CINS AGM 2007
Queen's University

Attendees

Prof. Lynann Clapham	Queen's University
Dr. Jason Gardner	NIST
Dr. John Root	NRC-CNBC
Alastair McIvor	NRC-CNBC
Prof. Sean Cadogan	University of Manitoba
Lachlan Cranswick	NRC-CNBC
Dr. Ian Swainson	NRC-CNBC
Prof. Carl Adams	St. Francis Xavier University
Dr. Vijay Babbar	Queen's University
Prof. Yurij Mozharivskyj	McMaster University
Dr. Farshid Ramezanipour	McMaster University
Dr. Shahab Derakhshan	McMaster University
Prof. John Greedan	McMaster University
Prof. Francis Temme	Queen's University
Prof. Chris Barrett	McGill University
Prof. Dominic Ryan	McGill University
Dr. Ron Rogge	NRC-CNBC
Dr. Mu-Ping Nieh	NRC-CNBC
Dr. Norbert Kucerka	NRC-CNBC
Dr. John Katsaras	NRC-CNBC
Prof. Mark Daymond	Queen's University
Prof. Bruce Gaulin	McMaster University
Dr. Zin Tun	NRC-CNBC
Dr. Helmut Fritzsche	NRC-CNBC
Elizabeth White	NRC-SIMS
Dr. Zahra Yamani	NRC-CNBC
Prof. David Shoesmith	University of Western Ontario
Prof. Thad Harroun	Brock University
Prof. Don Taylor	Queen's University
Prof. Young-June Kim	University of Toronto

Students

Aaron Percival	Queen's University
Thomas Mak	Queen's University
Paul Hungler	Royal Military College
Mike Welland	Royal Military College
Matthew Kerr	Queen's University
Feng Xu	Queen's University
Ravi Kumar S	Queen's University
Volodywyr Svitlyk	McMaster University
Tomoko Ahaven	McMaster University
Heather Cuthbert	McMaster University

NRC Canadian Neutron Beam Centre Update

John Root
(Presentation available as separate PDF at www.cins.ca)
Personnel changes: there are several retirements approaching amongst the technical staff so it will be necessary to recruit new people for those positions. These actions and others to fill gaps in the technology group were identified in the NSERC MRS application, whose successful outcome enables progress towards achieving a sustainable complement. The scientific staffing level is more stable. With Bill's retirement Zahra is the only staff scientist in the field of quantum materials; however, Bill retains an effective presence on within the CNBC as an NRC Visiting Researcher, where he maintains a research program and provides advice and mentoring support, as required. André Yonkeu iholds a term position whose aim is to build the scientific and technical capacity for the CNBC to support user access for research in the field of hydrogen storage materials, and to attract some initial users..

CINS Business I

Dominic Ryan
A Symposium on NRU: 50 Years of Science and Innovation
Prior to the AGM Mike Steinitz had made the suggestion that a symposium should be organized to celebrate NRU's 50 years and all the achievements that it has made possible. CAP could be a suitable organization to lead such a project. There was broad support at AGM, and it is anticipated that CINS will play a role to help make such an event a success. It was noted that there may be a benefit to organizing such a symposium adjacent to the Summer School on Neutron Scattering that is planned for June 2008, and is being directed by Ian Swainson.

Presentation to Finance Committee
CINS president Dominic Ryan has prepared a submission to the federal Finance Committee in response to a public announcement. The committee is polling Canadians on taxation issues and CINS has the opportunity to point to necessary national infrastructure for science and industry (i.e. investment in a new Canadian Neutron Centre) in that context. The date is not yet set for those committee hearings.

Nominations for Prizes
The CINS executive recently submitted a nomination for a prominent Canadian neutron scatterer for the NSSA Sustained Research Prize. There was a reminder to make appropriate nominations of colleagues for science prizes such as this, to raise the profile of neutron scattering in Canada.

Successful MRS Application
The international review committee was pleased with the operation of NRC-CNBC. As a result of the review, the MRS grant to McGill was renewed for 5 years, beginning in the first year at $1.2M and scaling up to $1.4 by the fifth year. That was what the application had requested.

It is hoped that NRC will respond to this strong endorsement by NSERC and the independent review committee by a similar increase in baseline funding for NRC-CNBC.

It is important to identify the commitments made in the application and deliver on them in order to continue the MRS funding in the future.

Visitors to NRC-CNBC

There was a discussion about visitors, accommodation and how that contributes to a sense of community. People valued facilities that had sleeping and meeting rooms, where multidisciplinary visitors could mingle and talk. People recognized the importance of longer visits to Chalk River especially for students. Funding subsidies for those extended trips was viewed as a good idea. The old apartment was viewed as inadequate. It was suggested that, for purely accommodation, some rooms could be permanently held in a local hotel. There might be problems if this is perceived as government (NRC- CNBC) favouring a single business, and it does not address the concept of an intellectual centre where people meet and share ideas. Longer visits would reduce the problems associated with unpredictable shutdowns. It would also allow for projects to be more fully discussed and data analyzed before visitors leave. It was left for NRC-CNBC to propose a physical solution to this important issue.

Mail-in Experiments

There was a related discussion about mail-in experiments, where no visitor attends the beamtime at NRC-CNBC. The current agreement for the MRS grant includes the provision of fees for mail-in service. The intent of that arrangement reflects NSERC's emphasis on education of students through interaction with scientists at NRC-CNBC. NIST and ISIS both permit mail-in experiments free of charge, so a potential outcome of charging for mail-ins could be that instead of choosing to attend an experiment people may choose to mail-in to another lab. NIST is under-subscribed for this service. In a related note to the previous discussion, perhaps this is an indication that scientists *want* to attend their experiments at NIST because of the benefits of spending time in a multidisciplinary, intellectually stimulating environment. There are advantages having a level of simple, mail-in experiments to help fill out gaps in the experiment schedule. It was suggested that mail-ins should not be eradicated but instead a conscious decision should be made regarding the percentage of mail-ins that is desirable.

Near Term projects

Aside from the overarching need for the CNC to replace NRU as Canada's national neutron source, there are opportunities in the near term for funding hardware developments and activities that benefit the CINS community. On Oct 25 the CFI launched a new call for proposals following a $510M allocation in the 2007 federal budget. There are several potential projects that could form an application to CFI:

- C2 upgrade, a SANS machine or a next-generation instrument at NRU
- A repeat of the package of ancillary equipment that was unsuccessful last time
- CNC technical analysis.

Perhaps some or all of these can be packaged for CFI, with a coherent theme of ‘laying the foundation for 50 years of neutron scattering in Canada’ $10M - $15M total. An omnibus of small projects may not be viewed favourably if that coherence is not very strongly evident. Some ancillary equipment could be linked to beam lines, just as ancillary equipment was linked to Reflectometer.
A subcommittee is needed to understand the competition framework and put a proposal together.

Feedback from Breakout Groups on Instrument Selection

The attendees divided into five groups to discuss needs and priorities for neutron instruments for the next decade and beyond. The intention was to complete the final piece of input required to finish the Long Range Plan.

The five groups represented the five broad areas of science served by neutron scattering: crystallography, bio and soft materials, quantum materials, surfaces and thin films, and materials science and engineering. The results of those discussions were collated by John Greedan (McMaster) and John Katsaras (NRC). The collated results were presented as two lists. This list shows all the instruments chosen in the top three from all of the groups:

- classic SANS (C)
- reflectometer Horiz (liquid) (C)*
- reflectometer Vertical (C)*
- single x-tal texture (developmental station) (T)
- white beam stress (T)
- ultra SANS (T)
- hi-speed powder (T)
- hi-res powder (T)
- low Q powder (C)
- TA (T)
- TA polarization (C)
- disc chopper (C)

* chosen by more than one group
In that list there are 6 thermal and 6 cold neutron instruments (indicated by “T” or “C”).

The second list shows all the instruments that were ranked 4, 5 or 6 by all the groups:

- backscattering (C)
- spin echo (C)
- TAS (H)
- hi-Q powder (NPDF) (H)
- Laue single xtal KB mirrors **
- radiography/tomography (T)

- special environment (shielded room) (T)
- classic SANS (C) **
- depth profiler (C)
- ultra SANS (T) **
- TAS (C) **

** chosen by more than one group

In that list there are 3 thermal, 5 cold and 2 hot neutron instruments.

It was noted that the decision process did not allow the possibility of duplicate instruments, and it is common to have more than one SANS machine at a source.

The issue of a hot source was debated extensively. they are not common in neutron sources world-wide. Relative to a cold source they enable a narrower range of science, however they are simpler as well. It was noted that a unique or special feature such as a hot source is the kind of thing that gives one neutron facility some ‘character’ or a means of differentiating itself from the international network. A white beam stress scanner would fall into that category also. Uniqueness can also be achieved through ancillary equipment enabling a class of experiments.

Polarized instruments require non-magnetic steel for construction of surrounding building, and low-field environments.

Microbeam equipment was suggested as a valuable piece of ancillary equipment that could lead to exciting science.

The NIST Expansion workshop is documented and might be a good reference source for key design requirements.

The flexibility to allow unusual instruments, isolated instruments or features like a hot source was seen as desirable.

The Long Range Plan was also discussed. It is the larger document that the priorities for instruments will be included in. A draft had been circulated for attendees prior to the AGM and copies were available in the room. It was recognized that the document served several roles to different audiences: as a communication tool to politicians and public figures, as technical input to the construction of a new neutron source in Canada, and as background information for public servants in various government departments who provide advice on science policy and government spending. It was agreed that a single document that was carefully crafted was better than publishing science and policy information as separate documents.

This portion of the meeting was concluded by the selection of a group to examine these lists of chosen instruments, and incorporate the information into the final long range plan.

Motion: Moved by John Greedan, Seconded by Ron Rogge that a committee of John Root, Dominic Ryan, Mark Daymond incorporate comments from AGM and finalize the CINS long-range plan for printing by end of 2007 – Carried..

There was a final suggestion to engage an external review of the document.

CINS Business II

Note: Dominic Ryan is considering implementing a user survey to poll people who do experiments at NRC-CNBC and learn what improvements could be made.

Motion: Further to the article of business earlier in the day, a committee of Bruce Gaulin, Dominic Ryan and John Root was appointed to monitor the CFI competition announced recently and coordinate a proposal as discussed above. Moved by Ron Rogge, seconded by Zin Tun - Carried.

Further to the article of business regarding extended visits to Chalk River, it was suggested that CINS provide money for students to extend their stay. A positive pressure to stay longer was viewed more favourably than the negative pressure of charging mail-in users.

Motion: (Moved Bruce Gaulin, seconded Mark Daymond), for CINS to reimburse student travel expenses up to $150 when remaining at Chalk River beyond scheduled beam time. - Carried

Action: ACNS 2010 – CINS president will offer to host ACNS 2010 in Ottawa, in a letter to NSSA president Roger Pynn.

Note: NSERC RTI grants are a mechanism to fund items less than $150k, and can be augmented by other parties. Attendees were reminded that they should feel free to propose partnerships of this type with NRC-CNBC.

Officers were nominated by the CINS Trustees: John Root (membership), Mark Daymond (vice president), Dominic Ryan (president). All were acclaimed.

Suggestion that next AGM be held at RMC. RMC student Paul Hungler volunteered to help.
Action: Mark Daymond to consult with faculty at RMC to confirm venue of next AGM.

All present thanked John Greedan for his work as vice president of CINS, and Lynann Clapham and Mark Daymond for their efforts organizing and hosting the 2007 AGM.