

**NSFChemBio and SENSE Workshops
September 23-26, 2003
Turnbull Conference Center, Florida State University
Tallahassee, Florida**

Sponsors

**National Science Foundation
University of Tennessee / Joint Institute for Neutron Sciences
Florida State University
Oak Ridge National Laboratory / Spallation Neutron Source
Oak Ridge National Laboratory / Center for Nanophase Materials Sciences
Oak Ridge Associated Universities**

Tuesday, September 23, 2003

7:00 am	Registration opens Vendor Exhibit Set-up
8:15	Session N-I - Opening Session Room 122
8:15	Welcoming Remarks Lee Magid, JINS Acting Director Jack Crow, NHMFL Director Art Ellis, NSF Chemistry Division Director
8:30	Neutrons 101a: What Can Be Measured Using Neutrons , John Root, NRC Canada
9:45	Break, Fireside Lounge
10:00	Neutrons 101b: Instrumentation for Elastic and Inelastic Scattering Studies , Kent Crawford, ORNL
11:00	The European D-Lab Network , Dean Myles, ORNL
11:30	CNMS Facilities for Chemistry and Biology , Mike Simonson, ORNL
12:00 pm	A Neutron Scatterer's Dream: the Ideal Support Environment , TBD
12:30	Lunch, Room 121

Note: Sessions beginning with N refer to NSFChemBio Workshop
Sessions beginning with S refer to SENSE Workshop

Tuesday, September 23, 2003 afternoon

1:30 pm	Session N-2: Condensed Phases Room 123a Chair: J. Martin	Session N-3: Thin Films/Confinement Room 123b , Chair: J. Lal
1:30	Water and Ice , Alan Soper, ISIS	Surfactants and Interfaces , Jeff Penfold, ISIS
2:00	Organic-Inorganic Composites , Josef Zwanziger, Dalhousie	Confined Complex Fluids , Tonya Kuhl, University of California-Davis
2:30	New Opportunities In Neutron Scattering: Local Sources and Novel Instrumentation , David Baxter, Indiana	Nanoporous Polymers , Shenda Baker, Harvey Mudd College
3:00	Break, Fireside Lounge	Break, Fireside Lounge
3:30	Novel In-situ Studies , Dermot O'Hare, Oxford	TBA
4:00	Dynamics of Materials , Franz Trouw, Los Alamos	Tunneling Studies of Confined Systems , Rob Dimeo, NIST
4:30	TBA	Surface Adsorbed Films , John Larese, University of Tennessee/Oak Ridge
5:00	Session N-4, room 123a	Session N-5, Room 123b
5:00	Advanced Isotopic Labeling Center and Facilities (Dean Myles, Jeff Penfold)	Educational Requirements and Opportunities (Shenda Baker, Jim Martin, Joe Zwanziger)
6:30	Session ends Buses Depart for Hotel	Session ends Buses Depart for Hotel

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Wednesday, September 24, 2003

7:00 am	Registration opens		
8:15	Vendor Exhibit Opens		Session S-1 - Room 122 Science Drivers for Neutron Scattering: Impact of Enhanced Sample Environment Welcoming Remarks Lee Magid, JINS Acting Director J. E. Crow, NHMFL Director
8:30	Session N-6, Room 123b Biological/Polymer Topics Chair: J. Martin Unraveling Polymer Dynamics, Dieter Richter, Juelich	Session N-7, Room 123a Catalysis/Vibrational Spectroscopy Chair: J. Turner Catalysis Studies Using TOSCA, John Tomkinson, ISIS	Nanomagnetism and Neutron Scattering, Ivan Schuller, University of California – San Diego
9:00			Quantum Liquids and Solids, TBD
9:15	SANS Bio-polymer Studies, Joanna Krueger, UNC-Charlotte	TDB, David Lennon, Glasgow	
9:30			Frontiers in High Pressure Science, Russ Hemley, Carnegie Institution of Washington
10:00	Break, Fireside Lounge	Break, Fireside Lounge	Break, Fireside Lounge
10:30	3D Structure and Composites, Ulrich Wiesner, Cornell	Novel Studies Using FANS, Craig Brown, NIST	Highly Correlated Electron Systems, TBA
11:00	Polymer Patterned Surfaces, Jan Genzer, NCSU	Novel Studies Using FDS, Luc Daemen, Los Alamos	Materials Science and Engineering Studies Using Neutron Diffraction, D. W. Brown, Los Alamos
11:30	TBD, Doug Tobias, UCalifornia-Irvine	TBA	Three-Dimensional Neutron Microscopy for Structural Dynamics Investigations, Ben Larson, Oak Ridge
12:00	Lunch, Room 121	Lunch, Room 121	Lunch, Room 121

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Wednesday, September 24, 2003 Afternoon

Combined Session of NSFChemBio and SENSE	
1:00 pm	Sessions N-8 and S-2, Room 122 Beyond Traditional Neutron Science Biological and Chemical Science Opportunities at the Center for Nanophase Materials Science, Linda Horton, Oak Ridge
1:30	Dynamic Structure of Membranes: The Concerted Use of Bi-layer Diffraction and Molecular Dynamics Simulations, Stephen H. White, University of California - Irvine
2:00	Synchrotron X-ray Studies of Liquid Surfaces, Peter Pershan, Harvard
2:30	Extreme Environments for Catalysis, John Turner, University of Tennessee
3:00	Break, Fireside Lounge
3:30	Environments for Biological Studies, John Katsaras, Chalk River
4:00	Polymers and Macromolecules, Tom Russell, University of Massachusetts
4:30	Investigation of Liquid Surfaces, Jarek Majewski, Los Alamos
5:00	Chemical Reaction Dynamics of Aerosols, Barbara Wyslouzil, Worcester Polytechnic Institute
5:45	Depart for National High Magnetic Field Laboratory Poster Session and Tour Buses Provided from Turnbull to the NHMFL and return to Turnbull and the hotels
8:30	Poster session and tour over Buses return to Turnbull and Hotels

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Thursday, September 25, 2003

7:00 am	Registration open		
8:30	Session N-9, Room 123a Future Opportunities and Needs: Support Facilities Needs for Soft Matter (Paul Butler, Joanna Krueger)	Session N-10, Room 123b Future Opportunities and Needs: Support Facilities Needs For Hard Matter (John Larese, John Turner)	Session S-3, Room 122 Present Status of Neutron Sample Environments at High Magnetic Fields and Low Temperatures, Michael Meissner, HMI, Berlin
9:00			Research Capabilities at High Pressure , Chris Tulk, Oak Ridge
9:30			High Temperature Capabilities , Trudy Kriven, Univeristy of Illinois, Urbana-Champaign
10:00	Break, Fireside Lounge	Break, Fireside Lounge	Break, Fireside Lounge

Combined NSFChemBio and SENSE Sessions

10:30 am	Sessions N-11 and S-4, Room 122 Funding Opportunities and New Program Initiatives
10:30	New Funding Programs for Mid-Scale Projects and International Cooperation , Tom Weber, National Science Foundation
11:00	What's New in DOE's Neutron Scattering Program Helen Kerch, DOE
11:30	Funding Opportunities at National Institutes of Health , Michael Marron, NIH
Noon	Lunch Registration closes
1:00 pm	Sessions N-12 and S-5, Room 122 Current Opportunities for Interfaces to Neutron Scattering Research and Education National Science Foundation International Materials Institutes (IMI) Program, <u>Advanced Neutron Scattering netWork for Education and Research: with a Focus on Mechanical Behavior of Materials</u> , P. K. Liaw, H. Choo, and R. A. Buchanan, University of Tennessee, and C. R. Hubbard, X. L. Wang, Oak Ridge
1:30	Sessions N-13 and S-6, Room 122 Current Neutron Scattering and Sample Environment Capabilities
1:30	Enabling 21st Century Science , Zoe Bowden, ISIS
2:00	Panel Discussion: Thoughts on Current Sample Environment Capabilities and Future Needs at U.S. Facilities High Flux Isotope Reactor , Oak Ridge, Greg Smith Intense Pulsed Neutron Source , Argonne, Ray Teller Los Alamos Neutron Scattering Center , Los Alamos, Alan Hurd NIST Center for Neutron Research , NIST, Jeff Lynn Spallation Neutron Source , Oak Ridge, Thom Mason
3:00	Break, Fireside Lounge

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Thursday, September 25, 2003

**Combined NSFChemBio and SENSE Sessions N-14 and S-7
Parallel Sessions New Devices, Techniques, and R&D Projects**

3:30 pm	Panel 1, Room 123a: Sample Environment Requirements in Nano-Magnetism and Nano-sciences. Chair: Frank Klose, Oak Ridge	Panel 2, Room 107: Sample Environment Requirements in Biological and Life Sciences. Chair: David L. Worcester, University of Missouri - Columbia	Panel 3, Room 123b: Sample Environment Requirements for Quantum Liquids and Solids and Other Highly Correlated Electron Systems. Chair, TBA	Panel 4, Room 116: Sample Environment Requirements for Polymers and Macromolecules. Chair, Thomas Russell, University of Massachusetts	Panel 5, Room 122: Sample Environment Requirements for Materials Evaluation and Systematic Studies of Pressure, Temperature, Stress, Etc. Chair, Thomas Proffen, Los Alamos
	In-situ X-ray Scattering Studies of Epitaxial Crystal Growth, Paul F. Miceli, University of Missouri -Columbia				Assembling and Studying Metastable Materials Using Containerless Techniques, Richard Weber, Containerless Research
	Self-assembly of Epitaxial Magnetic Nanostructures, Donqi Li, Argonne				Conventional Sample Environment Challenges, Takeshi Egami, University of Tennessee/ORNL
	Studies of Magnetic Nanostructures Using Polarized Neutrons – Current Status and Future In-situ Studies, Hal Lee, ORNL				
	Opportunities for Magnetic Field Sample Environments for Neutron Scattering, Mark Bird, National High Magnetic Field Lab				

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Thursday, September 25, 2003 Afternoon

	Pushing Science Frontiers with state-of-the-Art Sample Environment , Ward Plummer, University of Tennessee/ORNL				
5:00 pm	Session ends Bus departs for Hotel	Session ends Bus departs for Hotel	Session ends Bus departs for Hotel	Session ends Bus departs for Hotel	Session ends Bus departs for Hotel

Friday, September 26, 2003 Morning

7:00 am	Turnbull Conference Center Opens
8:30	Session S-8, Room 122 New Devices, Techniques and R&D Projects: Discussion of Recommendations from Breakout Sessions , Chair, Jack Crow, Florida State University
8:30	Panel 1 Report: Sample Environment Requirements in Nano-Magnetism and Nano-Sciences , Frank Klose, ORNL
9:00	Panel 2 Report: Sample Environment Requirements in Biological and Life Sciences , D. Worcester, University of Missouri
9:30	Panel 3 Report: Sample Environment Requirements for Quantum Liquids and Solids and other Highly Correlated Electron Systems , TBA
10:00	Break, Fireside Lounge
10:30	Panel 4 Report: Sample Environment Requirements for Polymers and Macro-molecules , Thomas Russell, University of Massachusetts
11:00	Panel 5 Report: Sample Environment Requirements for Materials Evaluation and Systematic Studies , T. Proffen, LANL
11:30	Wrap-Up and Summary of Panel Recommendations
12:30	Adjourn and Box Lunch Provided
1:30	Session S-9, Room 122 Technical Workshop, Follow-up to the April 2001 Workshop at PSI Chair, Ken Volin, Argonne
1:30	Sample Encapsulation Considerations in Designing High Temperature Neutron Diffraction Experiments , Ken Volin, Argonne

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