

**2011 Annual Meeting of the CNMS User Executive Committee
September 19, 2011 at 12:15P, ORNL Bldg 8600, Room C-152**

UEC Members Attending: Mark Dadmun (Chair), Martyn McLachlan, Nina Balke, David Bucknall, Vivek Prabhu, Colin Wolden, Marco Nardelli, Michael Hickner, Tony Hmelo

CNMS representatives: Peter Cummings, Laura Edwards, Tony Haynes, Sean Smith

Meeting Convened 12:15P

CNMS Update Provided by Sean Smith (slides attached)

Discussion Points

- It was noticed that the total number of user publications for the current year through 9/9/11 appear to be down. Haynes explained that this is an artifact of the data collection cycle and that the year was not complete.
- The number of active user projects appears to be leveling off at ~250 per year. CNMS is currently approving approximately 60% of user proposals, and through this process seeing approximately 50% “new faces” every year, not just turnover of existing users.
- Total user hours continue to increase even as the average number of projects appears to level out. This means that each project is receiving more hours. Rapid access projects are increasing, approximately 80 projects this last year, at approximately 5 days of time each. X-ray characterization tools, in particular the SAXS facility, are in high demand.

Discussion guided by Chair’s slides (attached)

Discussion points

- Prabhu reported on his experience of participating in this years NUFO (National User Facility Organization) meeting last June as CNMS representative. The committee agreed to continue to participate in “NUFO on the Hill” opportunities.
- The committee agreed to drop its proposal for a “face-to-face” meeting every year in addition to our yearly gathering at this CNMS user meeting. Haynes continued to offer to hosts 2 UEC meetings per year, but can pay for only one, spring or September. Cummings suggested that we might arrange an informal meeting at one of the larger scientific meetings for those UEC members who may be present.
- There was some discussion of the various mechanisms by which we might identify an appropriate “call-in” user to attend the telecons. Dadmun observed that the driver was to make the UEC as transparent as possible, and pointed out that all telecon minutes, newsletters, and business meeting minutes are online. Cummings suggested that we invite on-site users to attend the telecon as they might be available. Hickner questioned if we can identify the more vocal users

with concerns from the user survey. Cummings suggested we add a question to the survey “Would you like to participate in the monthly telecons?”

- There was additional discussion on how to identify and nominate an industrial user to serve on the UEC, and whether this was even desirable given the fraction of users who are “industrial.” The committee agreed that this is something we would like to see happen, but would not “reserve” a seat for an industrial user this year.
- Edwards reviewed the timing of the user newsletters in January, April and August timed with the introduction of the new committee members and the two proposal calls. The committee agreed that the frequency of newsletters should remain as is. McLachlan asked whether we ever tried to publish a paper version or distribute a poster, and Edwards reported that this was unfeasible. The collected committee discussed several ways in which the newsletter might be improved including content, videos, highlighting external users, awards, success stories, listing “top 10” publications, and seeking “direct scientific input from users.”
- Dadmun led the discussion on polishing the user survey. The committee agreed to maintain an annual survey, to be taken prior to the annual user meeting in the may/June timeframe, with results analyzed for presentation and discussion at the annual user meeting.

Adjourned 1:30P

The CNMS UEC Meeting

Mark Dadmun,
Chair, CNMS Users Executive Committee
University of Tennessee

Vice-Chair: Martyn McLachlan (Imperial College, London)

Secretary: Tony Hmelo (Vanderbilt University)

At-Large Members:

Michael Hickner (Pennsylvania State)

David Bucknall (Georgia Tech)

Colin Wolden (Colorado School of Mines)

Ronald L. Jones (NIST)

Vivek Prabhu (NIST)

Marco Nardelli (NC State)

Nina Balke (ORNL/CNMS)

Past Chair, ex officio member:

Venkat Gopalan (Pennsylvania State)

ORNL Staff

Peter Cummings

Laura Edwards

Tony Haynes

Sandy Lowe

Sean Smith



Agenda for the CNMS UEC Meeting Sept. 19, 2011

- News/update from CNMS Director
- Assessment of 2011 UEC Activities
 - progress on Goals from last year
- Set Agenda for Town Hall meeting
- Election of 2012 UEC
 - Status of nominations
 - Additional Nominations
 - Schedule of Election
- Goals of 2012 UEC – (Discussion)
 - Implementation and use of survey

News from the CNMS director



Sean Smith



DOE-BES Review, December 2009

The Center for Nanophase Materials Sciences

Update for the User Executive Committee

Sean Smith, Director

19 September 2011



Highlights and Achievements

- **User Interactions**
 - 360 users in FY10, exceeded 40,000 user hours
 - On track for ~360 users in FY11
 - User Executive Committee actively engaged
- **High-impact research results**
 - Continuing to increase percentage in HI journals
- **Successful competitive NSRC equipment proposal:**
 - He ion microscope \$1.4M (Dr David Joy lead)
- **Significant early career awards to Dr Nina Balke and Dr Gonzalo Alvarez**

New Staff

Scientific:

- **Jingsong Huang** – Nanomaterials Theory Institute (CSMD/CNMS)
- **Jihua Chen** – Chemical Functionality
- **Mina Yoon** – Nanomaterials Theory Institute (CNMS/MSTD)
- **Zheng Gai** – Imaging Functionality (from MSTD)
- **Sean Smith** – Director

Admins:

- **Jessica Garner** – Nanofabrication Research Laboratory (admin)
1/18/2011
- **Erica DeGarmo** – Macromolecular Nanomaterials /NTI (admin)
5/2/2011

Departure

- **Joe Horton** – Retirement 12/31/2010

CNMS Publication Data Comparison

FY 2011 reported thru 9/9/2011	Total	High Impact	FY 2010	Total	High Impact
Science	53	17	Science	51	22
Both	35	10	Both	43	17
User	43	13	User	94	21
Total	131	40	Total	188	60
		30%			32%

Patents Granted

- Anatoli V. Melechko, Timothy E. McKnight, Michael A. Guillorn, Bojan Ilic, Vladimir I. Merkulov, [Mitchel J. Doktycz](#), Douglas H. Lowndes, and [Michael L. Simpson](#), “Nanotransfer and Nanoreplication Using Deterministically Grown Sacrificial Nanotemplates”
US Patent 8,003,220 B2, issued: August 23, 2011
- Vladimir I. Merkulov, Anatoli V. Melechko, Michael A. Guillorn, Douglas H. Lowndes, and [Michael L. Simpson](#), “Controlled Alignment of Catalytically Grown Nanostructures in a Large-Scale Synthesis Process”
US Patent 7,947,976 B2, issued: May 24, 2011
- Anatoli V. Melechko, Timothy E. McKnight, Michael A. Guillorn, Bojan Ilic, Vladimir I. Merkulov, [Mitchel J. Doktycz](#), Douglas H. Lowndes, and [Michael L. Simpson](#), “Nanotransfer and Nanoreplication Using Deterministically Grown Sacrificial Nanotemplates”
US Patent 7,943,196 B2, issued: May 17, 2011
- [David B. Geohegan](#), [Ilia N. Ivanov](#), [Alexander A. Puretzky](#), [Stephen Jesse](#), Bin Hu, [Matthew Garrett](#), and [Bin Zhao](#), “Transparent Conductive Nano-Composites”
US Patent 7,923,922 B2, issued: April 12, 2011
- Sheng Dai and [Adam Rondinone](#), “Composite Scintillators for Detection of Ionizing Radiation”
US Patent 7,857,993, issued: December 28, 2010

CNMS Staff External Awards

- **Jimmy Mays**, ACS Herman Mark Senior Scholar Award
- **Jimmy Mays**, Fellow, American Ceramic Society
- **Nick Lavrik**, 2011 R&D 100 Award
- **Stephen Jesse**, **Nina Balke**, Nancy Dudney, Amit Kumar, **Sergei Kalinin**, Roger Proksch, 2011 *Microscopy Today* Innovation Award
- **Nina Balke**, 2011 Office of Science Early Career Research Program Award
- **Gonzalo Alvarez-Campot** (CSMD/CNMS), 2011 Office of Science Early Career Research Program Award

New Instruments

ARRA Capital Equipment:

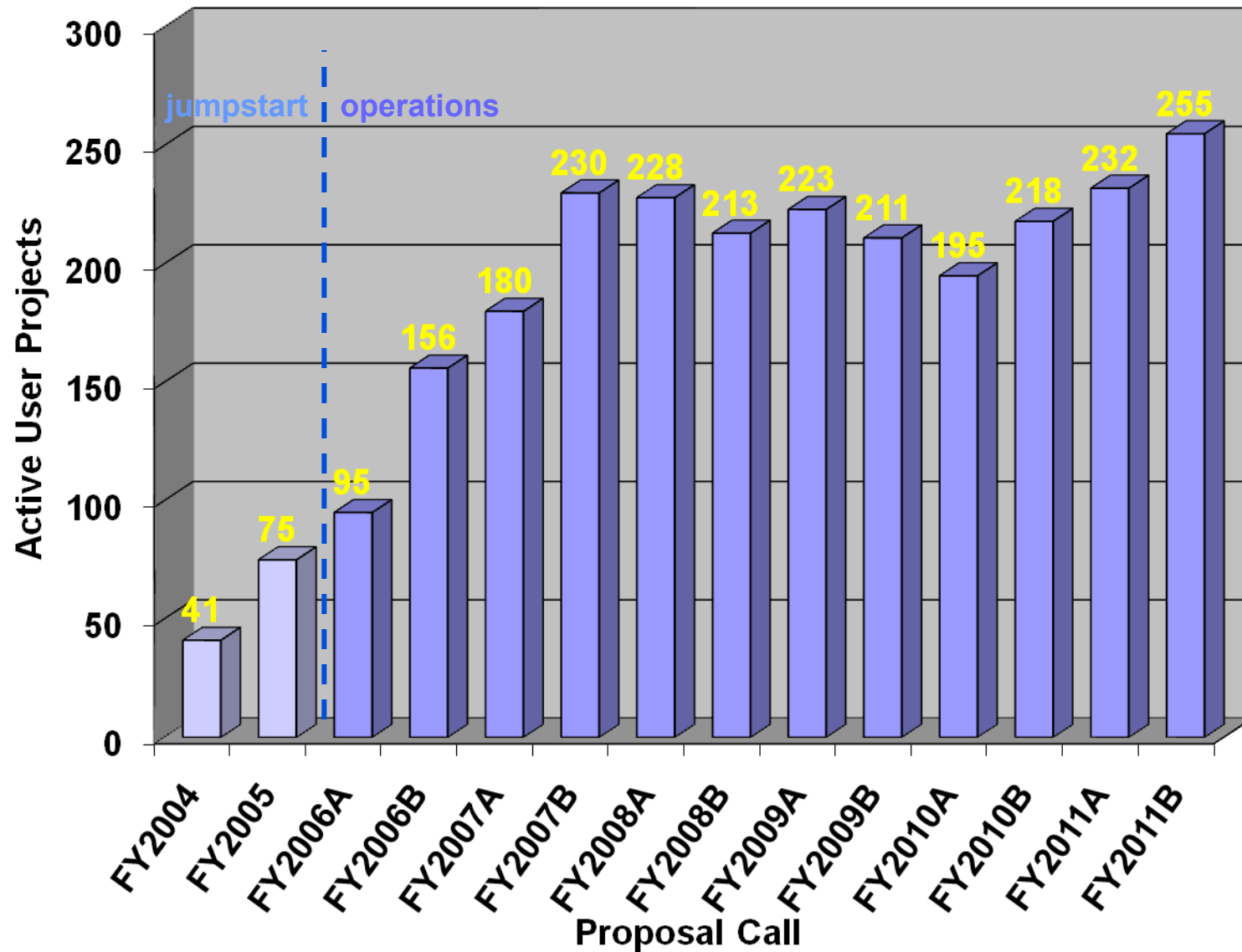
- LIBRA TEM – Available
- SAXS – Available
- OIC clusters – Available
- UHV Bridge Chamber for Four Probe STM – available
- Rapid Thermal Processor - Available
- PVD tool – Installed/Testing

On Order:

- Temperature Gradient Interaction Chromatography Instrumental System
- Quantax 200 S-ray Spectrometer
- Ferroelectric tester with MHz capability
- Temp Gradient Interaction Chromatography
- Laminar Flow Hood
- Microwave Plasma Asher
- *He ion microscope*
- *Ultra STEM (SHaRE)*

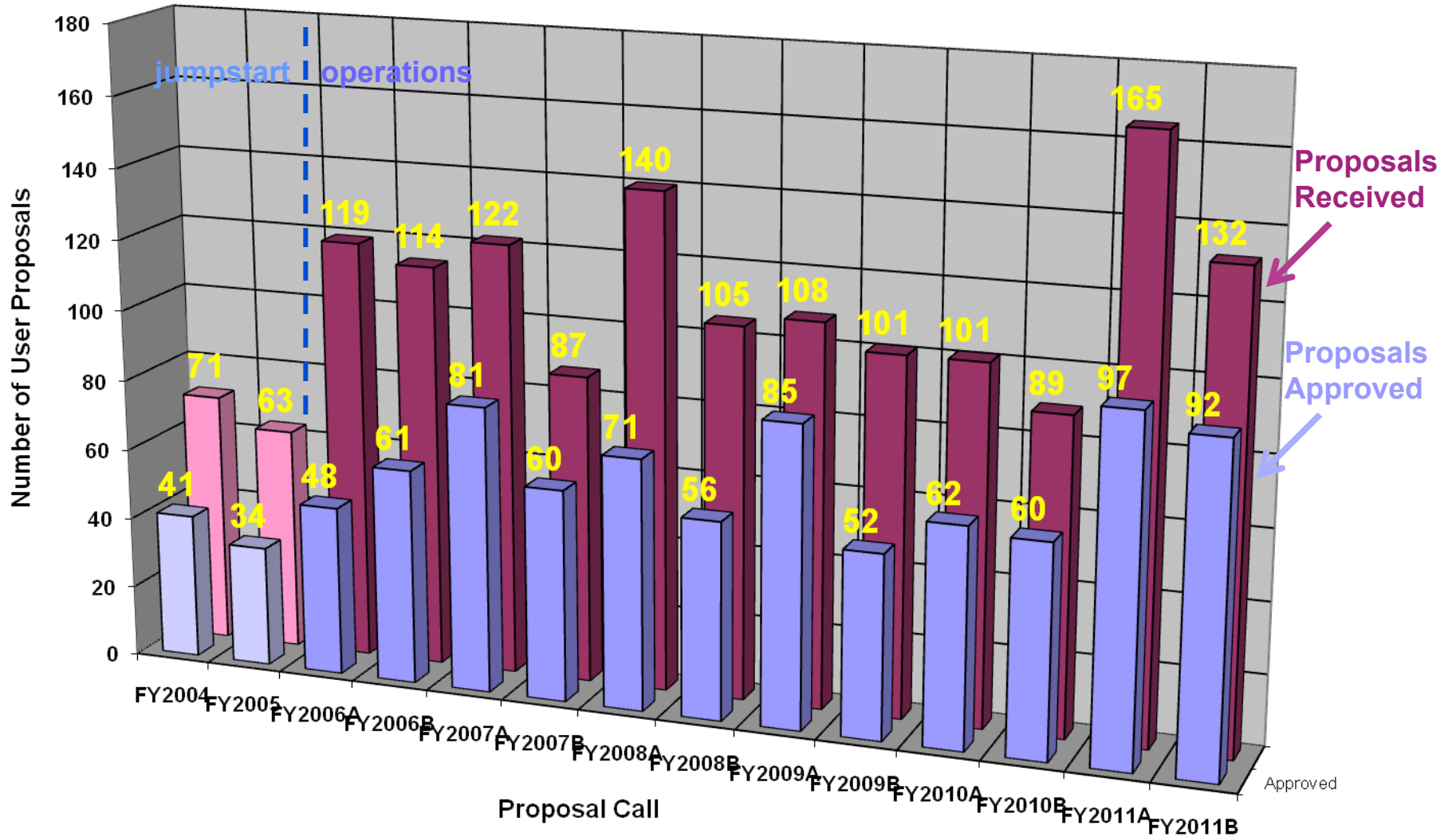
Timeline of User Program- Active User Projects

- Sustained level of ~210 active user projects since 2007
- Most recent trend indicates increase



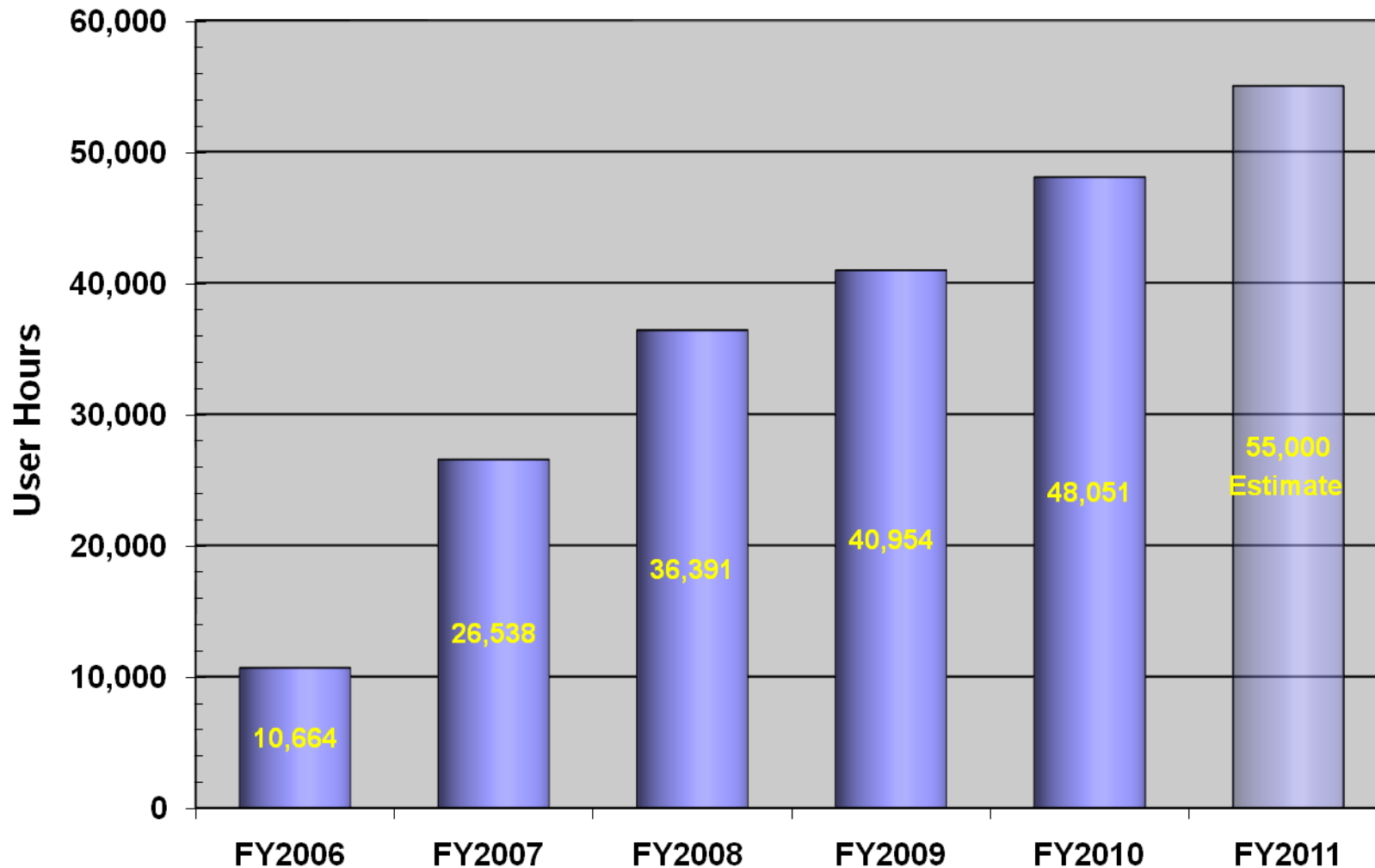
Timeline of User Program- Number of Proposals

- FY2011 had record number of proposals (297)
- Approval rate has varied 50%-70% last 4 years, average 60%



User Hours Continue to Increase

- Hours are increasing at faster rate than projects or proposals
- Estimate >55,000 hours for FY11 (incomplete)
- More experience with users; more-experienced users?



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**

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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2011 UEC Accomplishments

~ Monthly UEC Telecons

UEC Newsletter (3 issues: January, April, and August 2011)

- Increased Frequency

Implemented transition to 2-year terms

NUFO User Science Exhibition April 7

Users Meeting

Users Feedback / Online Survey and Personal Enquiries

– Response to last years survey



UEC Accomplishments

Accomplish Goals from last year?

- Implement 2-year terms ✓
- Meet face-to-face earlier in year ✗
- Bring a User to Telecon ✗
- 3 Newsletters per year – ✓
- Polish User survey – *to do*





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User Group and User Executive Committee - Meeting Minutes

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 14, 2010	September 13, 2010
September 17, 2009	September 17, 2009 (joint with SHUG)
September 25, 2008	September 26, 2008
October 11, 2007	

UEC Conference Calls

Next conference call: October 4, 2011

- [September 8, 2011](#)
- [August 10, 2011](#)
- [May 4, 2011](#)
- [April 6, 2011](#)
- [March 2, 2011](#)
- [February 2, 2011](#)
- [January 7, 2011](#)

[Archived Meeting Minutes](#)

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

Search



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_082011/index.shtml

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User Newsletter - August 2011



We encourage [feedback](#) and suggestions for the content of future newsletters.

REMINDER! Registration deadline is August 31 for the 2011 User Meeting! See [CNMS Events](#) for more information.

About CNMS

The [Center for Nanophase Materials Sciences](#) is an Office of Science User Facility operated for the U.S. Department of Energy by Oak Ridge National Laboratory



Suggested Improvements to Newsletter/ Website?

Content?

Animations and videos?

Highlight external users?

Seek direct scientific inputs from users?

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

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

Top 10 publications

CNMS Business Meeting, September 19, 2011

- Update on CNMS facts
- Nominations for 2012 UEC
- Open Discussion
 - User Survey Feedback
 - Suggestions from the floor



Nominations for 2011 UEC

- **Vice Chair / Chair-Elect**
 - Andrei Kholkin (U. Aveiro, Portugal)
- **Secretary**
 -
- **At Large (3 positions)**
 - Nazanin Bassiri-Gharb (Georgia Tech)
 - Mike Hickner (Penn State)
 - Jeff Rimer (U. Houston)
 - Takeuchi Ichiro (U. Maryland)
- **Awaiting a Second for the Nomination**
 -

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

Survey

- How often to reset? Annual?
- What time of year to reset?
 - Before User meeting?
 - At User meeting?
- Analysis of Survey
 - Timing should be important