

2010 Annual Meeting of the CNMS User Executive Committee
September 13, 2010 – ORNL Bldg 8600, Room C-152

Members attending: Venkat Gopalan (Chair), Mark Dadmun (Vice Chair), David Bucknall (Secretary), Tony Hmelo, Bin Hu, Alamgir Karim, Martyn McLachlan, and Ron Jones (by phone)

CNMS representatives: Peter Cummings, Laura Edwards, Tony Haynes, Mike Simonson

Meeting convened 6:10pm.

Discussion was guided by Chair's slides (attached).

CNMS update provided by Mike Simonson (slides attached).

Discussed several suggestions for CNMS user program and for future UEC activities. See slides 7 and 9 in Chair's presentation and the following.

For UEC

- Include an Industry liaison in UEC telecons/meetings- invited by UEC
- Alternatively, designate an At-Large position on UEC for industrial member (requires change to by-laws)
- Remind users to complete the new online "Community Survey" soon after each visit.
- Personalize the reminder emails via "mail merge," i.e., "Dear Steve" instead of "Dear User."
- Periodically choose a user highlight (submitted by users) to send to ORNL PR dept to produce a press release or otherwise publicize the user's work.

For User Program

- Require a report following conclusion of each project: outcomes from project including research accomplishments, highlights, publications, presentations
- Collecting publication data from users: Do the literature search for the user based on user's name then send the PI a list of potential publications and ask Y/N whether each one was based on user project at CNMS. Easier for user, more work for CNMS overall.
- Develop and post a "top 10" list of highest-rated publications from user projects as rated by citations or by user voting

Discussion of responses to UEC Community Survey led by McLachlan (see Chair's slides).

- Responses to questions about Facilities, Tutorials, Workshops identified 3 general areas of most interest to users- microscopy, x-ray diffraction, scanning probes.
- Some responses indicated there was ambiguity about openness of CNMS, i.e., is collaboration required; led to suggestion to soften recommendation to "contact staff" that appears at top of new Tip Sheet for proposals.

Reviewed nominations for 2011 UEC and received the following additional nominations.

- Gopalan nominated McLachlan for Vice Chair, seconded by Dadmun.
- Bucknall self-nominated for At-Large, seconded by Dadmun.
- Jones self-nominated for At-Large, seconded by Karim.

Discussion of amendment to by-laws. Agreed that an amendment be placed on the ballot for fall 2010 elections to change to 2-year staggered terms for At-Large members and Secretary. Implementation plan to be left for 2011 UEC to determine which half will serve 1-year terms to enable transition.

Adjourned 8:40pm.

CNMS UEC Meeting

September 13, 2010

Venkatraman Gopalan,
Chair, CNMS Users Executive Committee
Pennsylvania State University

Vice-Chair: Mark Dadmun (University of Tennessee)

Secretary: David Bucknall (Georgia Tech)

At-Large Members:

Rosario Gerhardt (Georgia Tech)

Tony Hmelo (Vanderbilt University)

Bin Hu (University of Tennessee)

Ronald L. Jones (NIST)

Alamgir Karim (University of Akron)

Martyn McLachlan (Imperial College, London)

Scott Retterer (ORNL/CNMS)

Past Chair, ex officio member:

Hai-Ping Cheng (University of Florida)

ORNL Staff Attending

Peter Cummings

Laura Edwards

Tony Haynes

Sandy Lowe

Mike Simonson



AGENDA for CNMS UEC MEETING, September 13, 2010



- News from the CNMS Director, **Mike Simonson**- future plans
- Assessment of 2010 UEC activities (**Gopalan**)
 - Accomplishments
- User Survey (**Martyn McLachlan**)
 - results
 - response to results
 - future of survey
- Set agenda for “town hall” meeting tomorrow (**Gopalan**)

- Election of 2011 UEC (**Haynes**)
 - status of nominations
 - additional nominations by 2010 UEC members
 - schedule for election
 - election process

- Goals for 2011 UEC- recommendations to carry forward (**Discussion**)

The Center for Nanophase Materials Sciences

Update for the User Executive Committee

***Mike Simonson, Interim Director
13 September 2010***



Highlights and Achievements

- **User Interactions**
 - 317 users in FY09, but >40,000 user hours
 - On track for ~400 users again in FY10
 - User Executive Committee actively engaged
- **High-impact research results**
 - Continuing to increase percentage in HI journals
- **Successful ARRA equipment proposals**
 - 8 proposals, 9 instruments, \$5.785 M
- **Successful CNMS program review**
 - Suggestions for improvement

Staff Changes

New Staff

- Paul Kent – Nanomaterials Theory Institute (8/17/09)
- Miguel Fuentes-Cabrera – Nanomaterials Theory Institute (11/30/09)
- Nina Balke – Imaging Functionality (3/29/10)
- Brad Lokitz – Macromolecular Nanomaterials (4/12/10)
- Adam Rondinone – Multiscale Functionality (returned from offsite assignment 8/1/10)

Departure

- Vincent Meunier – Nanomaterials Theory Institute (7/31/10)

CNMS Publication Data Comparison

FY 2010 reported to date	Total	High Impact
Science	39	15
Both	19	9
User	51	13
	109	37
		34%

FY 2009	Total	High Impact
Science	83	25
Both	22	6
User	58	11
	163	42
		26%

Patents Granted

- Stephen Jesse and Sergei Kalinin, “Band Excitation Method Applicable to Scanning Probe Microscopy,” *US Patent* 7,775,086 B2, issued: August 17, 2010.
- David B. Geohegan, Ilia N. Ivanov, and Alexander A. Puzos, “Fabrication of High Thermal Conductivity Arrays of Carbon Nanotubes and Their Composites,” *US Patent* 7,763,353, issued: July 27, 2010.
- Sergei V. Kalinin, Hans M. Christen, Arthur P. Baddorf, Vincent Meunier, and H. Nyung Lee, “Ferroelectric Tunneling Element and Memory Applications Which Utilize the Tunneling Element,” *US Patent* 7,759,713 B2, issued: July 20, 2010.
- Stephen Jesse, David B. Geohegan, and Michael Guillorn, “SEM Technique for Imaging and Measuring Electronic Transport in Nanocomposites Based on Electric Field Induced Contrast,” *US Patent* 7,491,934 B2, issued: February 17, 2009.
- Deanna Pickel, M. A. Strand, G. Irick, D. S. McWilliams, and M. E. Donelson “Use of Copolymerization Sulfonate Salts to Promote Char Formation in Polyesters and Co-polyesters,” *US Patent* 20080167400, issued: July 10, 2008.
- A-P. Li, J. X. Ma, and J. Shen, “In-Situ Scanning Tunneling Microscope Tip Treatment Device for Spin Polarization Imaging,” *US Patent* 7,361,893 B1, issued: April 2008.

CNMS Staff External Awards

- Sergei Kalinin, 2009 Presidential Early Career Award for Science and Engineering (PECASE)
- Sergei Kalinin and Stephen Jesse, 2010 Microscopy Today Innovation Award
- Chengdu Liang, R&D 100 Award
- Nick Lavrik, R&D 100 Award
- Maxim Nikiforov (PD), Sergei Kalinin, and Stephen Jesse, R&D 100 Award
- Peter Cummings, 2010 Founder's Award, AIChE
- David Joy, 2010 Peter Duncumb Award, Microbeam Analysis Society
- Viviane Schwartz and Gonzalo Alvarez-Campot, *Hispanic Engineer & Information Technology* magazine, "40 under 40" in Science, Technology, Engineering and Mathematics
- Sergei Kalinin, 2010 Burton Medal, Microscopy Society of America
- Sergei Kalinin, 2010 IEEE-UFFC Ferroelectrics Young Investigator Award
- Mike Simpson, 2010, *Elected, College of Fellows, American Institute for Medical and Biomedical Engineering (AIMBE)*
- Markus Eisenbach, Chenggang Zhou, Donald Nicholson, Gregory Brown, Jeff Larkin, and Thomas Schulthess, *Gordon Bell Prize presented by the 2009 Association for Computing Machinery*

CNMS Program Review Feedback

- **Sharpen focus and descriptions of theme science**
- **Pursue highest-impact research**
- **Broaden community awareness**
 - **Availability of CNMS for user research**
 - **Role and impact of UEC in user interactions**

Vision for CNMS

- **User-driven, user-supported research**
 - **Focus in soft nanomaterials, unique synthesis-characterization capabilities, computational nanoscience**
 - **New staff in macromolecule synthesis and functionality**
 - **New staff and instruments in scanning probes**
 - **New capabilities for electron microscopy, SAXS**
 - **New (and replacement) staff in NTI**
 - **Highlight group structure for user capabilities**
- **Pursue highest-impact research**
 - **Encourage “outside the envelope” thrusts**
 - **Identify and remediate “shortfall” areas**
- **Broaden community awareness**

New Instruments

- **EM Suite**
 - Zeiss MERLIN SEM ($p > 0$) Available
 - Zeiss LIBRA TEM ($V < 120$ kV) 10/1/10
- **SAXS**
 - Anton-Paar with SA, GI capability 10/1/10
- **Optical Profilometry**
 - Enhanced nanofabrication Available
- **Variable-temperature capability**
 - STM/AFT capability for 4-probe Available
- **OIC computers**
 - Two new clusters 11/1/10
- **PVD tool**
 - New thin-film deposition capability 1/1/11
- **Electron spectroscopy**
 - UHV synthesis/characterization capability Spring 2011
- **Low-temperature scanning microscope**
 - UHV, 'tuning fork' Spring 2011

UEC Activities to Help CNMS

- **User community engagement**
 - Feedback users might not tell us...
 - Interactions with “nontraditional” users
- **Next-generation capabilities**
 - Suggestions for workshops/symposia
 - Suggestions for instruments/capabilities
- **Impact of activities**
 - Encourage reporting of user publications
 - Let us know about awards, success stories
- **“Conscience” for user program “enhancements”**
- *Help us make CNMS a place you’d recommend for collaborations and careers*

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- ➔ • Assessment of 2010 UEC activities (**Gopalan**)
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- User Survey (**Martyn McLachlan**)
 - results
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UEC Accomplishments

Monthly UEC Telecons

UEC Newsletter (2 issues: June and August 2010)

Users Meeting

Users Feedback / Online Survey and Personal Enquiries





- [CNMS Home](#)
- [About CNMS](#)
- [Capabilities](#)

User Group and User Executive Committee - Meeting Minutes

<http://www.cnms.ornl.gov/uec/minutes.shtm>

- [Working at CNMS](#)
- [Publications](#)
- [News/Highlights](#)
- [Upcoming Events](#)
- [CNMS Employment](#)
- [CNMS Postdoctoral Research](#)
- [Nanoscience Images](#)
- [Training](#)
- [Contact Us](#)
- [CNMS User Group](#)**
- [Other NSRCs](#)
- [Other DOE/BES User Facilities](#)
- [DOE Basic Energy Sciences](#)



CNMS User Group Business Meetings <i>held during the annual User Meeting and open to all</i>	User Executive Committee Meetings <i>periodic meetings of the UEC and invited guests</i>
September 17, 2009 September 25, 2008 October 11, 2007	September 17, 2009 (joint with SHUG) September 26, 2008
UEC Conference Calls	
<i>Next conference call: September 2, 2010</i> August 12, 2010 June 3, 2010 May 6, 2010 April 1, 2010 March 4, 2010 February 4, 2010 January 6, 2010	

Suggested Improvements to UEC telecons?

Meet earlier in the first quarter?

“Bring a user to meeting?”

Doodle scheduling

http://www.cnms.ornl.gov/uec/Newsletter_082010/index.shtml

[Home](#) [Message from UEC Chair](#) [Proposal Calls](#)
[Upcoming Events](#) [Research Highlights](#) [Staff Highlights](#) [What's New](#)

User Newsletter - August 2010



REMINDER! Registration deadline is August 31 for the CNMS User Meeting- [click here to Register](#).

We invite you all to join us for the upcoming ORNL Users Week, September 13-17, 2010. More information can be found under CNMS User Week in this newsletter. We encourage [feedback](#) and suggestions for the content of future newsletters.

About CNMS

[The Center for Nanophase Materials Sciences Oak Ridge National Laboratory](#) is a collaborative nanoscience user research facility for the synthesis, characterization, theory/modeling/simulation, and design of nanoscale materials. It is one of five [Nanoscale Science Research Centers](#) sponsored by the [Office of Science, U.S. Department of Energy](#).



Suggested Improvements to Newsletter/ Website?

3 Newsletters per year? Timing?

Content?

Animations and videos?

Highlight external users?

Seek direct scientific inputs from users?

User Q&A, awards, success stories in each newsletter?

UEC Website with Q&A and online services for Users?

Mail-in Pamphlets?

Users upload publications/submissions in real-time on the web.

Top 10 pubs



DOE-BES Review, December 2009

http://www.surveymonkey.com/s/CNMS_Survey

CNMS Community Survey

Exit this survey

Answer as few or as many questions as you like.

1. Are there areas of specific **scientific expertise or equipment** that you would like to see strengthened or added at the CNMS? If so, please list.

2 (a). Currently, **CNMS proposal calls** are twice a year, specifically with proposal deadlines in early May and mid-October. Based on your schedule of annual conferences, academic calendars, proposal cycles, and other annual obligations, are these time periods optimal?

Yes

No

Martyn McLachlan

Users Survey Summary



Users Survey Summary

The overall response rate was low – around 5-6% of those polled, I think this is a figure that we can target for improvement.

50% of the responses came in the day the survey was issued, the remainder have come slowly (excluding the spike associated with your message).

Improvements are mainly concerning facilities (both new and improved) but there are a couple of other areas.

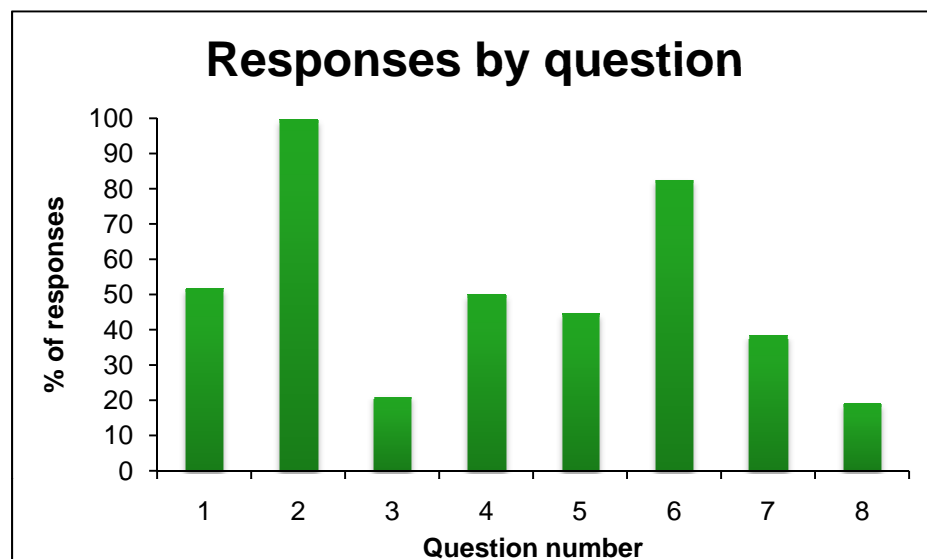
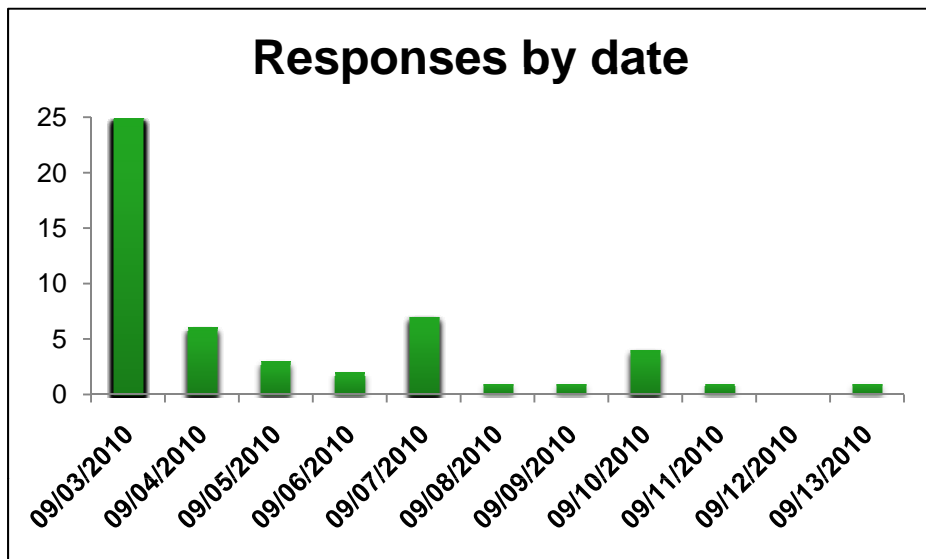
There seems to be satisfaction with the current call cycle.

Tutorials have been requested in many areas, there is a strong feeling for TEM, followed by neutron, AFM and XRD.

Workshops suggestions are a little more diverse – no recurring themes and all seem very project specific.

There are around 33% of the responses suggesting that the workshops should be held out with the user meeting. The majority of these suggest Jun-Aug (teaching break).

CNMS User Survey September 2010



Questions

1. Are there areas of specific scientific expertise or equipment that you would like to see strengthened or added at the CNMS?
2. Currently, CNMS proposal calls are twice a year, specifically with proposal deadlines in early May and mid-October. Based on your schedule of annual conferences, academic calendars, proposal cycles, and other annual obligations, are these time periods optimal?
3. If not, what general times of the year would be better for you and/or your scientific peers?
4. Tutorial: Experts provide special instruction or training in use of instruments or techniques?
5. Workshop: Experts meet together to identify research opportunities, needs, challenges, strategies for future development.
6. Are you more likely to attend tutorials and workshops if they are scheduled with the CNMS user meeting in September or at some other time?
7. What other suggestions would you like to make to improve your overall user experience at CNMS?
8. If you can be available to provide clarification or would like to have feedback to any of your responses above, please include your name and email address (Optional).

Are there areas of specific scientific expertise or equipment that you would like to see strengthened or added at the CNMS?

•Preparation

- Sample preparation equipment like wire saw, grinding machine, polishing machine, embedding equipment.
- Autostepper Dicing Saw

•Facilities

- Available high res 3D Tomographic TEM capability as in Japan (Dr. Hiroshi Jinnai) or Dr. Rich Spontak (NC State). If it exists, ignore comment
- Micro/nano X-ray diffraction with variable temperature
- High resolution TEM equivalent to HF-3300
- low-temperature four-circle XRD would be great. (Thus far, it is a two-circle machine.)
- Basic afm would be complementary to our user work in polymer thin films.
- Feld flow fractionation
- Solar simulator and dedicated cell efficiency testing capabilities
- Any additional in-situ materials characterization would be helpful. Our attempts failed due to lack of environmental TEM capabilities ($p \leq 1\text{bar}$, $T \leq 1300\text{K}$)
- Non contact AFM
- Nanoimprint lithography
- Ion Implantation Ion beam analysis
- Molecular vapor deposition
- Parylene deposition Molecular vapor deposition (functionalizing MEMs, NEMs) Xenon difluoride etcher
- Spectroscopy, including ultrafast methods.

•Synthesis

- Ability to synthesize block copolymers with metal (gold, iron, cobalt) and inorganic nanoparticles (silica, C60) covalently attached to one block. Polymer tethered SW Carbon Nanotube and polymer "tethered" graphene systems. Block copolymers for photovoltaic and energy storage applications in general amenable to study by scattering.
- Inorganic synthesis

•Processing

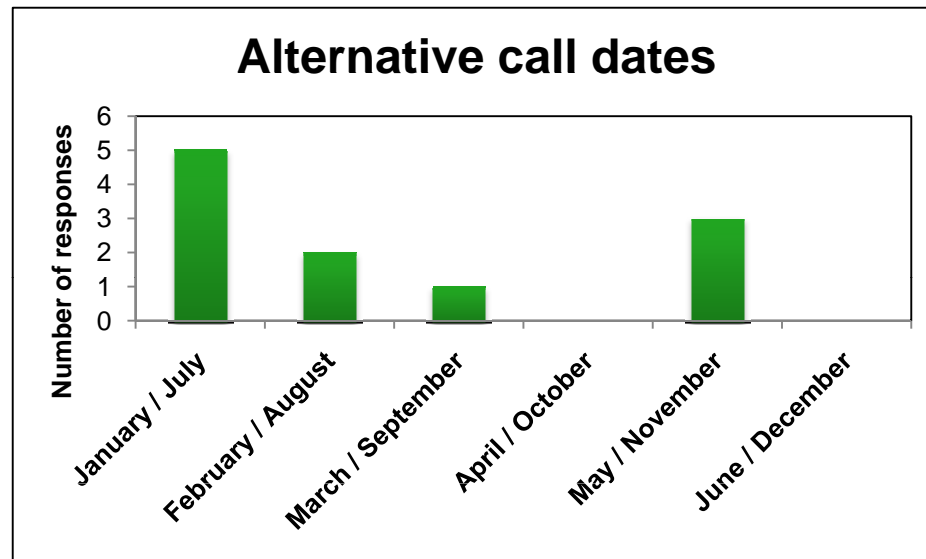
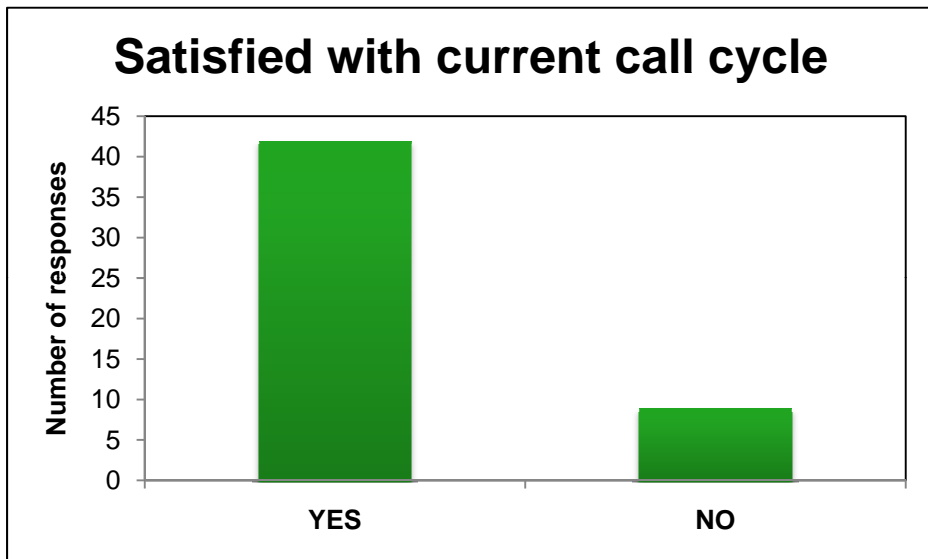
- Off-line data processing websites, significantly enlarged cluster.

•Other

- There is a need for expertise in biological materials, these include polysaccharides, lignin, and proteins. Chemisorption and porosity measuring equipment.
- User access to TEM equipment. STEM access and SEM access are good, but the TEMs are highly booked. Focused Ion Beam (FIB) I know that there is a new STEM system that will replace the H-2000 STEM system. I would like to see cryomicroscopy added along a cryomicroscope for preparation of thin sections



Currently, CNMS proposal calls are twice a year, specifically with proposal deadlines in early May and mid-October. Based on your schedule of annual conferences, academic calendars, proposal cycles, and other annual obligations, are these time periods optimal?



In what subject areas would you find a CNMS sponsored tutorial useful?

- Electron microscopy (SEM, TEM) FIB
- TEM instruments. Again training is more available for the SEM and STEM already. Use of these instruments in chemical analysis (esp EELS access for TEM).
- TEM
- TEM/STEM
- Super-resolution imaging
- TEM

- Measurements of dynamics with neutrons
- Neutron scattering
- Scattering studies

- Raman spectroscopy
- FTIR

- Band Excitation Piezoresponse Spectroscopy (BEPS) techniques, especially the newer forms - relaxation and non-linear measurements.
- Spectroscopy?

- XRD,
- X-ray techniques, scanning-probe techniques, oxide thin-film growth

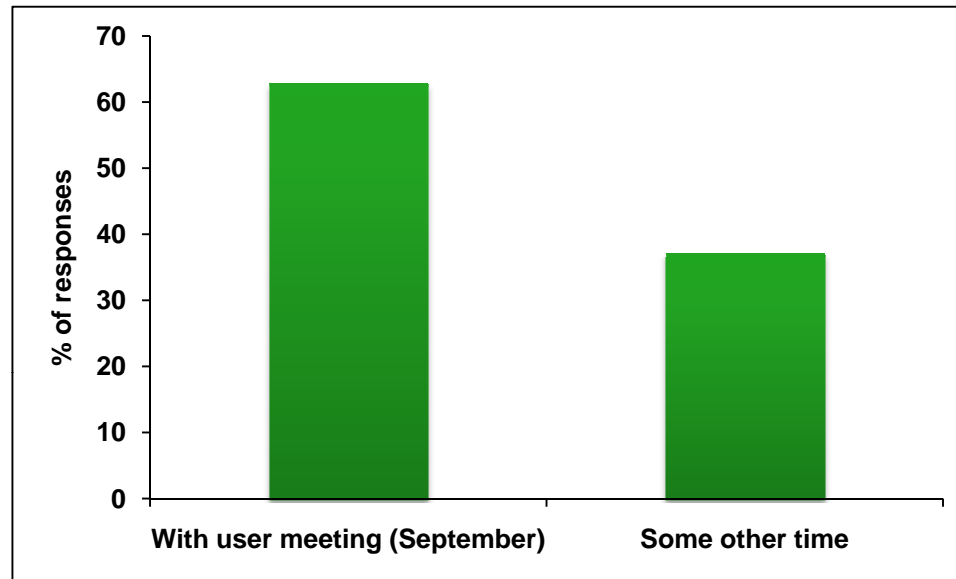
- Any advanced characterization capability.
- PLD preparation of thin films
- How to design patterns for ebeam, How to operate ebeam tool, How to operate the DWL66
- Solar Cells (excluding OPV) and Energy Storage
- Tutorial on microfluidic fabrication for biology
- Surface plasmon and similar spectroscopy of complex polymer thin films characterization
- Data processing; software analysis of images
- Lithography, chromatography, computer modeling
- Synthesis and applications of nanotubes, graphene.



In what subject areas would you find a CNMS sponsored workshop useful?

- Energy storage materials and devices Energy conversion materials and approaches Membranes for sustainability - energy, water, CO2
- Laser processing of materials, strongly correlated oxide materials
- Charged polymers
- Micro- and nanofabricated porous media Nanopatterning biological molecules
- Quantitative biology Interface of biology and surface chemistry
- Biological and Medical opportunities for nanoparticle technologies
- Nanoparticle surface modification nanoparticle environmental fate, transport and implications health aspects of nanoparticles
- Graphene
- In-situ nanocatalyst characterization.
- XRD, FTIR
- Nanoscience for energy
- Biological subcellular circuitry and stochastic noise in subcellular circuitry

Are you more likely to attend tutorials and workshops if they are scheduled with the CNMS user meeting in September or at some other time?



- Summer months
- May, in between semesters (after Christmas, before January 10 or so)
- I am a European user, I can travel to Oak Ridge twice a year. These times are fixed according to the schedules of my collaborators for our experiments. Therefore, I am not very likely to attend a workshop or tutorial, unfortunately.
- Academics would probably prefer Summer
- Generally in the winter it seems that there are less conferences so January and February would be good months
- September is the hectic start of the semester. Summer would be great (June - August)!
- I usually start teaching in September, June to mid-August would be helpful to all those who teach, I think.
- Summer or December
- July/August
- Mondays or Fridays
- March
- A user meeting in Sept is difficult timing. Summer or May would be much better.

What other suggestions would you like to make to improve your overall user experience at CNMS?

Positive feedback!

- Excellent facilities, and very knowledgeable and helpful staff, please keep up the good work.
- I am satisfied!
- I'm completely satisfied with CNMS's performance.
- Nothing particular. Our experience has been quite satisfactory.
- Excellent overall!
- Doing a great job.
- No suggestion. It meets my expectations.
- Aside from the availability of tools, the biggest asset is access to knowledgeable people. I have no complaints about the staff, but I know how hard it is to get really good people. Please keep this as a top priority.

Suggestions for continued improvement...

Proposals

- Removal of six-monthly proposal calls, move to an open call model.
- Reduce turnaround time on proposal submission. Users pushed to rapid access scheme rather than user programme – no review for CNMS staff.
- Improvement in turnaround time on proposal submissions.
- Flexible experiment time, depending on success of results (including shortened time or extended time)

Students

- Introducing travel grants for students, especially international students.
- Also, it would be nice to have travel grants for students to go to CNMS. Some small \$2,000 grants would help to get more people down there and increase the level of interactions. NIST has travel grants for first-time visitors, and if we could enable the 1st visits, that would convince the PIs to fund more visits out of their research budgets.
- A major obstacle for sending more young scientists to ORNL is the lack of reasonably priced accommodation.
- Hope the initial set up, such as security check, becomes faster, especially for student researchers.
- Usually the time allotted is short (couple of days or so) so if Oak Ridge can allow graduate students to spend a little more time, may be 2 weeks, that will help.

What other suggestions would you like to make to improve your overall user experience at CNMS?

Facilities

- Reduction of noise in PFM suite
- Voltage calibration of the PFM systems.
- Establish a materials database of materials synthesized over the years, so that I can propose some variation of that with a good chance of success. Also, link to that, publications that used that material for research and researcher contact info.

Staff

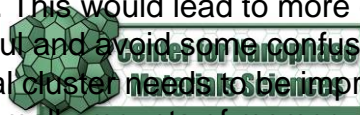
- Staff being more interested in running their experiments on our samples rather than the ones we actually went to run
- I probably would suggest that if there is a good synergy between specific CNMS scientists and someone inside/outside, that CNMS provide some liberty for extended collaborations. Somehow a mechanism should be in place to enhance CNMS scientist's external recognition. This can be encouraged by attending meetings, visiting collaborators, enhanced training, or technical sabbatical, for example.
- Similarly, I think having "easy" access to more experienced staff members would be really useful. Most of my student's emails stay unanswered, till I resend them or follow-up on them :) (I do not want to push my luck, but an online system where you get for the submitted questions/issues a "ticket" number to get follow-up answers might be a way to solve this).

Scheduling

- A simple on-line scheduling tool that would allow to see the available times for each tool/experiment would be a lot more useful than multiple back and forth of emails.
- Users should be warned by email if their badge access will expire.

Capabilities

- Some more information on the capabilities of the instruments beforehand - I was not sure of some additional modes that had been added to the microscope until I had arrived. This would lead to more efficient use of instrument time.
- I think a User Guide for each tool might be helpful and avoid some confusion for new or infrequent users.
- The resource management for the computational cluster needs to be improved. For our purposes, we found that the lack of memory management, combined with relatively small amounts of memory available, does not allow us to perform many of the tasks originally planned for the Oak Ridge computing cluster



Suggested Improvements to Survey?

Higher priority in UEC? Do it earlier and more often?

Tweaking the survey over the next few telecons?

Does it look like Phishing?

Personalized email to Users works more effectively.

Compile recommendations

Student travel support

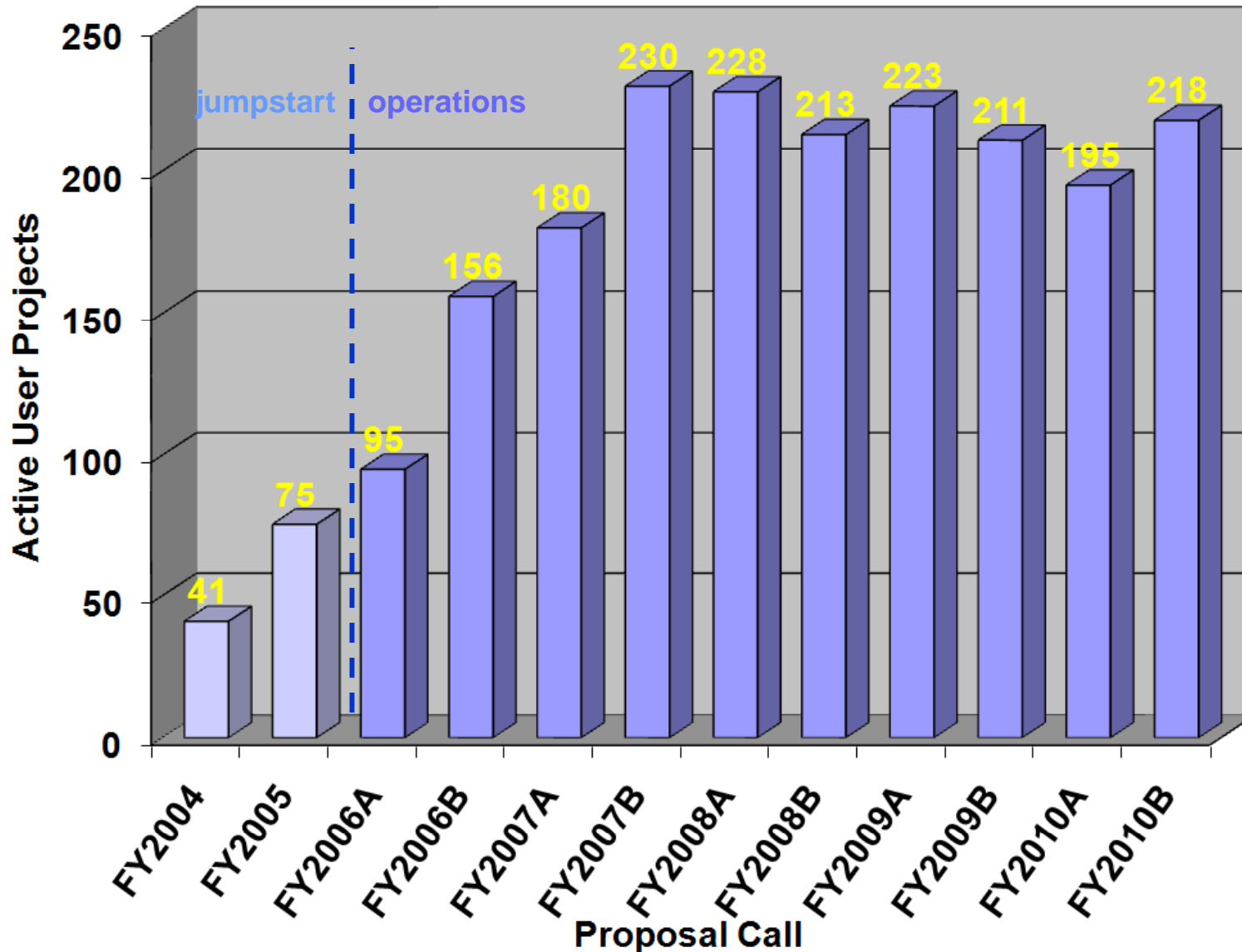
CNMS “Town Hall” Meeting of Users, September 14, 2010

- Update from 2010 UEC
- Nominations for 2011 UEC
- Open Discussion- Questions/Suggestions from the floor



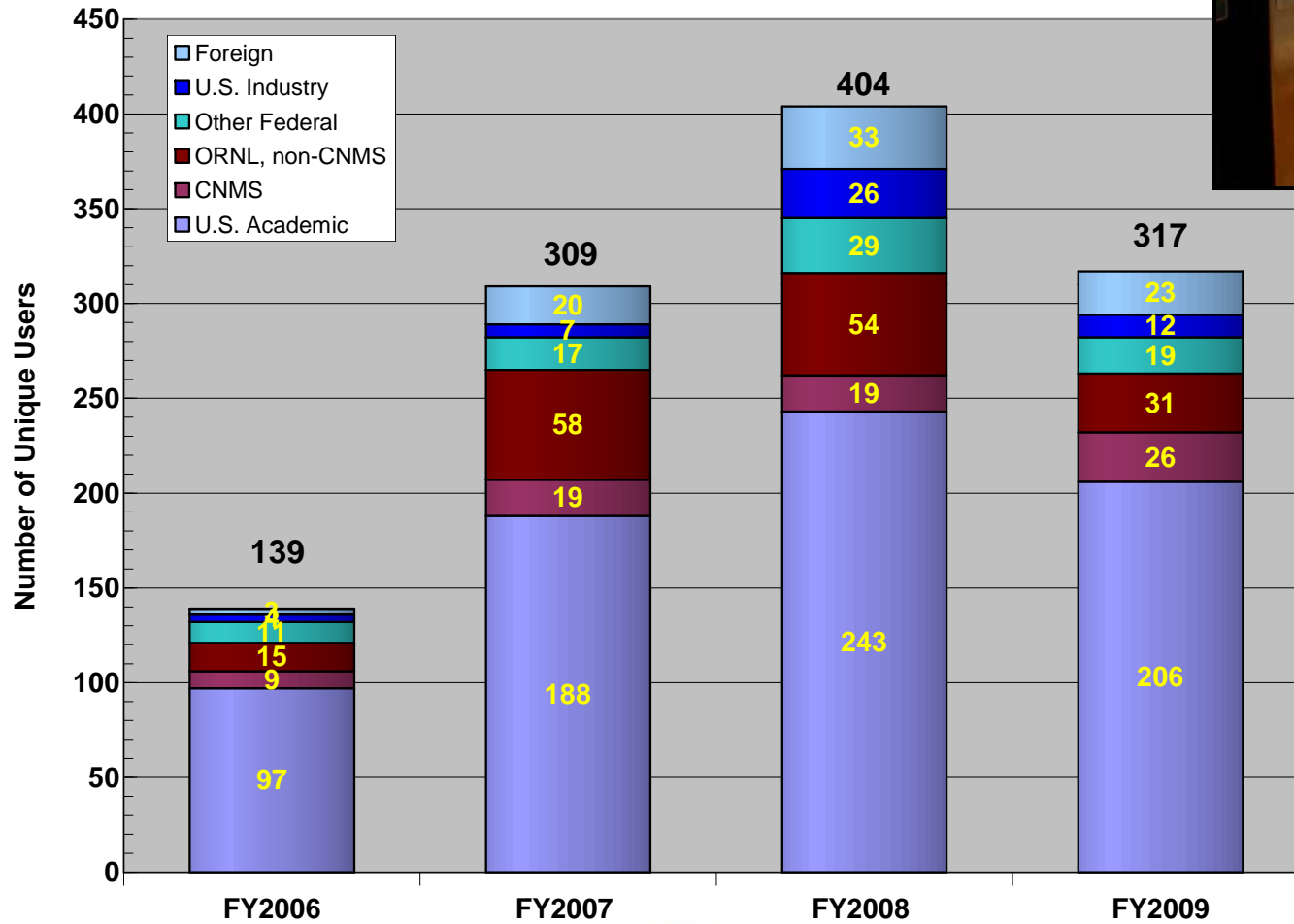
Timeline of User Program

- Sustained level of ~210 active user projects since late in FY2007



Users at the CNMS

- More than 60% of CNMS users are US Academic
- Fewer than 20% are from ORNL, including CNMS



Types of Institutions submitting proposals

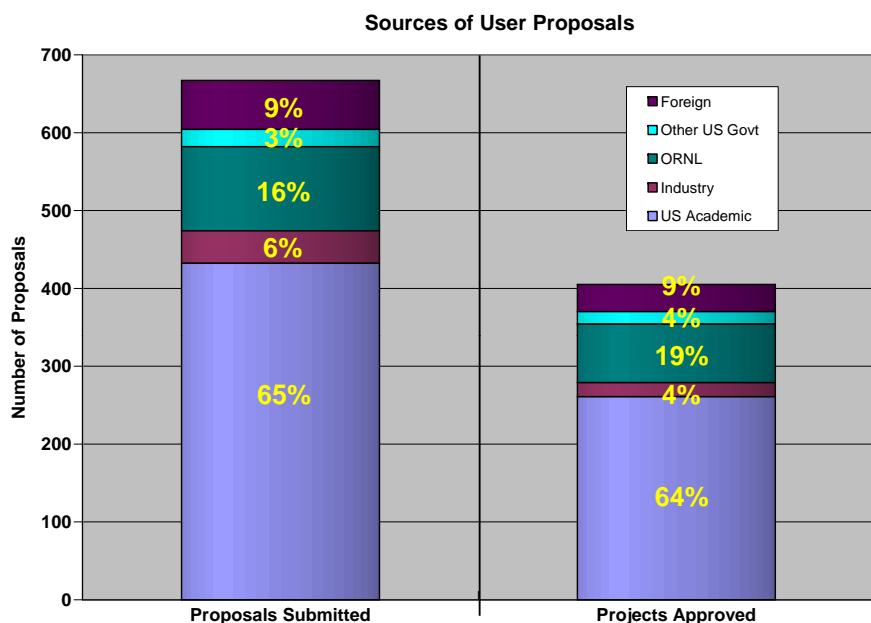


Figure 3.8. Distribution of CNMS User Proposals among different types of originating institutions in FY2007-FY2009.

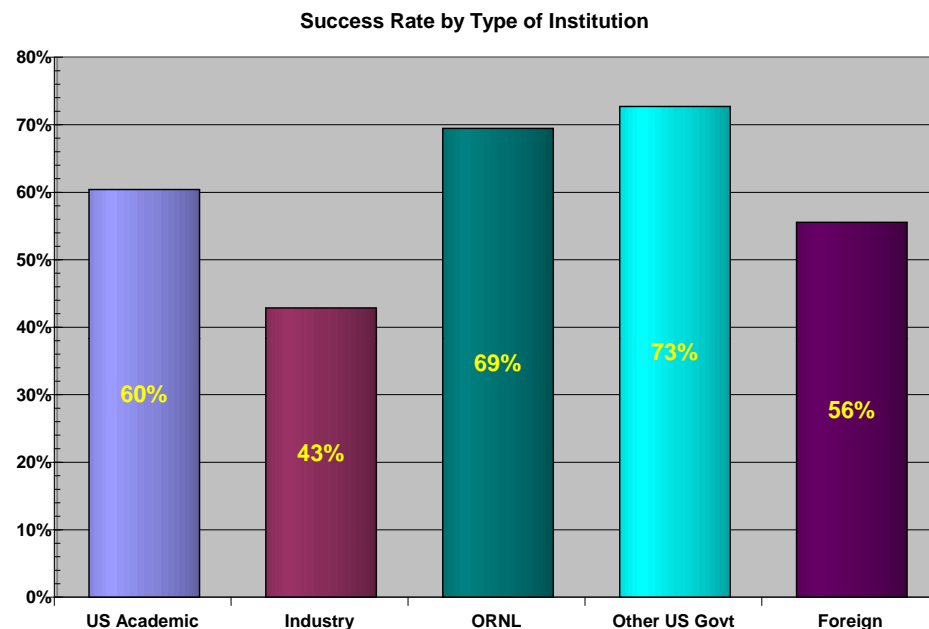
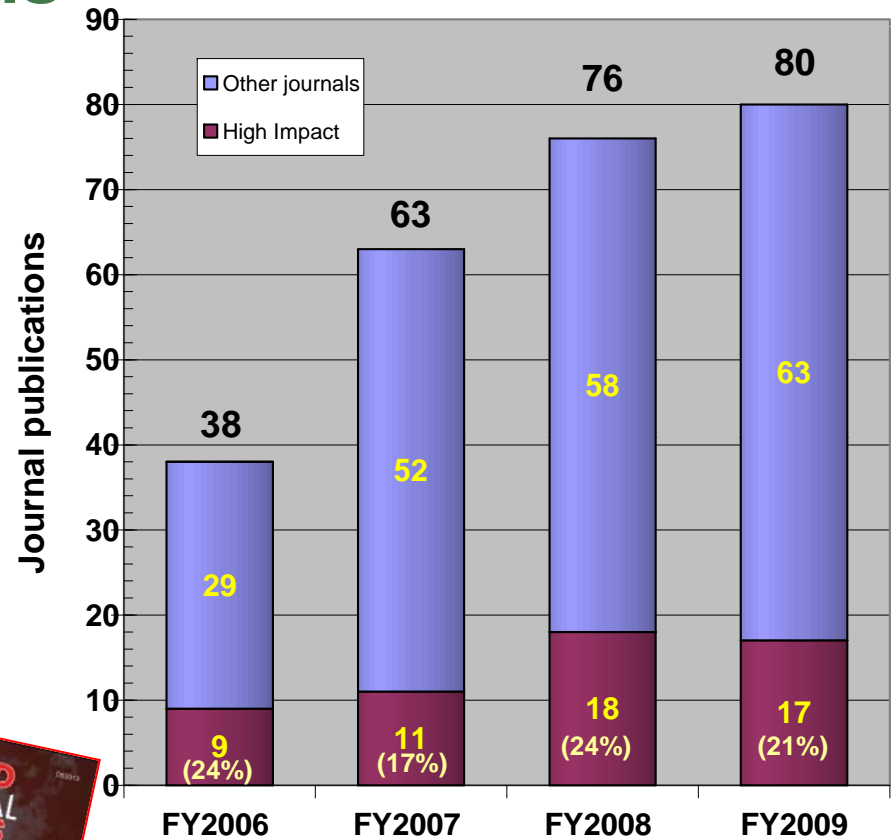


Figure 3.9. Success rates for proposals originating from different types of institutions in FY2007-FY2009.

User Program Publications

- Publication data is collected with annual user survey in October for the preceding Fiscal Year
- FY2009 User Publications:
 - 80 papers in refereed journals, including 17 in “high-impact” journals (impact factor > 5)
- Publication list is maintained on CNMS website with links to journals



Nominations for 2011 UEC

- **Vice Chair / Chair-Elect**
 - Martyn McLachlan (Imperial College London)
- **Secretary**
 - Tony Hmelo (Vanderbilt U.)
- **At Large**
 - Lane Baker (Indiana U.)
 - Nina Balke (CNMS)
 - Marco Buongiorno Nardelli (North Carolina State U.)
 - Michael Hickner (Penn State)
 - Jagdish Narayan (North Carolina State U.)
 - Keith Neeves (Colorado School of Mines)
 - Philip Rack (CNMS/U. Tennessee)- pending confirmation of interest
 - David Bucknall (Gtech)
 - Ron Jones (NIST)
- **Awaiting a Second for the Nomination**
 - Colin Wolden (Colorado School of Mines)- for Secretary

Charter Changes?

The term of the executive committee is 2 years.

Half the at-large members are rotated out every year

Implementation plan:

The executive committee will approve an initial rotation plan starting 2011.

Future Goals (Discussion)

Users Survey

Personalize, conduct more often, tinker with format, Include in newsletters,
[Compile into recommendations](#).

Election Charter ?

[Reword for 2 yr term](#), time with election

UEC telecons

Monthly meetings, Meet face-to-face earlier, include guest Users?

Newsletter/ Website

[3-4 times a year](#), solicit user highlights, User Q&A, Animations, Mail Pamphlets

User Meetings

New equipment/Facilities: Spectroscopy

