

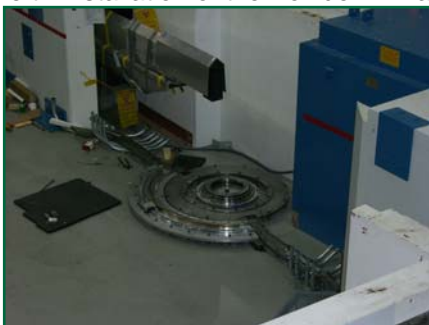
## Neutron Sciences Progress at Oak Ridge National Laboratory July 2008

### Summary

- **HFIR** Cycle 416 began July 16, 2008, and ended August 8, 2008.
- **SNS** finished its run cycle on July 10, 2008; the next SNS cycle will begin August 21, 2008, and will end January 3, 2009.
- **“Dynamics of Soft Matter” Workshop** will be held December 4-6, 2008, in Boston MA, as a satellite event of the MRS annual meeting. Contributed talks and posters are being solicited. Sessions on complex fluids, biology, polymers, and surfaces are planned. See the website <http://neutrons.ornl.gov/conf/dsm2008/index.shtml> for more information including instructions for submitting contributed talks and posters.
- **User publications:** users are requested to provide lists of their publications from 2007 to present resulting from research at HFIR and SNS. Please click on the hyperlink below to submit bibliographic citations: <[Bibliographic Citations](#)>

### Instruments and Users

- Installation of the US-Japan Cold Triple Axis Spectrometer at HFIR CG-4C continued; see image below left. Installation of the Powder Diffractometer at HFIR HB-2A began; see image below right.



- A new detector mount and pre-sample collimator were designed and installed on the Four-Circle Diffractometer at HFIR HB-3A; see image below left. Designed and installed a new vertical translation sample stage for flow-through cell on the General Purpose SANS at HFIR CG-2; see image below right.



- The bulk shielding insert for the Macromolecular Diffractometer (MaNDi, SNS BL-11B) was installed; see image below.



- A solicitation for the construction of the Joint Institute for Neutrons Sciences (JINS) building was issued in July 2008. The bids are due in mid-August with construction anticipated to begin this fall. As a two-story building of 27,000 square feet, JINS will provide offices and light laboratories for students and faculty of the University of Tennessee and other institutions as a base for research at ORNL's neutron facilities. University and ORNL staff will share the facility. Completion is anticipated in late 2009.
- The Workshop on Neutron Powder Diffraction and Rietveld Analysis at North Carolina State University, Raleigh, NC, on July 18, 2008, had 20 student and faculty attendees. ORNL staff participated as speakers and instructors. Details are at <http://www.ne.ncsu.edu/events/NPD/index2.html>.
- The Denver X-ray Conference Workshop on Introduction to Rietveld: Combined Use of X-rays and Neutrons, August 4-5, 2008, Denver, CO. had 30 attendees with ORNL staff as organizers and instructors. <http://www.dxcicdd.com/08/callforpapers.htm#workshops>
- Hosted the 2008 DOE Experimental Program to Stimulate Competitive Research (EPSCoR) Annual Program Review and Workshop on July 23-24, 2008. Over 140 representatives attended from universities, state EPSCoR office, national laboratories, and DOE.
- Through July 2008, HFIR has 209 unique users on 7 instruments and SNS has 106 unique users on 3 instruments.

## Operations

- The HFIR End-of-Cycle 415 maintenance and refueling outage that began at 0525 on June 30 and continued until the start of Cycle 416 at 0802 on July 16. Cycle 416, the sixth cycle of FY2008, continued as the month of July concluded. Cycle 416 operation in July accounted for a total of 1350.52 MWd supporting neutron scattering experiments; 77 in-vessel irradiation capsules; and irradiation of 27 neutron activation analysis samples. At the end of July, HFIR had produced 11,561 MWd in fiscal year 2008; well above the goal of 9180 MWd.
- The SNS accelerator turn-on for the Operating Cycle 2008-2 began March 24, 2008, with neutron production beginning on April 2, 2008, and ended July 10, 2008. The maximum beam power delivered in July was 434 kW. The beam availability for July was 89.2%. There were a total of 66.3 MW-Hrs of beam delivered in July. Beam neutron production for Operating Cycle 2008-3 will begin August 21, 2008. Run 2008-3 will transition to Run 2009-1 in later September 2008 with no interruption of the beam delivery cycle. Neutron Production for Run 2009-1 will end on January 3, 2009.
- The SNS schedule in the coming months may be perturbed by the planned, but undetermined, end of life of the first mercury target. This foreseen operational event will cause the shutdown of SNS for about two weeks while a new target is installed. Users will be notified as soon as possible and rescheduled to a future time. Our goal is to predict the target end of life and schedule future target replacements within normal maintenance periods.

## Employment Opportunities

Positions in the Neutron Sciences Directorate or related to neutron scattering are available for browsing. Click on "View Open Positions" at <http://jobs.ornl.gov/>. A recently announced open position is:

- NScD Software Engineer, ID 2917

**Neutron Scattering Postdoctoral Fellowship Positions with ORNL through Oak Ridge Associated Universities** [description available at <http://www.ornl.gov/orise/edu/ornl/postneeds.htm>. Recently announced open positions are listed below.

- Postdoctoral Research Associates in Neutron Scattering with Triple Axis Instrumentation, [ORNL08-107-NSSD]
- Postdoctoral Research Associates in Beam Instrumentation, [ORNL08-97-NSD]
- Postdoctoral Research Associate in Neutron Scattering Research Using Juelich, [ORNL08-93-NSD]
- Post Master's Research Associate in Neutron Scattering Research, [ORNL08-92-NSSD]
- Post-Master's Research Associate in Software Engineering, [ORNL08-84-NSSD]
- Postdoctoral Research Associate Experimentalist in Neutron Sources Mechanical Engineering, [ORNL08-81-NFDD]
- **Other Postdoctoral Fellowships**
  - **Clifford G. Shull Fellowship** – The goal of the Shull Fellowship is to attract new scientific talent to ORNL for the development of its neutron science program. We are looking for candidates with exceptional ability who are capable of developing innovative research programs and who show the promise of outstanding science leadership. **Applications will be accepted July 1 – December 12, 2008.** For additional information about the Fellowship, see <http://neutrons.ornl.gov/shullfellowship/> or contact Bob Martin at [martinrg@ornl.gov](mailto:martinrg@ornl.gov).

- **Instrument Development Fellowship** - This fellowship opportunity is for the development of novel neutron instrumentation and instrument components to be used for neutron science at ORNL or other U. S. neutron centers. For additional information, see the website at <http://www.ornl.gov/orise/edu/ornl/postneeds.htm> for position ORNL08-51-NSSD.
- **Educational and Research Experiences:** ORNL has educational programs covering many scientific disciplines with the education continuum from pre-college through postgraduate including teachers and faculty. The main link to all of these programs is <http://www.ornl.gov/orise/edu/ornl/>

### **Future meetings of interest to SNS and HFIR users**

- User Meeting of the Center for Nanophase Materials Sciences and Shared Research Equipment user facilities, September 24-26, 2008, Oak Ridge, TN. [http://www.cnms.ornl.gov/upcoming\\_events/events.shtm](http://www.cnms.ornl.gov/upcoming_events/events.shtm)
- 10<sup>th</sup> United States National School on Neutron and X-ray Scattering, September 24-October 11, 2008, Argonne National Laboratory and Oak Ridge National Laboratory. <http://www.dep.anl.gov/nx/> [Applications are closed.]
- Dynamics of Soft Matter, December 4-6, 2008, Boston MA. This is a satellite of the Fall 2008 MRS annual meeting. <http://neutrons.ornl.gov/conf/dsm2008/index.shtml>.
- Physics Diversity Summit and the Joint Annual Conference of the National Society of Black Physicist and National Society of Hispanic Physicists, February 11-15, 2009, Nashville, TN. <http://www.nsbp.org/conference/>
- International Conference on Neutron Scattering, May 3-7, 2009, Knoxville, TN. Contact Al Ekkebus at [ekkebusae@ornl.gov](mailto:ekkebusae@ornl.gov) for details.
- 20th Annual VM Goldschmidt Conference June 14-18, 2010, in Knoxville, TN.