NEUTRON SCIENCES
USERNews Weekly
August 8-14, 2011 — Oak Ridge National Laboratory Neutron Sciences

The Director's Coffee Break

HFIR
User Lounge
7910
August12, 2011
9:30 AM

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

Experimental evidence of the existence of pores in coal inaccessible to greenhouse gases

Researchers from several institutions in the US and Australia and ORNL instrument scientist Yuri Melnichenko recently used small-angle neutron scattering at HFIR's GP-SANS to prove the existence of pores in coal that are inaccessible to greenhouse gases. A new method of data analysis allowed the researchers to relate the neutron scattering intensity with the volume of closed pores as a function of pore sizes. The new approach was applied to study accessibility of pores to methane and supercritical CO_2 in three different coals from Indiana (USA) and Bowen Basin (Australia). The results provide evidence of the existence of closed pores in all studied coals with a distinct, "fingerprint" distribution of closed porosity. The observed coexistence of inaccessible and accessible pores helps to resolve longstanding contradictions between the existing models of the coal structure.

This Week's Users

SNS, SNAP (BL3)
Gary Chesnut (Univ of Ala-Birmingham)
Yogesh Vohra (Univ of Ala-Birmingham)
Walter Uhoya (Univ of Ala-Birmingham)

SNS, SEQUOIA (BL17)
Robert McQueeney (Ames Lab)
Greg Tucker (Ames Lab)
Daniel Pratt (Ames Lab)

HFIR, Neutron Imaging (CG-1D)
Pavel Degtiarenko (Jefferson Lab)
Vladimir Popov (Jefferson Lab)
Igor Musatov (Jefferson Lab)
Thomas Radcliff (United Tech Res Center)
Dave Martin (United Tech Res Center)
Yinshan Feng (United Tech Res Center)
Hassina Bilheux (ORNL NScD)
Lakeisha Walker (ORNL NScD)
Patrick Geoghegan (ORNL NScD)
Sophie Voisin (ORNL NScD)
Lee Robertson (ORNL NScD)

HFIR, GP SANS (CG-2)
Wei Chen
Gleb Yushin (Georgia Inst of Tech)
Sofiane Boukhalfa (Georgia Inst of Tech)
Hazuki Furukawa (Ochanomizu Univ)
Elizabeth Blackburn (Univ of Birmingham-UK)
Alistair Cameron (Univ of Birmingham-UK)
Ken Littrell (ORNL NScD)
Lisa Debeer-Schmitt (ORNL NScD)

HFIR, Bio-SANS (CG-3)
Chris Brosey (Vanderbilt Univ)
Rachel Crowder (Vanderbilt Univ)
Michelle Liberton (Washington Univ)
Lawrence Page (Washington Univ)
William O'dell (Univ of Tenn)
Hugh O'Neill (ORNL NScD)
Volker Urban (ORNL NScD)
William Heller (ORNL NScD)

HFIR, Cold TAS (CG-4C)
Peter Gehring (NIST)

HFIR, TAS (HB-1)
Kiyoichiro Motoya (Tokyo Sci Univ)
Taketo Moyoshi (Tokyo Sci Univ)

HFIR, TAS (HB-1A)
Young Lee (Mass Inst of Tech)
Dillon Gardner (Mass Inst of Tech)
Juan Guerrero (Mass Inst of Tech)
Olivier Delaire (ORNL NScD)

HFIR, Powder Diffractometer (HB-2A)
Corey Thompson (Florida State Univ)
Katharine Harrison (Univ of Texas-Austin)
Daniel Pajerowski (NIST)
Mark Meisel (Univ of Florida)
Elisabeth Knowles (Univ of Florida)
Yitzi Calm (Univ of Florida)
Matthieu Dumont (Univ of Florida)
Craig Bridges (ORNL PSD)
Stephen Nagler (ORNL NScD)

HFIR, (HB-2B)
Radu Florea (Miss Sate Univ)

HFIR, (HB-2C)
J. Fernandez-Baca (ORNL NScD)
Songxue Chi (ORNL NScD)
Feng Ye (ORNL NScD)

HFIR, (HB-3)
Gregory Tucker (Iowa State Univ)
Rob McQueeney (Iowa State Univ)
Daniel Pratt (Iowa State Univ)

HFIR, Four Circle Diffractometer (HB-3A)
Brian Sales (ORNL PSD)
Michael McGuire (ORNL PSD)
Athena Safa-Sefat (ORNL PSD)
Andrew May (ORNL PSD)
Bryan Chakoumakos (ORNL NScD)
Huibo Cao (ORNL NScD)
J. Fernandez-Baca (ORNL NScD)
Songxue Chi (ORNL NScD)
Feng Ye (ORNL NScD)

Local Happenings

8/10/2011 Seminar
Study of Model Hamltonians for Transition Metal Oxides, Pnictides, and other Materials, Elbio R. Dagotto, ORNL & Univ of Tenn, 4500N, Weinberg Auditorium, 10:00-11:00 a.m.

8/11/2011 Seminar
Theory of Radiation Damage in Solids: From Oversimplified to Predictive General Framework, Stanislav Golubov, Building 4100, Conf Room J-302, 11:00 a.m.-12:00 noon.

8/11/2011 Seminar
First-Principles Study of Gas Adsorption and Catalysis of Defect-Engineered Graphenes and Nanotubes, Yong-Hyun Kim of KAIST in Korea, Building 4500S, Conference Room A-177, 1:30-2:30 p.m.

8/11/2011 Seminar
Electromagnon Resonances in Helical Magnets, Prof. Nobuo Furukawa of Aoyama Gakuin University in Japan, Building 4100, Conference Room 302, 11:00 a.m.-12:00 noon.

8/12/2011 Seminar
Computing the Transition States of an Energy Surface, Qiang Du, Pennsylvania State University, Building 4700, Conference Room L-204, 1:00-2:30 p.m.