NEUTRON SCIENCES
USERNews Weekly
September 19 – September 25, 2011 — Oak Ridge National Laboratory Neutron Sciences

The Director's Coffee Break

Sept. 22, 2011
10:00 a.m.
SNS User Lounge
Experiment Hall

Contacts:

SNS Instrument Hall Coordinator	241-4432
ORNL LSS	574-6606
Computer Helpline	241-6765
ORNL Taxi	680-2303
	680-9800
Weather	574-9836
SNS	
Control Room	576-1503
RCT Support (radiation control technician)	274-8658
User Support	241-4432
User Office	574-4600
HFIR	
Control Room	574-7035
RCT Support (radiation control technician)	574-6713
User Office	574-4523

SNS Café, Bldg 8600
Breakfast hours: M–F, 7:00 am – 9:30 am
Lunch hours: M–F, 10:45 am – 1:15 pm

HFIR Canteen, Bldg 7910
Lunch hours: M–F, 10:45 am – 1:15 pm

For questions or comments email us:
neutronscience@ornl.gov

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Research Spotlight

The structure of glassy mixtures of carbon dioxide and water: an environmental challenge

Chris Tulk and collaborators at the SNAP instrument at SNS are using its high-pressure capability and quick data output to get atomic-level detail about how greenhouse gas clathrates form and decompose. The researchers want to understand the structural transformation processes of cold (77 K) glassy mixtures of CO_2 and water. These mixtures are synthesized on site in the new CLO laboratories by very slow cryogenic vapor deposition. "Understanding these structural processes will show how hydrates nucleate and form in nature and will allow engineering of clathrate nucleation enhancing, or nucleation inhibiting, chemicals," Tulk says. They also hope to understand the glass transformation process, network mobility, and viscosity in amorphous and deeply supercooled water networks. This remains a longstanding and fundamental problem in water/ice physics. Collaborating with Tulk are Antonio Moriera dos Santos, of ORNL, Georgios Karotsis, of the Carnegie Institution of Washington, and Dennis Klug of the National Research Council of Canada.

This Week's Users

SNS, NOMAD (BL-1B)
Takashi Kamiyama (KEK)
Maseo Yonemura (KEK)
Kazuhiro Mori (Kyoto Univ)
Adipranoto Sulistyanintyas (Ibaraki Univ)
Toru Ishigaki (Ibaraki Univ)
Takashi Sakuma
Akinori Hoshkawa
Kenji Iwase

SNS, BASIS (BL-2)
Joseph Ng (Univ of Alabama)
Manavalan Gajapathy (Univ of Alabama)
Mikhail Feygenson (ORISE)
Leighton Coates (ORNL NScD)
Xiang-Qiang Chu (ORNL NScD)

SNS, SNAP (BL-3)
Dennis Klug (Natl Res Council of Canada)
Georgios Karotsis (ORNL NScD)
Christopher Tulk (ORNL NScD)
Antonio Moreira Santos (ORNL NScD)

SNS, MAGICS (BL-4A)
Martin Major (Darmstadt Univ of Tech)
Mehrdad Yazdi (Darmstadt Univ of Tech)

SNS, CNCS (BL-5)
Stuart Calder (ORISE)
Mark Lumsden (ORNL NScD)
Andrew Christianson (ORNL NScD)
Cuihuan Wang (ORNL NScD)
Karol Marty (ORNL NScD)

SNS, VULCAN (BL7)
Zhenzhen Yu (ORISE)
Zhili Feng (ORNL MSTD)
Xun-Li Wang (ORNL NScD)
Ke An (ORNL NScD)

SNS, POWGEN (BL-11A)
Angus Wilkinson (Georgia Inst of Tech)
Ezra Cates (Georgia Inst of Tech)
Jaehong Kim (Georgia Inst of Tech)

SNS TOPAZ (BL-12)
Joseph Ng (Univ of Alabama)
Leighton Coates (ORNL NScD)

SNS NSE (BL-15)
Michael Ohl (Juelich)
Melissa Sharp (ORNL NScD)

SNS, SEQUOIA (BL-17)
John Tranquada (Brookhaven Nat'l Lab)
Zhijun Xu (Brookhaven Nat'l Lab)
Yuen Yiu (Univ of Tenn)
Nirmal Ghimire (Univ of Tenn)
David Mandrus (Univ of Tenn)
Jiaqiang Yan (Univ of Tenn)
Alexander Kolesnikov (ORNL NScD)
Stephen Nagler (ORNL NScD)
Garrett Granroth (ORNL NScD)
Adam Aczel (ORNL NScD)

SNS, ARCS (BL-18)
Pengcheng Dai (Univ of Tenn)
Chenglin Zhang (Univ of Tenn)
Guotai Tan (Univ of Tenn)
Matthew Stone (ORNL NScD)

Local Happening

9/20/2011 Seminar
X-caliber and Sandia's Exascale Grand Challenge (XGC): A Data Movement View of the Requirements of Exascale Supercomputing. Richard C. Murphy Sandia National Laboratories, Albuquerque, N.M.,Computer Science and Mathematics Division Seminar 2:00 - 3:00 PM, Joint Institute for Computational Sciences (Building 5100) Auditorium (Room 128)

9/22/2011 Seminar
Observation of Two-Neutrino Double-Beta Decay in 136Xe with EXO-200. Liang Yang SLAC National Accelerator Laboratory, Menlo Park, Calif. Physics Division Seminar 3:00 - 4:00 PM, Building 6008, Conference Room

9/23/2011 Seminar
Exotic Phenomena in Strongly Correlated Layered Ruthenates. David Fobes Tulane University, New Orleans, Louisiana Materials Science and Technology Division Seminar, 11:00 AM - 12:00 PM, Building 4500-S, Room A-177