

## SHUG EC Conference Call Minutes

March 9, 2015

Executive Committee members present: Souleymane Diallo, Claire White, Jen Niedziela, Morten Eskildsen, Boris Khaykovich, Yang Ren, Yang Zhang, Tyrel McQueen, Brad O'Dell

Other Neutron Sciences Directorate staff present: Thomas Proffen (NDAV), Steve Nagler (QCMD), Rob McQueeney (NScD Deputy ALD), Laura Morris-Edwards (User Office), Richard Ibberson (CEMD), Volker Urban (BSMD)

Next scheduled meeting: March 12-13, 2015 on-site at ORNL

- 1) **Previous minutes and agenda:** No comments or corrections to the minutes. Boris moved to approve, and Claire seconded. No additions to current agenda.
- 2) **Updates from NScD management:**
  - a) McQueeney
    - i) Introduction of Richard Ibberson as the new CEMD (Chemical and Engineering Materials) director.
    - ii) Langan, McQueeney, Tennant attendance at BSAC  
(1) Presentation went well. Will be updated at on-site.
    - iii) Target technical review  
(1) Finding and recommendations there, and these can be addressed in detail during the on-site.
    - iv) Facility updates  
(1) SNS and HFIR working. SNS at 850 kW until the delivery of a spare target on April 20 or thereabouts.
    - v) Reflectometer detectors  
(1) Detectors for both reflectometers and a spare were re-gassed with  $^3\text{He}$ . White: Question—is there issues with shortage of  $^3\text{He}$ ? McQueeney: SNS does have a stockpile for specific uses. White: impacts on STS project? McQueeney: possible, but that will depend on what actually gets built. Enough for large arrays to be possible, though.
  - b) Urban
    - i) NSE and SANS study of soft colloids/polymer coronas—identified a second critical concentration for dynamic interaction of polymers
    - ii) Gas shales by SANS—porosity and fractal length scales, identified newly seen non-fractal small pores
    - iii) Membrane studies—combined experiment and simulation, careful look at the amine groups
    - iv) Fuel cladding—Laboratory Directed Research and Development (LDRD) study, incoherent scattering in the small angle regime gives a useful, non-destructive assay of hydrogen incorporation in these materials
  - c) Nagler
    - i)  $\text{SmB}_6$ —studied as a long time as a Kondo insulator. Unusual band structure shows a gap that is created by localized electrons, thought to be an indication of topologically protected states. Work at SEQUOIA found features missed

previously that can be related to the band structure to show the existence of a subgap spin-exciton.

d) Proffen CEMD

- i) VISION used to study energy transfers in a polyatomic liquid. Neutrons were really key to the findings of this study. Early paper showing the importance of VISION. VISION is quite useful because it can make measurements on the timescale of minutes.
- ii) Poly-L-glutamic acid— tunable biomaterials; CNCS and NOMAD both used in the study.
- iii) NOMAD levitator—workshop that brought together scientists in relevant areas to expand the applications of the levitator for the instrument. Goal is to make the device more available to the user community.

e) Proffen NDAV

- i) LR error analysis—new tool that makes it easy to run simulations; tool development that allows “more rigor” in comparison of observed and calculated in modeling the scattering from a sample.
- ii) VISION—all new DAQ components and the first to use all at once. EPICS control system, nED is now replacing dcomserver to overcome its issues, ADARA for data streaming and elements of automated reduction.

f) Edwards

- i) Both facilities running
- ii) 346 unique SNS, 284 unique HFIR since October.
- iii) Laura will talk about how users are counted at the on-site
- iv) Already up to 7 high impact publications for the 15 CY.

**3) SHUG business:**

a) Action Items

- i) White—any questions or concerns re the on-site meeting. White to Edwards—after hours access? Edwards: everyone is on the list so they can enter by simply showing ID.
- ii) Edwards—Everyone joining the dropbox?

b) User meeting

- i) Edwards—we need to plan in October-December 15 for this so that we're in FY 16 but still CY 15. White—we need to address this at the on-site for certain. Edwards—academic fall break? White—wants the EC to look at their October schedules and look at conferences and find a consensus date later this week.

c) New Business

- i) All waiting for the on-site this week.

d) On-site

- i) Agenda is being finalized.
- ii) Edwards and McQueeney will finalize the poster list today.
- iii) Charge is finalized.
- iv) White—everyone come with ideas and suggestions for making things best for the users and getting them involved in the process.