are awarded access.
- BEAMLINE**
A wide variety of translational facilities are available for experiments and analysis.
- NUCLEAR FUELS & MATERIALS LIBRARY**
Proposals may be submitted for these samples, which were irradiated in ATR and EBR II.
- PUBLICATIONS**
Search the database of NSUF publications and presentations since its inception.
- INFRASTRUCTURE DATABASE**
Search reactor energy R&D infrastructure at national labs, universities, and industry.
- COMPUTING RESOURCES**
Providing researchers with advanced modeling and simulation capabilities to support a wide range of activities in their environments.

MEET OUR TEAM

The NSUF headquarters is located at the Center for Advanced Energy Studies (CAES) in Idaho Falls, Idaho.

[MEET OUR TEAM](#)

THIS IS THE WORK WE DO

NSUF research supports Department of Energy Office of Nuclear Energy missions. Most of the research looks at either understanding the mechanisms of radiation on materials and fuels to address the challenges of the aging current fleet of reactors or looks at materials and fuels for the next generation.

KURT TERRANI
Oak Ridge National Laboratory
411

Ion irradiation at ATLAS

[MORE](#)

MEET OUR TEAM

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Rory Kennedy
Director

147
Awarded Experiments

72
Journal Publications

27
Institutions

12
Partner Facilities

THIS IS THE WORK WE DO

NSUF PARTNER FACILITIES

The NSUF and its partner facilities create a nationwide infrastructure that greatly expands the types of research available. This model utilizes a distributed partnership with each facility bringing exceptional capabilities to the relationship, including: reactors, beamlines, instruments, hot cells, and most importantly, expert mentors.

[NSUF PARTNERS](#)

PURDUE UNIVERSITY **Berkeley UNIVERSITY OF CALIFORNIA** **M UNIVERSITY OF MICHIGAN** **UNLV**

About Us

Nuclear Science User Facilities (NSUF) is the Department of Energy Office of Nuclear Energy's only designated nuclear energy user facility. Through a peer-reviewed proposal process, NSUF allows external research groups and their users to benefit from advanced instrumentation and expertise in nuclear science research at the Department of Energy's national laboratories and universities, national laboratories and existing facilities located across the country.

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New Website



■ Project highlights are now integrated with publications, conferences, abstracts



ABOUT US

USERS ORGANIZATION


PUBLICATIONS


PROJECTS

CALL/SOLICITATION INFORMATION

MY NSUF

INFRASTRUCTURE

 SARAH ROBERTSON



Charit, Indrajit. *Advanced Microstructural Characterization of Spark Plasma Sintered Lanthanum-Bearing Nanostructured Ferritic Steels*

Principal Investigator

First Name: Indrajit
Last Name: Charit
Institution: University of Idaho
Phone Number: 208-885-5964
Address: Materials Science and Engineering, 875 Perimeter Drive MS3024
City: Moscow
State: ID
Zip: 83844-3024

Experiment Details:

Experiment Title:
Advanced Microstructural Characterization of Spark Plasma Sintered Lanthanum-Bearing Nanostructured Ferritic Steels

Describe the work that you are proposing in detail. Please include as many specifics as possible (e.g., dose, dose rate, ion energy, types of ions, beam line x-ray energy, irradiation temperature, analysis temperature, atmosphere, etc.):

A host of characterization tools will be used to investigate the effect of irradiation environment is required in this work. Detailed microstructural studies by HRTEM and EFTEM need to be performed for examining the crystal and interfacial structures of oxide nano-precipitates to better understand the formation mechanisms of complex nano-sized oxides and nanoclusters associated with core/shell structures as well as the microstructural evolution after long term annealing.

Identify all equipment and instrumentation necessary to the performance of this experiment:

Tecna TF 30-FEG STwin STEM Cameca LEAP 4000X HR

Describe what data or images will be produced:

Micrographs and diffraction patterns in the TEM studies Compositional maps in LEAP studies

How many specimens will be examined?

5

Are the specimens / samples listed in the Fuels and Materials Library?

No

Book / Journal Publications

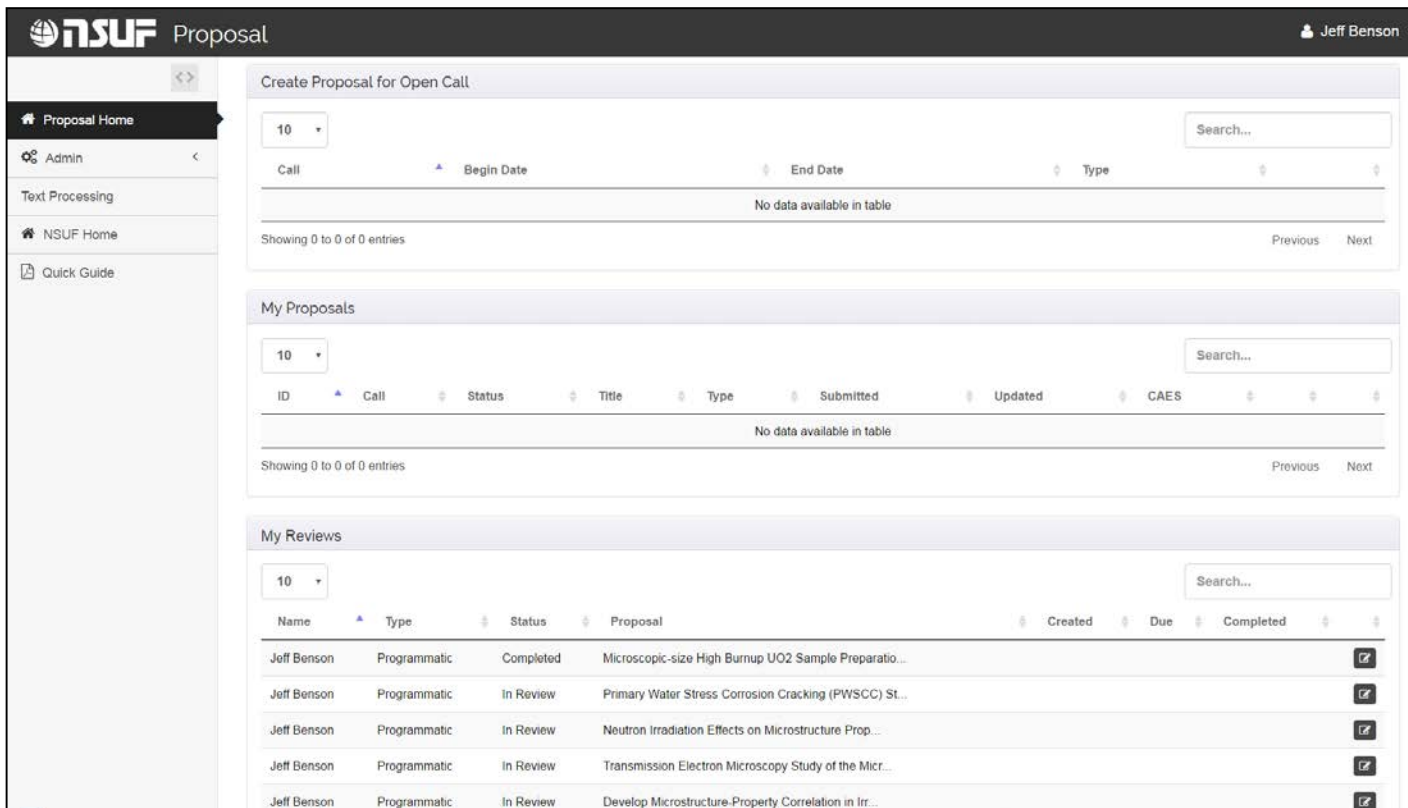
Name	Title
Jeff Berson	A preliminary study on the development of La ₂ O ₃ -bearing nanostructured ferritic steels via high energy ball milling
Braedon Warner	A preliminary study on the development of La ₂ O ₃ -bearing nanostructured ferritic steels via high energy ball milling
Braedon Warner	Mechanical Alloying of Lanthana-Bearing Nanostructured Ferritic Steels
Indrajit Charit	Effect of alloying elements on the microstructure and mechanical
Braedon Warner	Effect of alloying elements on the microstructure and mechanical properties of nanostructured ferritic steels produced by spark plasma sintering

Conference Publications

Name	Title
Jeff Berson	Development of Nanostructured Ferritic Alloys Containing Lanthana-based Nanoparticles via Spark Plasma Sintering



- ‘My NSUF’ link is the researcher portal to proposal system, publications, reviews



The screenshot displays the NSUF Proposal system interface. The top navigation bar includes the NSUF logo, the word "Proposal", and a user profile for "Jeff Benson". A left sidebar contains links for "Proposal Home", "Admin", "Text Processing", "NSUF Home", and "Quick Guide". The main content area is divided into three sections: "Create Proposal for Open Call", "My Proposals", and "My Reviews". Each section features a search bar and a table of data. The "My Reviews" section shows a list of reviews with columns for Name, Type, Status, Proposal, Created, Due, and Completed.

Name	Type	Status	Proposal	Created	Due	Completed
Jeff Benson	Programmatic	Completed	Microscopic-size High Burnup UO2 Sample Preparatio...			
Jeff Benson	Programmatic	In Review	Primary Water Stress Corrosion Cracking (PWSCC) St...			
Jeff Benson	Programmatic	In Review	Neutron Irradiation Effects on Microstructure Prop...			
Jeff Benson	Programmatic	In Review	Transmission Electron Microscopy Study of the Micr...			
Jeff Benson	Programmatic	In Review	Develop Microstructure-Property Correlation in Irr...			



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New Website



■ New Quick Guide provides step-by-step instructions

The screenshot displays the NSUF Proposal website interface. On the left, a sidebar menu includes 'Proposal Home', 'Admin', 'Text Processing', 'NSUF Home', and 'Quick Guide'. The 'Quick Guide' link is circled in red, with a large red arrow pointing from it to a central 'My NSUF Quick Guide' overlay. This overlay contains a 'Welcome' message, a 'Select MY NSUF' button, and a 'Create Proposal for Open Call' section. The 'Create Proposal for Open Call' section includes a 'Create new proposal' button and a 'Add PI information' section. The 'Add PI information' section has a red circle around an 'Add' button. Below this, there is a 'Team Member' section with a red circle around an 'Add' button. The main content area on the right shows a search bar, a table of proposals with columns for 'Updated', 'CAES', and 'Created', and a list of proposals with 'Created', 'Due', and 'Completed' dates. The user's name 'Jeff Benson' is visible in the top right corner.



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Future Projects



-
- **Update and refresh NSUF fact sheet**
 - **Requests for FY 2016 Annual Report project reports sent out Oct. 13**
 - **Create schedule for website content for rotating news section**

