

SHUG (SNS HFIR User Group), <http://neutrons.ornl.gov/users/shug/>
SHUG executive committee minutes.

Teleconference held September 21, 2010.

Attendees:

Executive Committee: Cora Lind, Matthew Stone, Peter Khalifah, Mike Crawford, Antonella Longo, Greg Beaucage, Pat Woodward.

Guests: Al Ekkebus, Greg Smith (Group leader for the Low-Q group)

Minutes submitted for review October 20, 2010 by M. B. Stone.

ACTION ITEMS:

Next telecom Tues Oct 12

If you have a paragraph to send to Al regarding proposed neutron scattering workshops, please do so.

ATTACHMENTS and WEBSITES of interest from the teleconference:

Handouts that were distributed to attendees of the Neutrons for Catalysis Workshop.

1. Report on User Week and Neutrons for Catalysis (Cora, Peter, Al)

The basic science session was held on Monday with approximately 100 attendees. The capabilities and facilities at ORNL were discussed. There were tours available of the SNS facility. The session on Tuesday with approximately 100 attendees was focused upon applied sciences, including a discussion of how industry interacts with ORNL. The Nano-center user meeting was held on Tuesday. The Nano-center had further sessions the rest of the week.

The neutrons for catalysis workshop was held Thursday and Friday. There were a series of talks both from the neutron user community and outside the neutron community. There were representatives from industry, national laboratories, and universities. There were excellent break-out sessions for exchanging ideas between these communities. There were encouraging remarks that additional workshops should be done in the future, especially with the construction of the guest house, to have additional interaction with the ORNL scientists.

One idea which was discussed with Cora was to create a centralized web-based 'drop-box' or 'request box' which would give novices a way to present an idea for an experiment and allow the people at ORNL to distribute these questions to the appropriate scientists and beam-line scientists for further discussion and evaluation. Argonne has a link on their web-page for asking general questions of scientists (<http://www.newton.dep.anl.gov/aasquesv.htm>). Something similar could be done for potential users.

2. Potential programs for next year's User Week

Data reduction and analysis workshop for inelastic scattering. Diffraction is very often taught, but inelastic scattering is rarely taught in-depth. A potential component of this would be to set aside time to do a very brief experiment using an inelastic instrument, or have a more detailed tour of the inelastic suite.

Any workshop should also include the instrument scientists for discussion of measurement capabilities, how to write good proposals for neutron experiments, and a tour of the instrument (hopefully when the facility is operating) to see an experiment in progress.

Additional ideas for future user weeks at ORNL: on-site synthesis and on-site characterization, nano-materials, specialized (not just extreme) sample environments (sheer cells, low-background, high-temperature, pressure, low-temperature, magnetic field). There could be a separate workshop just for sample environments.

3. Other outreach ideas?

4. News at ORNL (Greg Smith- Group leader for the Low-Q group)

There were 420 proposals for SNS, and 224 for HFIR submitted. This is an increase of 25% at SNS and 5% at HFIR. This follows the increase in instruments available at the facilities. The scientific review committees will meet on October 18 and 19. Notifications are being planned to be sent out on the week of the 25th of October.

There was oil contamination in the cryogenic moderator at SNS at the start of the cycle. It is running at 780 or 750 kW currently.

HFIR finished 7 full reactor cycles this fiscal year

The CTAX (cold triple-axis) will start experimental commissioning in mid-October.

The imaging beamline at HFIR has entered the user program on a part-time basis.

POWGEN currently has 10% detector area coverage with 10% more coverage to be installed at the end of 2010, and 10% more to be installed at the end of Feb 2011. The ghosting issue associated with the original POWGEN and VULCAN detectors has been improved by addressing both hardware changes and software compensation

NOMAD at SNS has completed CD4 and is now commissioning with beam.

The JINS building is open and people are moving in.

The guesthouse will be finished with external construction by the end of 2010, with internal work proceeding through beginning of 2011.

NoBugs meeting is in mid October.

5. The SHUG Executive Committees concerns regarding POWGEN.

The SHUG executive committee discussed that there are still issues beyond detector ghosting regarding the POWGEN instrument. These concerns are based upon both direct experience using the POWGEN instrument as well as formal discussions with the instrument team.

The two major concerns are detector efficiency and background.

1) Detector efficiency is very low and improving detector electronics and other hardware will be necessary to bring Powgen to its full potential. It would be beneficial for the user community if dedicated resources (work time allocation of electronics specialists, testing time for detectors) could be allocated to make every possible effort to improve detector efficiency.

2) There are concerns with sample dependent background. Some samples work very well, others yield extremely poor signal to noise suggesting up to 70% incoherent contribution. These large incoherent signals are not appropriate given the composition of the materials being examined.

On behalf of the SHUG executive committee and for the benefit of the powder diffraction community, it is crucial that the instrument scientists be given appropriate time to work on understanding these issues to make appropriate recommendations for a solution. We also encourage further testing, research and development on behalf of the detector group to understand and improve the efficiency of the POWGEN and VULCAN detectors.