

AGENDA
2008 Joint CNMS-SHaRE User Meeting
 Wednesday, September 24 – Friday, September 26
 Oak Ridge National Laboratory

<u>Date</u>		<u>Location</u>
Wednesday, September 24 MORNING		
<i>Pre-Meeting events</i>		
8:30 am – 12:30 pm	Focused Oral Session on Piezoresponse Force Microscopy	SNS Auditorium
9:00 am – 10:00 am	Tutorial I: Laser-based Synthesis of Nanomaterials with <i>in situ</i> Diagnostics	SNS, Room C-156
10:30 am – 11:00 am	Tutorial II: Raman Spectroscopy of Nanomaterials	SNS, Room C-156
10:00 am – 12:00 pm	CNMS Open House <i>See floor plan and directions in meeting packet</i>	CNMS Building, Bldg. 8610
12:00 pm – 1:30 pm	Lunch provided	SNS Future Dining Room, Room C-G36

USER MEETING PROGRAM

Wednesday, September 24 AFTERNOON

1:30 pm	CNMS & SHaRE Welcome	Dr. Linda Horton, CNMS Director Dr. Karren More, SHaRE Director	SNS Auditorium
	Opening Remarks	Dr. Altaf Carim, U.S. Department of Energy	
	Oral Session I: Origins of Functionality at the Nanoscale		SNS Auditorium
	Chair: Mike Simonson, CNMS		
1:45 pm	Prof. Michael S. Strano , Charles and Hilda Roddey Associate Professor of Chemical Engineering, Massachusetts Institute of Technology <i>Title TBD</i>		
Plenary Lecture			
2:30 pm	Prof. Jie Liu , Department of Chemistry, Duke University <i>"Selective Growth of Well Aligned Semiconducting Carbon Nanotubes for Nanoelectronics"</i>		
Invited User			
3:00 pm	Prof. Bryan Eichhorn , Department of Chemistry and Biochemistry, University of Maryland <i>"Core-Shell Particle Restructuring during CO Oxidation Cycles: A DRIFTS Investigation"</i>		
Invited User			
3:30 pm	Afternoon break		
4:00 pm	Dr. Roger Proksch , Asylum Research <i>"Multifrequency Atomic Force Microscopy - Tuning In On New Information Channels"</i>		
Plenary Lecture			
4:45 pm	Dr. Masashi Watanabe , Lawrence Berkeley National Laboratory <i>"Applications of Advanced Spectrum-Imaging for Nano-Feature Characterization of Materials"</i>		
Plenary Lecture			
5:15 pm	Dr. Albina Borisevich , Oak Ridge National Laboratory <i>"STEM and First Principles Theory: From Atomistic Structure to Chemical Reactivity"</i>		
Invited User			
5:45 – 7:15 pm	Poster Session and Reception		SNS Lobby

AGENDA
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Thursday, September 25 MORNING

- 8:00 am Continental breakfast SNS Lobby
- Oral Session II: Functional Polymer Architectures**
Chair: Alamgir Karim, NIST (Member, CNMS User Executive Committee) SNS Auditorium
- 8:30 am **Prof. Murugappan Muthukumar**, Department of Polymer Science and
Plenary Lecture Engineering, University of Massachusetts, Amherst
"Packaging Macromolecules in the Nano-world"
- 9:15 am **Prof. David Bucknall**, School of Polymers, Textiles and Fiber Engineering,
Invited User Georgia Institute of Technology
"Modeling and Experimental Studies of Functional Polymer Thin Films"
- 9:45 am **Prof. Gregory L. Baker**, Department of Chemistry,
Invited User Michigan State University
"Functional Organic Nanoparticles for Ionic Conductors and Medical Applications"
- 10:15 am Morning break
- 10:45 am **Prof. Frank Bates**, Regents Professor, Department of Chemical Engineering
Plenary Lecture and Materials Science, University of Minnesota
"Block Copolymers: Designer Materials at Commodity Prices"
- 11:30 am **Dr. Ronald Jones**, National Institute of Standards & Technology
Invited User *"Effects of Residual Solvent on Nanostructure Orientation in Block Copolymer Films"*
- 12:00 pm **CNMS User Group Business Meeting** SNS Auditorium
Yoke Khin Yap, Chair, CNMS User Executive Committee
- 12:00 pm Lunch provided SNS Future Dining Room, Room C-G36

Thursday, September 25 AFTERNOON

- Oral Session III: Understanding Emergent Behavior**
Chair: Hai-Ping Cheng, University of Florida
(Vice Chair, CNMS User Executive Committee) SNS Auditorium
- 1:30 pm **Dr. Thomas Maier**
Program Change Center for Nanophase Materials Sciences, ORNL
"Emergent Behavior in Cuprate High-Temperature Superconductors"
- 2:00 pm **Prof. Yayoi Takamura**, Department of Chemical Engineering and Materials
Invited User Science, University of California, Davis
"Independent Behavior of the Antiferromagnetic and Ferromagnetic Properties in Perovskite Oxide Superlattices"
- 2:30 pm **Mr. Daniel Hummer**, Department of Geosciences,
Invited User Pennsylvania State University
"Nanoscale Stability Reversals in Titanium Oxide Polymorphs"
- 3:00 pm Afternoon break
session continued on following page

AGENDA
2008 Joint CNMS-SHaRE User Meeting

Thursday, September 25 (continued)

- 3:30 pm **Plenary Lecture** **Prof. Peter Cummings**, John R. Hall Professor of Chemical Engineering, Vanderbilt University
"Emergent Phenomena in Nanoscience"
- 4:15 pm **Plenary Lecture** **Prof. Leor Weinberger**, Department of Chemistry and Biochemistry, University of California, San Diego
"Biological Lessons for Nanoscience: How HIV Harnesses Stochastic Noise to Generate a Decision-Making Switch"
- 5:00 pm Break
- 5:30 – 6:30 pm **RidgeDance Nanoscience Film Festival** SNS Auditorium

Friday, September 26 MORNING

NOTE CHANGE OF LOCATION

- 8:00 am Continental breakfast ORNL Conference Center, second floor
- Oral Session IV: Electron Microscopy and Lithography**
Chair: Karren More, SHaRE Director
- 8:30 am **Plenary Lecture** **Prof. Silvoja Gradečak**, Merton C. Flemings Assistant Professor of Materials Science and Engineering, Massachusetts Institute of Technology
"Imaging Nanowire Heterostructures using Z-contrast STEM"
- 9:15 am **Invited User** **Prof. James Wittig**, Interdisciplinary Program in Materials Science, Vanderbilt University
"In-situ Z-STEM Imaging of Chemical Ordering in FePt Magnetic Nanoparticles"
- 9:45 am **Invited User** **Dr. Steven Randolph**, FEI Company
"Present and future challenges in electron-beam-induced processing"
- 10:15 am Morning break
- 10:45 am **Invited User** **Dr. Timothy E. McKnight**, Oak Ridge National Laboratory
"High-Resolution Biological Probing with Optical- and Electron-Beam Patterned Electrodes"
- 11:15 am **Invited User** **Prof. Stefan Zauscher**, Department of Mechanical Engineering and Materials Science, Duke University
"Polymeric and Biomacromolecular Brush Nanostructures: Synthesis, Patterning and Characterization"
- 11:45 pm **Lunch and SHaRE User Group Business Meeting** ORNL Conf. Center, 202A-B
- 1:00 pm **Tour of SHaRE and the High Temperature Materials Laboratory**
board bus at the ORNL Conference Center
- 8:30 am – 4:00 pm (approximate times) Related Event
Workshop on Nanomaterials for Sustainable Energy Future: Energy Conversion ORNL Conf. Center, Room 202C