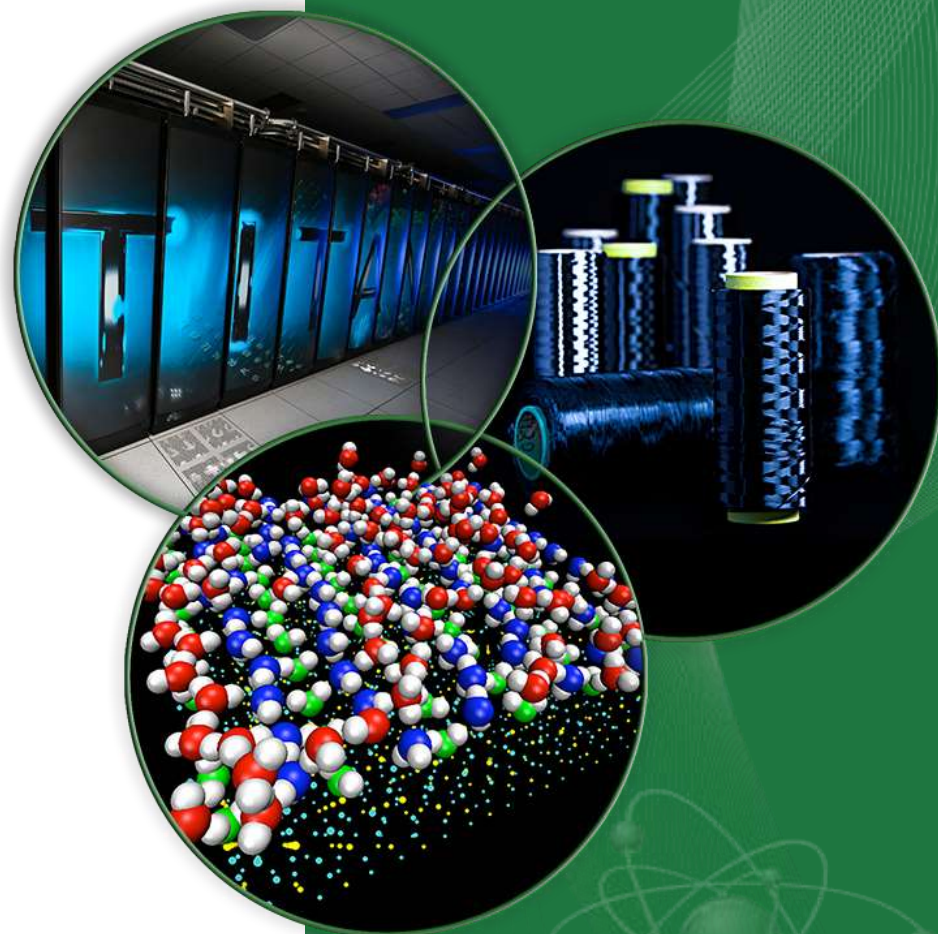


# ORNL Guest Portal and Data Integration

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**September 26, 2014**



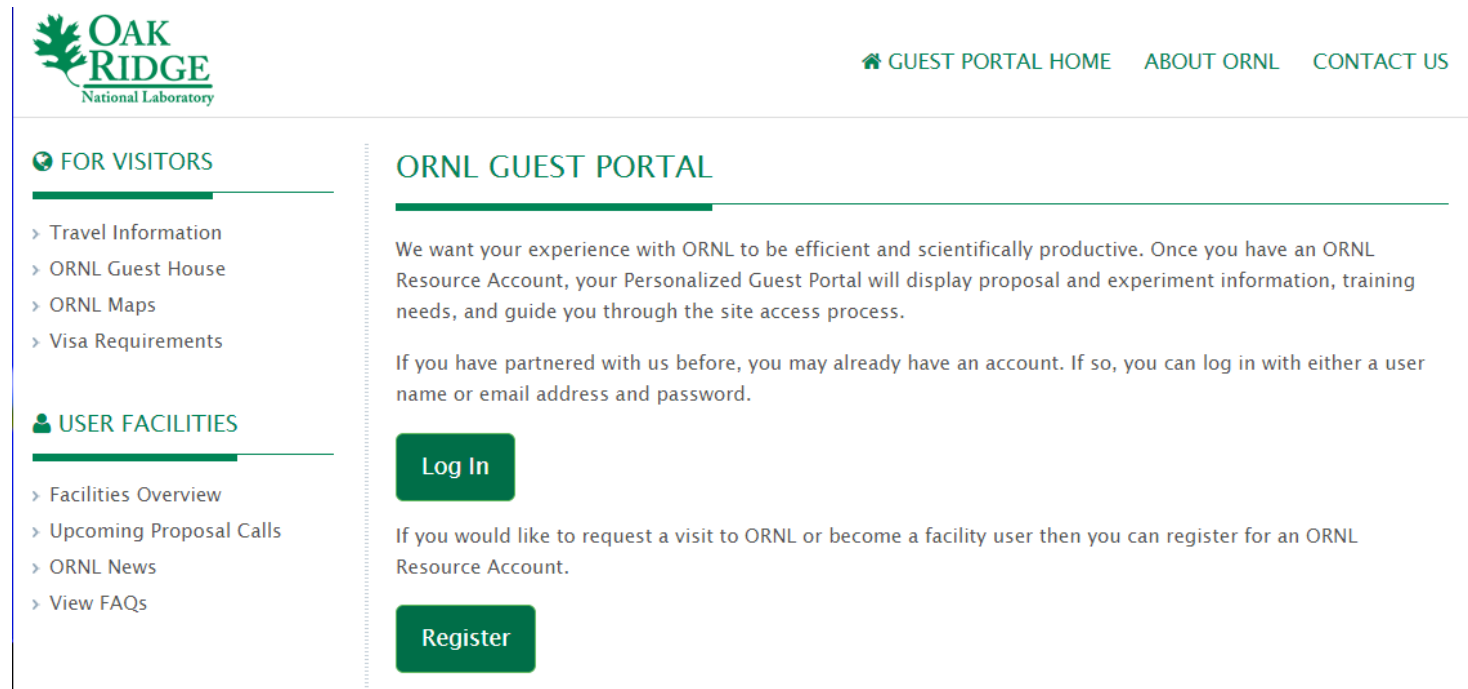
# User Facility Challenges

For those who have worked at the user facilities, you would have heard of some of the followings:

- Where is my data?
- When did I conduct or will be doing my experiments?
- What do I need to do before going SNS/HFIR?
- What shall I do with my samples before and after experiments?
- How do I download my data files?
- How do I run data reduction and analysis from home?
- How do I ensure my neutron publications are known to SNS/HFIR?

# ORNL Guest Portal Overview

The ORNL Guest Portal is the answer to these most frequently asked questions! The portal is designed to provide a personalized web-based interface that will guide facility users through the site access process, as well as provide users easy access to their data.



The screenshot displays the ORNL Guest Portal website. At the top left is the ORNL logo, featuring a stylized oak leaf and the text "OAK RIDGE National Laboratory". To the right of the logo is a navigation menu with three items: "GUEST PORTAL HOME" (with a home icon), "ABOUT ORNL", and "CONTACT US". Below the navigation is a vertical sidebar on the left with two main sections: "FOR VISITORS" and "USER FACILITIES", each with a list of links. The main content area on the right is titled "ORNL GUEST PORTAL" and contains a welcome message, a paragraph about account benefits, a paragraph about logging in, a "Log In" button, a paragraph about registration, and a "Register" button.

**OAK RIDGE**  
National Laboratory

[GUEST PORTAL HOME](#) [ABOUT ORNL](#) [CONTACT US](#)

**FOR VISITORS**

- > Travel Information
- > ORNL Guest House
- > ORNL Maps
- > Visa Requirements

**USER FACILITIES**

- > Facilities Overview
- > Upcoming Proposal Calls
- > ORNL News
- > View FAQs

## ORNL GUEST PORTAL

We want your experience with ORNL to be efficient and scientifically productive. Once you have an ORNL Resource Account, your Personalized Guest Portal will display proposal and experiment information, training needs, and guide you through the site access process.

If you have partnered with us before, you may already have an account. If so, you can log in with either a user name or email address and password.

[Log In](#)

If you would like to request a visit to ORNL or become a facility user then you can register for an ORNL Resource Account.

[Register](#)

# ORNL Guest Portal Overview

**OAK RIDGE**  
National Laboratory

ABOUT ORNL VISIT ORNL NEWS EVENTS CAREERS FIND PEOPLE RETIRES & STAFF INDEX Search The Site

USER FACILITIES SCIENCE & DISCOVERY CONNECT WITH ORNL OUR PEOPLE

USER PORTAL

**BTRIC**  
Building Technologies  
Research & Integration Center

**CNMS**  
Center for Nanophase  
Materials Sciences

**CSMB**  
Center for Structural  
Molecular Biology

**CFTF**  
Carbon Fiber Technology  
Facility

**HFIR**  
High Flux Isotope Reactor

**MDF**  
Manufacturing Demonstration  
Facility

**NTRC**  
National Transportation  
Research Center

**OLCF**  
Oak Ridge Leadership  
Computing Facility

**SNS**  
Spallation Neutron Source

Using Neutrons to Map Heat Propagation Through Materials

Home | User Facilities

## ORNL User Facilities

SHARE

Each year, more than 3,200 scientists from universities, laboratories and private industry around the world conduct experiments at ORNL's scientific user facilities. ORNL's user facilities offer a diverse set of tools for experiments across a range of fields, including biology, materials and energy sciences, physics, engineering, and chemistry. ORNL's user facilities include world-leading facilities for neutron scattering, high performance computing, material and nanoscale research, and additive manufacturing.

Access to ORNL user facilities is through the review and approval of user proposals, and depends on the scientific merit, suitability of the user facilities, and the appropriateness of the work to DOE objectives. DOE requires ORNL to execute **user agreements**, typically with a researchers' institution, prior to granting access to a user facility.

# ORNL Guest Portal Development Strategy

Break up the implementation into a series of phases:

- Phase I: (in production)

Build functionalities necessary for all ORNL facility users to access their required training, site access, and travel information.

- Phase II: (in development and testing)

Make the ORNL guest portal a one-stop shop for ORNL neutron users where users could find their data from proposals to publications.

- Phase III:

Data integration and process automation.



# ORNL Guest Portal (Phase I)



## MY ACCOUNT

- › Emergency Contacts
- › View Profile
- › Admin Options

## PROPOSALS

- › Create a Proposal
- › View All Proposals
- › IPTS

## MY RESEARCH

- › Access Experiment Data
- › Manage Samples
- › Register Publication

## FOR VISITORS

- › Travel Information
- › ORNL Guest House
- › ORNL Maps
- › Visa Requirements

Notice: Your password is currently suspended. Please reset your password immediately.

## REQUIRED TRAINING

Course	Due Date
<a href="#">Electrical Safety Awareness for All Staff</a>	Complete before arrival
<a href="#">Waste Generator Awareness Training</a>	Complete before arrival
<a href="#">ORNL Power Tool Safety Training</a>	Complete before arrival
<a href="#">FIREEXTNGSHR: Fire Extinguisher Ed Prgrm</a>	Complete before arrival
<a href="#">Lab Hood User Safety Training</a>	Complete before arrival
<a href="#">High Power Laser Hazard Awareness Trng</a>	Complete before arrival

## FACILITY STATUS

Facility	Status
SNS	09/12/14 08:15 Beam is off for approximately 10–14 days for Target Change out.
HFIR	The reactor is currently shutdown for the end-of-cycle 455 refueling outage.

# ORNL Guest Portal for Neutron Users (Phase I)



[GUEST PORTAL HOME](#) [FEEDBACK?](#) [ABOUT ORNL](#) [CONTACT US](#)

## MY ACCOUNT

- > Emergency Contacts
- > View Profile
- > Admin Options

## PROPOSALS

- > **1** Scheduled
- > **2** Approved/Confirmed
- > **1** In Presubmission
- > Create a Proposal
- > View All Proposals
- > IPTS

## MY RESEARCH

- > Access Experiment Data
- > Manage Samples
- > Register Publication

## PROPOSALS – SCHEDULED

ID	Proposal	Status	Site Access
11900.1	<a href="#">Measurement of the change in conjugated polymer dynamics with doping</a>	Approved, Confirmed	Not Requested

## PROPOSALS – APPROVED AND CONFIRMED

ID	Proposal	Status	Site Access
11900.1	<a href="#">Measurement of the change in conjugated polymer dynamics with doping</a>	Approved, Confirmed	Not Requested
11903.2	<a href="#">Vibrational dynamics of doped states in a conjugated organic polymer</a>	Approved, Confirmed	Requested

# ORNL Guest Portal for Neutron Users (Phase I)



[GUEST PORTAL HOME](#) [FEEDBACK?](#) [ABOUT ORNL](#) [CONTACT US](#)

## MY ACCOUNT

- > Emergency Contacts
- > View Profile
- > Admin Options

## PROPOSALS

- > 1 Scheduled
- > 2 Approved/Confirmed
- > 1 In Presubmission
- > Create a Proposal
- > View All Proposals
- > IPTS

## MY RESEARCH

- > Access Experiment Data
- > Manage Samples
- > Register Publication

## IPTS Login Page

Username

Password

Login

### Connection Options



Mouse over one of the icons above for more information

For assistance connecting to the Analysis servers or accessing your data, please contact **SNS Linux Support**: [linux@support.sns.gov](mailto:linux@support.sns.gov) or call 865-309-4649 for urgent requests.



# ORNL Guest Portal for Neutron Users (Phase II)

To make it a one-stop shop for ORNL neutron users, we proposed to build web services used for retrieving data from servers so as to provide additional data for ORNL neutron users:

- Proposal title, instrument, type, status, and team info
- Scheduled experiment dates
- Run or scan info
- Experiment summary
- Sample information and handling instructions
- Publications
- Facility status

# ORNL Guest Portal for Neutron Users (Phase II)

Web services are created to return a user's proposal information from the back end server:

```
proposals":[  
  {"ID:":"IPTS-1234",  
   "TITLE":"Some name for this proposal",  
   "TYPE":"CALIBRATION",  
   "BEAMLINE":"BL-4B",  
   "RUNCYCLE":"SNS 2014-A",  
   "STATUS":"COMPLETED",  
   "SCHEDULED_DATES":"01/01/2014-01/02/2014, 01/05/2014-01/07/2014",  
   "ACTUAL_DATES":"01/01/2014-01/02/2014, 01/06/2014-01/08/2014",  
   "TEAM":"Hans Christen, Mr. Biegalski, Haile Ambaye, Valeria Lauter, Stephen Nagler"}, ...
```

# ORNL Guest Portal for Neutron Users (Phase II)

[GUEST PORTAL HOME](#) [FEEDBACK?](#) [ABOUT ORNL](#) [CONTACT US](#)



## MY PROPOSALS

ID	TITLE	TYPE	BEAMLINE	RUNCYCLE	STATUS	SCHEDULED DATES	ACTUAL DATES	TEAM
3300	<a href="#">Innovation</a>	GENERAL USER	BL-4A	SNS 2010-B	COMPLETED	06-OCT-10 to 13-OCT-10	06-OCT-10 to 13-OCT-10	Valeria Lauter, Mr. Smith
5458	<a href="#">Transformation</a>	DISCRET TIME	CG-3	HFIR 2012-B	COMPLETED	22-SEP-13 to 23-SEP-13	30-SEP-13 to 01-OCT-13	Valeria Lauter, Mr. Jacobs
8888	<a href="#">Breakthrough</a>	CALIBRATION	BL-4A	SNS 2010-B	SCHEDULED	06-OCT-14 to 13-OCT-14		Valeria Lauter, Mr. Smith



## MY EXPERIMENTS

RUN ID	RUN TITLE	RUN START	RUN END	DURATION	TOTAL COUNTS	PROTON CHARGE	SELECT
14480	NONE	Sept. 30, 2013, 11:53 a.m.	Sept. 30, 2013, 12:40 p.m.	2827.58 sec	6.87E+06	2.60E+12	<input type="checkbox"/>
14481	NONE	Sept. 30, 2013, 12:41 p.m.	Sept. 30, 2013, 1:02 p.m.	1285.85 sec	8.57E+06	1.80E+12	<input type="checkbox"/>
14482							
...							
14488	NONE	Sept. 30, 2013, 9:17 p.m.	Oct. 1, 2013, 9:23 a.m.	43540.5 sec	31779	5.75E+12	<input type="checkbox"/>

[DOWNLOAD](#)

# ORNL Guest Portal for Neutron Users (Phase II)

[GUEST PORTAL HOME](#) [FEEDBACK?](#) [ABOUT ORNL](#) [CONTACT US](#)



## MY SCHEDULES

ID	TITLE	TYPE	BEAMLINE	RUNCYCLE	SCHEDULED DATES	TEAM
8888	<a href="#">Breakthrough</a>	CALIBRATION	BL-4A	SNS 2010-B	06-OCT-14 to 13-OCT-14	Valeria Lauter, Mr. Smith
9000	<a href="#">Challenge</a>	GENERAL USER	BL-4A	SNS 2014-A	06-NOV-14 to 13-NOV-14	Valeria Lauter, Mr. Johnson



## MY SAMPLES

Sample Name	Sample Description	Sample Formula	Sample Density	Crystal	Sample Needs Alignment	Last Updated
Fe2O3	Iron(III) oxide	Fe2O3	5.24 g/cm <sup>3</sup>	N		October 11, 2011
FeO	Iron(II) oxide	FeO		N		October 11, 2011
...						
Fe3O4	Iron(II, III) oxide	Fe3O4		N		October 11, 2011

# Data Integration (Phase III)

Our facility is measured by numbers of unique onsite users who participated experiments and numbers of publications that were resulted from the experiments conducted at the facility.

- Automate unique user counting and experiment counting
  - I. Introduced mandatory electronic sign-in for experiment participates
  - II. Enabled auto counting of unique users and experiments, and proposal auto closing based on electronic signature and scheduled experiment dates.
  
- Link publications to proposals
  - I. ResearcherID is an identifying system for scientific authors. ORCID (Open Researcher and Contributor ID) is a nonproprietary alphanumeric code to uniquely identify scientific and other academic authors. We plan to add Research ID and ORCID to a user's profile which will enable a persistent digital identifier for researchers.
  - II. We also plan to import citations using the Endnote export tool to our publication database.

# From Proposals to Publications

- Proposal ID shall be the key to link data from different databases at the backend and produce integrated data sets from various systems to present to our users about their research conducted at our facility.
- Phase II (in development): Build an integrated scientific information system for ORNL neutron users to access their data, to retrieve updated facility and user information, and feedback their user experience using the ORNL guest portal.
- Phase III
  - I. Enable data download via the guest portal
  - II. Enable remote jobs such as re-reduce data through the guest portal
  - III. Generate DOIs for data (proposal data, raw and processed experiment data) and make them available on the guest portal
  - IV. Integrate guest portal across the synchrotron and neutron facilities (15.4% SNS users also used at least one other EU neutron sources and 5.8% SNS users also used at least one EU photon sources)



# Acknowledgement

**T**hanks go to Ekaterina Danilova, Jeff Patton, Bradley Horn, David Bond, Rick Short, Gabrielle Boudreau, Karen White, and Crystal Schrof at the Oak Ridge National Laboratory for their contribution and support in the development and maintenance of the integrated ORNL Guest Portal!

# Thank you!

## Questions?