

# 2015 Users Meeting



## Nuclear Science

### Irradiation and Post-irradiation Examination of Fuels and Materials

June 22-25 • Idaho Falls, Idaho

The annual Advanced Test Reactor National Scientific User Facility (ATR NSUF) Users Meeting is intended for researchers from industry, national laboratories and students, faculty and post-docs from universities who are interested in irradiation effects on nuclear fuels and materials.

A half-day workshop will kick off the meeting and serve as an introduction to ATR NSUF. Next, participants will attend a 1 1/2-day experimenter skills development workshop, which will provide potential users with the basic understanding needed to plan, design and execute an irradiation experiment. Participants will gain a good understanding of the resources available to aid them throughout the entire process — from initial proposal development to final materials disposition. The meeting will include a day of technical sessions where participants can learn about current and past research projects. All participants are welcome to attend the annual ATR NSUF Users Organization meeting. If you are not a member of the Users Organization, you will be invited to join the group. A social and poster session will follow the Users Organization meeting where attendees are encouraged to present their research. Finally, a tour of the Advanced Test Reactor and post-irradiation examination facilities will be offered.

# Tentative Agenda

(More details will be provided as the schedule is finalized.)

## June 22

8 a.m.-noon

### **ATR NSUF Workshop**

A half-day workshop designed to introduce participants to the facilities and capabilities of the ATR NSUF. Presentations will include an overview of all irradiation capabilities and post-irradiation examination (PIE) facilities. Attendees will also learn about proposal calls and the proposal submission system.

1-5 p.m.

### **Skills Development Workshop**

This workshop teaches the basic approach to planning and executing irradiation, synchrotron and ion experiments. Sessions typically include:

- PIE considerations.
- The practical aspects of experiments that require handling highly irradiated fuels and materials.
- Test specimen considerations.
- Capsule design.
- Safety analysis.
- Thermal and neutronics design.

## June 23

8 a.m.-5 p.m.

### **Workshop continued**

5-6 p.m.

### **ATR NSUF Users Organization Meeting**

Upcoming business will be discussed and input will be sought from the past, current and future users regarding the direction of the ATR NSUF.

6-8:30 p.m.

### **Users Meeting Social and Poster Session**

The social and poster session provides participants an opportunity to meet and interact with one another — ATR NSUF personnel, including technical leads involved in current research and past and present users. Participants are invited to present and discuss their research during the poster session.

## June 24

8 a.m.-5 p.m.

### **Technical Sessions from ATR NSUF Experimenters**

Examples from previous years include:

- Corrosion basics.
- Current techniques for length detection – ultrasonic transducers – fiber optics.
- Defects in oxides with emphasis on  $\text{UO}_2$ .
- Experiment fabrication and testing.
- Understanding Ag diffusion in SiC for TRISO fuel applications.
- Identification of fission products in irradiated SiC using STEM and APT.

## June 25

7 a.m.-3 p.m. **INL Site Tour**

An optional tour of the post-irradiation facilities at INL's Materials and Fuels Complex, as well as a tour of the Advanced Test Reactor will be offered.

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## Enrollment

The Users Meeting is open to participants from academia, industry and national laboratories working in or studying nuclear energy, including technical fields such as nuclear engineering, materials science, physics and other related engineering and science fields. The workshop content is technical, and as such, participants must have an advanced undergraduate-level understanding of nuclear technology and materials.

Due to security requirements associated with the optional tour, the **deadline for registration is April 13, 2015.**

**[Click here to register.](#)** Or visit the website, [atrnsuf.inl.gov](http://atrnsuf.inl.gov).

## Cost

There is no registration fee for the 2015 ATR NSUF Users Week. A limited amount of travel support is available for university faculty and students on a competitive basis, which includes round-trip travel to Idaho Falls plus hotel and meal expenses. Preference will be given to faculty and graduate students in relevant fields of research or from minority-serving institutions and/or underrepresented groups. Students applying for travel support must be enrolled at a U.S. university. Faculty seeking travel support must also be employed by a U.S. university.

**Applications for travel support are located on the [registration website](#) and are due by January 30, 2015.**

All other participants will be responsible for their own travel, lodging and meals. Lunch will not be provided.

## More Information

Contact Renae Soelberg (208-526-6918, [renae.soelberg@inl.gov](mailto:renae.soelberg@inl.gov)).  
Visit our website, [atrnsuf.inl.gov](http://atrnsuf.inl.gov).