MONDAY ORAL PRESENTATIONS

May 12, 2008

Anasazi Ballroom

* Invited paper

SESSION I1: Scientific Outlook and NSSA 2008 Shull Prize Lecture
Chair: Simon Billinge
Monday Morning, May 12, 2008
Anasazi Ballroom

8:30 AM WELCOME

9:00 AM *I1.1
What's Ahead: the Wavevector – Energy Map for Hard Condensed Matter Physics. Meigan Aronson, [1]Condensed Matter Physics and Materials Science Department, Brookhaven National Laboratory, Upton, New York; [2]Department of Physics and Astronomy, Stony Brook University, Stony Brook, New York.

9:45 AM *I1.2
Soft Matter and Neutron Scattering: An Overview and Future Perspective. Robert M Briber, Materials Science and Engineering, University of Maryland, College Park, Maryland.

10:30 AM BREAK

11:00 AM *I1.3
Supercool Water: Its Weird Properties and Fascination. Sow-Hsin Chen, Nuclear Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts.

Pavilion Room

12:00 PM LUNCH

12:45 PM *I1.4
Federal Funding for Neutron Science and Other Physical Sciences in the 2009 Budget. Kei Koizumi, R&D Budget and Policy Program, American Association for the Advancement of Science, Washington DC, District of Columbia.

Anasazi N Room

SESSION G1: Deformation of Materials
Chair: Cam Hubbard
Monday Afternoon, May 12, 2008
Anasazi N Room

1:45 PM *G1.1
Inter-granular and Inter-phase Constraints in Zirconium Alloys. Rick Holt and Mark Daymond; Mechanical and Materials Engineering, Queen's University, Kingston, Ontario, Canada.

2:15 PM G1.2
Measurements and Modeling of Internal and Residual Stresses. Bjorn Clausen[1], Carlos N. Tome[2], Donald W. Brown[2] and Sean R. Agnew[3]; [1]LANSCE-LC, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]MST-8, Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Materials Science and Engineering, University of Virginia, Charlottesville, Virginia.

2:30 PM G1.3
In-Situ Neutron Diffraction Study of Lattice Strains in AL6XN Stainless Steel Subjected to Biaxial Loading. T. Marin[1], P. R. Dawson[1], M. A. Gharghouri[2] and R. B. Rogge[2]; [1]Department of Mechanical and Aerospace Engineering, Cornell University, Ithaca, New York; [2]Canadian Neutron Beam Centre, National Research Council of Canada, Chalk River, Ontario, Canada.

2:45 PM G1.4
In-Situ Neutron Scattering Studies Of Magnetic Shape Alloys Under Stress, Temperature And Magnetic Fields. Donald W Brown, Thomas Sisneros, Bjorn Clausen and Saurabh Kabra; Materials Science and Technology, Los Alamos National Lab, Los Alamos, New Mexico.

3:00 PM G1.5
Inverse Analysis of Engineering Neutron Diffraction Data. Baris Denizer[1], Seung-Yub Lee[1], Ashvin Mahajan[1], Halil Ceylan[2] and Ersan Ustundag[1]; [1]Materials Science and Engineering, Iowa State University, Ames, Iowa; [2]Civil, Construction and Environmental Engineering, Iowa State University, Ames, Iowa.

3:15 PM G1.6
Study of the Precipitation-Strengthening Metallic Alloy by a Small-Angle-Neutron-Scattering Technique. E-Wen Huang[1], Yun Liu[2,3], Lionel Porcar[4], Peter K. Liaw[1] and Wei-Ren Chen[5]; [1]Materials Science & Engineering, University of Tennessee, Knoxville, Tennessee; [2]The NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [3]Materials Science and Engineering, Materials Science and Engineering, College Park, Maryland; [4]Science Division, Institut Laue-Langevin, Grenoble, France; [5]Neutron Scattering Science Division, Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

3:30 PM BREAK

SESSION D2: Membrane Biology
Chair: John Katsaras
Monday Afternoon, May 12, 2008
Anasazi N Room

4:00 PM *D2.1
Protein Folding in Membranes: Insights from Neutron Diffraction Experiments. Kalina Hristova, Johns Hopkins University, Baltimore, Maryland.

4:30 PM D2.2
Diphtheria Toxin Interacting With Model Lipid Membrane: Neutron Reflectometry Study. Jaroslaw Majewski[1] and Mike Kent[2]; [1]LANSCE-LC, LANL, Los Alamos, New Mexico; [2]SNL, Albuquerque, New Mexico.

4:45 PM D2.3
Neutron Reflectometry Study of the Conformation of Membrane-bound HIV Nef Protein. Michael S. Kent[1], Jaclyn Murton[1], John Engen[2], Sushil Satija[3], Hillary Smith[4] and Jaroslaw Majewski[4]; [1]Biological and Energy Sciences, Sandia National Labs, Albuquerque, New Mexico; [2]Chemistry and Chemical Biology, Northeastern University, Boston, Massachusetts; [3]NCNR, NIST, Gaithersburg, Maryland; [4]LANSCE, Los Alamos National Labs, Los Alamos, New Mexico.

5:00 PM *D2.4
Neutron Scattering in Biomedical Research: Impact of Amyloid-β Peptides on Membranes. Frank Heinrich[2,1], Gintaras Valincius[3], Rima Budvytyte[3], David J. Vanderah[5], Yuri Sokolov[4], James E. Hall[4] and Mathias Loesche[1,2]; [1]Physics, Carnegie Mellon University, Pittsburgh, Pennsylvania; [2]Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [3]Bioelectrochemistry and Biospectroscopy, Institute of Biochemistry, Vilnius, Lithuania; [4]Physiology and Biophysics, University of California, Irvine, Irvine, California; [5]Chemical Sciences and Technology Laboratory, National Institute of Standards and Technology, Gaithersburg, Maryland.

5:30 PM D2.5
Botulinum Neurotoxin Assault on Lipid Membranes. Chad E Miller[1], David D Busath[2], Bradley Strongin[2] and Jarek Majewski[1]; [1]Manuel Lujan Jr. Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Physiology & Developmental Biology, Brigham Young University, Provo, Utah.

Anasazi S Room

SESSION F1: Nanomagnetism
Chair: Chris Leighton
Monday Afternoon, May 12, 2008
Anasazi S Room

1:45 PM *F1.1
The Magnetic Racetrack Memory: A Current Controlled Domain-wall Shift Register. Stuart Parkin, IBM Almaden Research Center, San Jose, CA, USA.

2:15 PM F1.2
Interfacial Ferromagnetism in Manganite Superlattices Revealed by Polarized Neutron Reflectometry. Steve May[1], S. G. E. te Velthuis[1], A. B. Shah[2], M. R. Fitzsimmons[3], J. M. Zuo[2], J. N. Eckstein[2], S. D. Bader[1] and A. Bhattacharya[1]; [1]Argonne National Laboratory, Argonne, Illinois; [2]University of Illinois, Urbana-Champaign, Illinois; [3]Los Alamos National Laboratory, Los Alamos, New Mexico.

2:30 PM F1.3
Polarized Neutron Reflectometry Investigation of Perpendicular-anisotropy, Exchange-spring Media using a Novel Geometry. Shannon M Watson[1], T. Hauet[2], J. A. Borchers[1], S. Mangin[3] and E. E. Fullerton[4]; [1]NCNR, National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Hitachi Global Storage Technologies, San Jose, California; [3]LPM, Universite Henri Poincare-Nancy I, Vandoeuvre-les-Nancy, France; [4]Center for Magnetic Recording Research, University of California, San Diego La Jolla, California.

2:45 PM *F1.4
Specular and Diffuse Scattering Studies of Exchange Bias Systems using Neutron and X-ray Scattering. Elizabeth Blackburn[1.5], Sujoy Roy[1.3], Mike R Fitzsimmons[2], Cecilia Sanchez-Hanke[4], Jeff B Kortright[3], Igor V Roshchin[1], Ami E Berkowitz[1], Ivan K Schuller[1] and Sunil K Sinha[1]; [1]Physics Dept., University of California San Diego, La Jolla, California; [2]LANSCE, Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Lawrence Berkeley National Laboratory, Berkeley, California; [4]NSLS, Brookhaven National Laboratory, Berkeley, California; [5]Physics Dept., University of Birmingham, Birmingham, United Kingdom.

3:15 PM F1.5
Magnetic Excitations and the Anomalous Exchange Bias Effect in Co-CoO Core Shell Nanoparticles. Mikhail Feygenson[1], Xiaowei Teng[2], Weiqiang Han[2], Craig Brown[3], Hye Jung Kang[3], Genda Gu[1] and Meigan Aronson[1]; [1]Condensed Matter Physics, Brookhaven National Laboratory, Upton, New York; [2]Center for Functional Nanomaterials, Brookhaven National Laboratory, Upton, New York; [3]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland.

3:30 PM BREAK

SESSION F2: Complex Structured Materials
Chair: Steve Shapiro
Monday Afternoon, May 12, 2008
Anasazi S Room

4:00 PM *F2.1
Nonlinear Lattice Modes Observed in a Metallic (U) and Ionic Crystal (NaI): New Tricks for Atoms and their Influence on Bulk Properties. Michael E. Manley, Lawrence Livermore National Laboratory, Livermore, California.

4:30 PM F2.2
The Excitation Spectrum of hcp Solid 4He. John M Goodkind[1], Elizabeth Blackburn[1.4], Sunil K Sinha[1], Collin Broholm[2], John Copley[3] and Ross Erwin[3]; [1]University of California,San Diego, La Jolla, California; [2]Johns Hopkins University, Baltimore, Maryland; [3]NIST, Gaithersberg, Maryland; [4]Birmingham University, Birmingham, United Kingdom.

4:45 PM F2.3
Study of Structure-property Relationship in Novel Inorganic Compounds with Disorder and/or Long Range Order. Olivier Gourdon[1.2], Delphine Gout[2.4], Joe D Thompson[4], Gordon J Miller[3], Eric Bauer[4] and Thomas Proffen[2]; [1]SNS, ORNL, Oak Ridge, Tennessee; [2]Los Alamos Neutron Science Center, LANL, Los Alamos, New Mexico; [3]Chemistry Department, Iowa State University/Ames Lab, Ames, Iowa; [4]Condensed Matter & Thermal Physics, LANL, Los Alamos, New Mexico.

5:00 PM *F2.4
Non-Ambient Diffraction Studies of Negative Thermal Expansion Oxides. Cora Lind[1], Amy M. Gindhart[1] and Mark Green[2.3]; [1]Chemistry, University of Toledo, Toledo, Ohio; [2]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [3]Department of Materials Science and Engineering, University of Maryland, College Park, Maryland.

5:30 PM F2.5
Dynamics of One Dimensional and Two Dimensional Solid Helium Adsorbed on Nanotubes. Henry Glyde[1], Souleymane Diallo[1], Bjorn Fak[2], Mark Adams[3], Oscar Vilches[4], Mark Johnson[5] and Helmut Schober[5]; [1]Physics and Astronomy, University of Delaware, Newark, Delaware; [2]DRFMC, Commissariat Energie Atomique, Grenoble, France; [3]ISIS Facility, Rutherford Appleton Laboratory, Didcot, United Kingdom; [4]Department of Physics, University of Washington, Seattle, Washington; [5]Institut Laue Langevin, Grenoble, France.

Sunset Room

SESSION C1: Micelles & Vesicles
Chair: Darrin Pochan
Monday Afternoon, May 12, 2008
Sunset Room

1:45 PM *C1.1
A Tale of Two Surfactants: Structure and Rheology of Shear-Banding Wormlike Micellar Solutions. Norman J Wagner[1], Matthew Helgeson[1], Matthew Liberatore[2], Lionel Porcar[3] and Florian Nettesheim[1]; [1]Chemical Engineering, Univ. Delaware, Newark, Delaware; [2]Chemical Engineering, Colorado School of Mines, Golden, Colorado; [3]NCNR, NIST, Gaithersburg, Maryland.

2:15 PM C1.2
Understanding Shear Induced Collapse of Entropically Stabilized Lamellar Phases Paul Butler[1], Vera Stoeppelkamp[4.1], Lionel Porcar[2.5.1] and William A Hamilton[3]; [1]NIST, Gaithersburg, Maryland; [2]ILL, Grenoble, France; [3]ANSTO, Sydney, New South Wales, Australia; [4]Fachhochschule Münster, Münster, Germany; [5]Material Scienc and Engineering, University of Maryland, College Park, Maryland.

2:30 PM *C1.3
Light-Switchable Rheology in Micellar Fluids Based on Common, Inexpensive Surfactants. Srinivasa R Raghavan, Aimee M Ketner and Rakesh Kumar; Department of Chemical & Biomolecular Engineering, University of Maryland, College Park, Maryland.

3:00 PM *C1.4
Internal Structure and Morphology of Phospholipid Binary Mixtures Revealed by SAS: Bicelles, Ribbons and Vesicles. Lionel Porcar[1.2.5], Paul Butler[2], Ursula Perez-Salas[4], Williams Hamilton[3] and Divya Singh[6.2]; [1]ILL, Grenoble, France; [2]NIST Center for Neutron Research, Gaithersburg, Maryland; [3]Bragg Institute, Australian Nuclear Science and Technology Organisation, Lucas Heights, NSW, Australia; [4]Argonne National Laboratory, Argonne, Illinois; [5]Department of Materials Science and Engineering, University of Maryland, College Park, Maryland; [6]John Hopkins University, Baltimore, Maryland.

3:30 PM BREAK

SESSION E1: Structure of Nanoparticles and Glasses
Chair: Chris Benmore
Monday Afternoon, May 12, 2008
Sunset Room

4:00 PM *E1.1
Materials Studies on the Nanoscale with the Pair Distribution Function Technique. Katharine Lynn Page[1], Anthony K. Cheetham[2] and Ram Seshadri[1]; [1]Materials Department and Materials Research Laboratory, University of California, Santa Barbara, Santa Barbara, California; [2]Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom.

4:30 PM E1.2
Synthesis of Nanomaterials: Which, How, and Why? Vilas Pol[1], Byeongdu Lee[2], Randall Winans[2] and P. Thiyagarajan[1]; [1]Argonne National Lab, Argonne, Illinois; [2]XSD, Argonne National Lab, Argonne, Illinois.

4:45 PM *E1.3
Exceptionally Stable Organic Glasses: a Molecular View of the Isothermal Transformation of a Stable Glass to a Liquid. Stephen Swallen[1], Mark Ediger[1] and Sushil Satija[2]; [1]Chemistry, University of Wisconsin-Madison, Madison, Wisconsin; [2]NIST Center for Neutron Research, NIST, Gaithersburg, Maryland.

5:15 PM E1.4
Free Volume and Molecular Mobility in Hydrogen Bonded Glass Former Confined in Nanometer Geometry. D. Kilburn[1], P. E. Sokol[1], V. G. Sakai[2] and M. A. Alam[3]; [1]Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana; [2]NIST Centre for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [3]H.H. Wills Physics Laboratory, University of Bristol, Bristol, United Kingdom.

5:30 PM E1.5
Origin of the First and Second Sharp Diffraction Peaks in Vitreous SiO2 : GLAD's Epitaph. Chris J. Benmore[1,2], Qiang Mei[2], R. Sharma[3], Jeffery L Yarger[3] and Sabyasachi Sen[4]; [1]Advanced Photon Source, Argonne National Lab, Argonne, Illinois; [2]Intense Pulsed Neutron Source, Argonne National Lab, Argonne, Illinois; [3]Department of Chemistry and Biochemistry, Arizona State University, Tempe, Arizona; [4]Department of Chemical Engineering and Materials Science, University of California, Davis, Davis, California.

Zia (A-C) Room

SESSION D1: Hierarchical Structures in Biology
Chair: Joanne Krueger
Monday Afternoon, May 12, 2008
Zia (A-C) Room

1:45 PM *D1.1
Macromolecular Neutron Crystallography at the Protein Crystallography Station. Zoe Fisher, Andrey Kovalevsky, Marat Mustyakimov, Mary Jo Waltman, Benno Schoenborn and Paul Langan; BioScience Division, LANL, Los Alamos, New Mexico.

2:15 PM D1.2
Neutron Diffraction Studies of Voltage Sensors in Voltage-Gated Potassium Channels. Mihaela Mihailescu[1], Dmitriy Krepkiy[2], Kenton Swartz[2] and Stephen H. White[1]; [1]Department of Physiology and Biophysics, University of California, Irvine, California; [2]National Institute of Neurological Disorders and Stroke, National Institute of Health, Bethesda, Maryland.

2:30 PM *D1.3
Structure and Rheology of Bio-polymer Networks as Probed with Small Angle Scattering. Danilo C Pozzo[1], Kathleen Weighandt[1] and Lionel Porcar[2,3]; [1]Chemical Engineering, University of Washington, Seattle, Washington; [2]Center for Neutron Research, NIST, Gaithersburg, Maryland; [3]Materials Science And Engineering, University of Maryland, College Park, Maryland.

3:00 PM *D1.4
Modeling Protein Complexes by Combining High-Resolution Component Structures with Small-Angle X-ray and Neutron Contrast Variation Data; Strengths and Limitations. Jill Trewhella, University of Sydney, Sydney, NSW, Australia.

3:30 PM BREAK

SESSION A1: Data Analysis
Chair: Brent Fultz
Monday Afternoon, May 12, 2008
Zia (A-C) Room

4:00 PM *A1.1
Molecular Simulation of Structural Changes of Ammonia Borane. Gregory Schenter[1], Christopher J. Mundy[1], Shawn M. Kathmann[1], Nancy J. Hess[1], Thomas Proffen[2] and Thomas Autrey[1]; [1]Pacific Northwest National Laboratory, Richland, Washington; [2]Los Alamos National Laboratory, Los Alamos, New Mexico.

4:30 PM A1.2
Virtual Neutron Scattering Experiments on the TeraGrid. Emmanuel Farhi[2], John W Cobb[1], Kim Lefmann[4], Vickie E Lynch[1], Steve D Miller[1], M. Taylor[2] and Peter Willendrup[3]; [1]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Institut Laue-Langevin, Grenoble, France; [3]Materials Research Department, Risø National Laboratory, Technical University of Denmark, Roskilde, Denmark; [4]Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark.

4:45 PM A1.3
Real-time Data Reduction and Interactive Visualization Software for Engineering Diffractometer VULCAN at SNS. Ke An, Xun-Li Wang and Alexandru D Stoica; Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

5:00 PM A1.4
Spectral and Detector Efficiency Corrections for Area Detector Data at Pulsed Neutron Sources. Arthur J. Schultz[1], Paula M. B. Piccoli[1], Ruth L. Mikkelson[2], Dennis Mikkelson[2] and Thomas G. Worlton[1]; [1]IPNS, Argonne National Laboratory, Argonne, Illinois; [2]Department of Mathematics, Statistics and Computer Science, University of Wisconsin-Stout, Menomonie, Wisconsin.

5:15 PM *A1.5
PARK: A Pluggable Framework for Simultaneous Refinement. P. Kienzle, NIST Center for Neutron Research, Gaithersburg, Maryland.

MONDAY POSTERS

May 12, 2008

6:00 PM - 8:00 PM

Pavilion Room

SESSION PA1:

PA1.1
Characterization and Modeling of Off-Specular Neutron Scattering for Analysis of Two Dimensional Ordered Structures. Christopher Jason Metting[1], Robert Briber[1], Julie Borchers[2], Brian Maranville[2], Joe Dura[2], Paul Kienzle[2] and Charles Majkrzak[2]; [1]Materials Science and Engineering, University of Maryland, College Park, Maryland; [2]NIST Center for Neutron Research, , National Institute of Standards and Technology, Gaithersburg, Maryland.

PA1.2
McStas Simulation of TOF Neutron Diffraction Using a New Sample Kernel. Li Li[2], Ersan Ustundag[1], Seung-Yub Lee[1], Bjorn Clausen[3] and I. Cevdet Noyan[2]; [1]Mater. Sci. and Eng., Iowa State University, Ames, Iowa; [2]Department of Applied Physics and Applied Mathematics, Columbia University, New York, New York; [3]Lujan Center, Los Alamos National Laboratory, Los Alamos, New Mexico.

PA1.3
Mail-In Sample Service for High Resolution Neutron Powder Diffractometer. Sarah Jennifer Poulton, [1]Materials Science and Engineering, University Of Maryland, College Park, Maryland; [2]Centre for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland.

PA1.4
Resolution Function at FP-5 of the Lujan Center. Michal Mocko, Guenter Muhrer and Fredrik Tovesson; Los Alamos National Laboratory, Los Alamos, New Mexico.

PA1.5
Design and Performance of the LENS Cryogenic Moderator. David V. Baxter[1,2], C. M. Lavelle[1,2], W. Lozowski[1], Y. Shin[1,2], W. M. Snow[1,2] and P. E. Sokol[1,2]; [1]Low Energy Neutron Source, Indiana University Cyclotron Facility, Bloomington, Indiana; [2]Dept. of Physics, Indiana University, Bloomington, Indiana.

PA1.6
The neutron guide system for the NIST's Center for Neutron Research Expansion Project. Jeremy Charles Cook, NIST Center for Neutron Research, Gaithersburg, Maryland.

PA1.7
The NIST Center for Neutron Research Chemical Laboratories. Kimberly Tomasi and Yamali Hernandez; NIST, Gaithersburg, Maryland.

PA1.8
Lujan Center Opportunities for Research. Alan J Hurd, Lujan Neutron Scattering Center at LANSCE, Los Alamos National Laboratory, Los Alamos, New Mexico.

PA1.9
A New Instrument for Elastic/Inelastic Scattering Studies at a Long Pulsed Neutron Source. P. E. Sokol, Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana.

PA1.10
A Novel Neutron Reflectometer for 3-d Thin-Film Characterization: MAGIk. Brian Benjamin Maranville, Charles F Majkrzak and Norman F Berk; NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland.

PA1.11
High Intensity Polychromatic Beam Neutron Reflectometer / Diffractometer for Determining the Structures of Thin Films and Multilayered Materials. Charles F Majkrzak, NCNR, NIST, Gaithersburg, Maryland.

PA1.12
Performance Expectation for a High Magnetic Field Neutron Scattering Instrument. Andrei Savici[1], Garrett Granroth[2], Collin Broholm[1], Young Lee[3] and Mark Bird[4]; [1]Department of Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland; [2]Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]Department of Physics, MIT, Boston, Massachusetts; [4]National High Magnetic Field Laboratory, Tallahassee, Florida.

PA1.13
Impulse Scattering Algorithm for NISP. Philip A. Seeger[1], Roberto Senesi[2] and Luke L. Daemen[3]; [1]Consultant, Los Alamos, New Mexico; [2]Dipartimento di Fisica, Università degli Studi Roma Tor Vergata, Rome, Italy; [3]LANSCE, Los Alamos National Laboratory, Los Alamos, New Mexico.

PA1.14 Transferred to PA3.18

PA1.15
SrRietveld: Toward a Next-generation Rietveld Refinement Program. Wenduo Zhou[2,1], Chris Farrow[2,1] and Simon Billinge[2,1]; [1]Physics & Astronomy, Michigan State University, East Lansing, Michigan; [2]Applied Physics & Applied Mathematics, Columbia University, New York, New York.

PA1.16
Designing a Software Model for Neutron Scattering Instrumentation. Michael Martin[1,2], Stephen Pheiffer[1], Oksana Tymchyshyn[1,3] and Robert Shirley[1]; [1]NIST Center for Neutron Research, Gaithersburg, Maryland; [2]Electrical and Computer Engineering, University of Maryland, College Park, Maryland; [3]Materials Sciences, University of Maryland, College Park, Maryland.

PA1.17
DAVE: Software Facilitating Science at the NCNR. Larry R. Kneller[1,2], Richard Azuah[1,2] and Robert Dimeo[1]; [1]NCNR, NIST, Gaithersburg, Maryland; [2]Materials Science and Engineering, University of Maryland, College Park, Maryland.

PA1.18
Interfacial Structure and Lateral Correlations in Neutron Supermirrors. V. R. Shah[1], C. Schanzer[2] and P. Boeni[3]; [1]Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana; [2]Laboratory for Neutron Scattering, Villigen PSI, Switzerland; [3]Physics Department-E21, Technical University of Munich, Munich, Germany.

PA1.19
Monte Carlo Virtual Neutron Experiment. Jiao Y Y Lin, Olivier Delaire, Max Kresch, James Brandon Keith, Michael Mckerns, Michael Aivazis and Brent Fultz; Caltech, Pasadena, California.

PA1.20
Status of the Low Energy Neutron Source (LENS). P. E. Sokol, D. V. Baxter, R. Pynn, D. Bossev, H. Kaiser, W. M. Snow, T. C. Rinckel and M. Hess; Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana.

PA1.21
McStas 1.12, a New Release of the Flexible Neutron Ray-tracing Package. Peter Willendrup[1], Emmanuel Farhi[2], Erik Knudsen[1] and Kim Lefmann[3]; [1]Materials research department, RIS∅ DTU, * National Laboratory for Sustainable Energy, Roskilde, Denmark; [2]Institut Laue-Langevin, Grenoble, France; [3]Niels Bohr Institute, University of Copenhagen, Copenhagen, Denmark.

PA1.22
Faster Science: Connecting Users with Big Data and Computing. Peter F Peterson[1], Stephen D Miller[1], Jean-Christophe Bilheux[1], James A Kohl[2], Shelly Ren[1], Michael A Reuter[1], Jens Schwidder[2], Bradford Smith[3], Tom Swain[3] and Sudharshan S Vazhkudai[2]; [1]Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Computer Science and Mathematics Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]Software Quality Research Laboratory, University of Tennessee, Knoxville, Tennessee.

PA1.23
DANSE (Distributed Data Analysis for Neutron Scattering Experiments): Extending the Scientific Toolkit for the Neutron Community. Michael M. McKerns[1], Michael A.G. Aivazis[2] and Brent Fultz[1]; [1]Materials Science, California Institute of Technology, Pasadena, California; [2]Center for Advanced Computing Research, California Institute of Technology, Pasadena, California.

PA1.24
Dynamical Scattering Artifacts in TOF Neutron Diffraction. Ersan Ustundag[1], Mark R. Daymond[2] and I. Cevdet Noyan[3]; [1]Mater. Sci. and Eng., Iowa State University, Ames, Iowa; [2]Department of Mechanical and Materials Engineering, Queen's University, Kingston, Ontario, Canada; [3]Department of Applied Physics and Applied Mathematics, Columbia University, New York, New York.

SESSION PB1:

PB1.1
Neutron Reflectivity Studies of Polymer Response to Shear. Leslie Sasa[1,2], Rex Hjelm[2], Cynthia Welch[2], Robert Gilbertson[2] and Jarek Majewski[2]; [1]University of California, Los Angeles, Los Angeles, California; [2]Los Alamos National Laboratory, Los Alamos, New Mexico.

PB1.2
Small Angle Neutron Scattering of Micelles in Polymer Solutions and Hydrogels. Wonjoo Lee[1], Peter Kofinas[2] and Robert M Briber[1]; [1]Materials Science and Engineering, University of Maryland, College Park, Maryland; [2]Fischell Department of Bioengineering, University of Maryland, College Park, Maryland.

PB1.3
Probing the Phase Behavior of Poly (ethylene oxide) in Ethyl Alcohol / Water Mixtures with Small Angle Neutron Scattering. Sang Hak Shin[1], Robert M Briber[1], Boualem Hammouda[2] and Derek L Ho[3]; [1]Materials Science and Engineering, University of Maryland, College Park, Maryland; [2]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [3]Polymers Division, National Institute of Standards and Technology, Gaithersburg, Maryland.

PB1.4
The Composition and Molecular Weight Dependence of the Flory-Huggins Interaction Parameter for Binary Blends of Model Polyolefins Using SANS. Alisyn J. Nedoma[1], Megan L. Robertson[2], Nisita S. Wanakule[1] and Nitash P. Balsara[1,3,4]; [1]chemical engineering, University of California, Berkeley, Berkeley, California; [2]chemical engineering, University of Minnesota, Minneapolis, Minnesota; [3]Materials Science Division, Lawrence Berkeley National Laboratory, Berkeley, California; [4]Environmental Energy Technologies Division, Lawrence Berkeley National Laboratory, Berkeley, California.

PB1.5
SANS and USANS of Anisotropic Poly(vinyl alcohol) Hydrogels. Stephen D. Hudson[1], Jeffrey L. Hutter[1,2], Mu-Ping Nieh[3,4], Jeremy Pencer[3], Leonardo E. Millon[5] and Wankei Wan[5,2]; [1]Physics & Astronomy, University of Western Ontario, London, Ontario, Canada; [2]Graduate Program in Biomedical Engineering, University of Western Ontario, London, Ontario, Canada; [3]Canadian Neutron Beam Centre, National Research Council Canada, Chalk River, Ontario, Canada; [4]Steacie Institute for Molecular Sciences, Chalk River, Ontario, Canada; [5]Chemical & Biochemical Engineering, University of Western Ontario, London, Ontario, Canada.

SESSION PC1:

PC1.1
Spatially-resolved Structural Evolution of Wormlike Micelles through the Shear Banding Transition. Matthew E. Helgeson[1], Matthew D. Reichert[1], Eric W. Kaler[2] and Norman J. Wagner[1]; [1]Department of Chemical Engineering, University of Delaware, Newark, Delaware; [2]Stony Brook University, Stony Brook, New York.

SESSION PD1:

PD1.1
A Study of Aβ Protein using Neutron Scattering. Xin Li, Nuclear Engineering, Rensselaer Polytechnic Institute, Troy, New York.

PD1.2
The Second Critical Point in Protein Hydration Water and its Relation to the Dynamic Transition in Biopolymers. Xiangqiang Chu[1], Chansoo Kim[1], Emiliano Fratini[2], Piero Baglioni[2], Antonio Faraone[3,4] and Sow-Hsin Chen[1]; [1]Nuclear Science and Technology, MIT, Cambridge, Massachusetts; [2]Chemistry and CSGI, University of Florence, Florence, Italy; [3]NIST Center for Neutron Research, Gaithersburg, Maryland; [4]Material Science and Engineering, University of Maryland, College Park, Maryland.

PD1.3
Effect of Anesthetics on Bending Elasticity of Lipid Membranes. Zheng Yi[1,2], Michihiro Nagao[2,1] and Dobrin Petrov Bossev[1]; [1]IU Cyclotron Facility, Indiana University, Bloomington, Indiana; [2]NCNR, NIST, Gaithersburg, Maryland.

PD1.4
Incoherent Quasi-Elastic and Inelastic Neutron Scattering Studies of the Dynamics of Protein and Its Hydration Water. Yang Zhang, Dazhi Liu, Marco Lagi and Sow-Hsin Chen; Nuclear Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts.

PD1.5
Role of Solvent in Protein's Dynamic Transition. S. Khodadadi[1], S. Pawlus[1], J. H. Roh[2,3], V. Garcia Sakai[4], E. Mamontov[5] and A. P. Sokolov[1]; [1]Polymer Science, University of Akron, Akron, Ohio; [2]Department of Materials Science & Engineering, University of Maryland, Maryland, Maryland; [3]Department of Biophysics, Johns Hopkins University, Maryland, Maryland; [4]ISIS Facility, Rutherford Appleton Laboratory, Chilton, United Kingdom; [5]Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PD1.6
Understanding the Process of Membrane Photolithography. Hillary Smith[1], Jaroslaw Majewski[1], Atul Parikh[2] and Alan Szmodis[3]; [1]Los Alamos Neutron Science Center, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Department of Applied Science, University of California, Davis, Davis, California; [3]Biophysics Graduate Group, University of California, Davis, Davis, California.

SESSION PE1:

PE1.1
On the Structure of Multi-component Sodium Borosilicate Waste Glasses: Neutron Diffraction Experiment and RMC Modelling. Margit Fabian[1], Erzsebet Svab[1], Thomas Proffen[2] and Erzsebet Veress[3]; [1]Neutron physics, Research Institute for Solid State Physics and Optics, Budapest, Hungary; [2]LANL, Los Alamos, New Mexico; [3]Babes Bolyai University, Cluj, Romania.

PE1.2
Total Scattering and the Local Structure of Functional Inorganic Materials. Katharine Lynn Page[1], Anthony K. Cheetham[2] and Ram Seshadri[1]; [1]Materials Department and Materials Research Laboratory, University of California, Santa Barbara, Santa Barbara, California; [2]Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, United Kingdom.

PE1.3
Single Crystal Neutron Diffraction and Inelastic Neutron Scattering Spectroscopy of Proton Conductor Lithium Hydrazinium Sulfate. Matthew R. Hudson[1], Paula M. B. Piccoli[2], Art J. Schultz[2] and Bruce S. Hudson[1]; [1]Syracuse University, Syracuse, New York; [2]IPNS, Argonne National Lab, Argonne, Illinois.

PE1.4
Absolute Density Measurement and Pore Size Dependences of 1-D Confined Water by SANS. Dazhi Liu[1], Yang Zhang[1], Chung-Yuan Mou[2] and Sow-Hsin Chen[1]; [1]Nuclear Sci. & Eng., MIT, Cambridge, Massachusetts; [2]Department of Chemistry, National Taiwan University, Taipei, Taiwan.

PE1.5
A Study of the Structural and Dynamical Properties of Lithium Borohydride Confined within Nanoporous Framework Structures using Neutron Scattering Techniques. Ceris Hamilton[1], Michael Hartman[1], Hui Wu[2], Terry Udovic[2] and Jack Rush[2]; [1]Nuclear Engineering and Radiological Sciences, University of Michigan, Ann Arbor, Michigan; [2]NIST Center for Neutron Research, NIST, Gaithersburg, Maryland.

PE1.6
Neutron Diffraction Study of Hydrogen Adsorption in Porous Metal-Organic Frameworks. Junhua Luo[1], Hongwu Xu[1,2], Yun Liu[3], Craig Brown[3], Shengqian Ma[4], Hong-cai Zhou[4], Tatiana V. Timofeeva[5], Luke L. Daemen[1] and Yusheng Zhao[1]; [1]LANSCE-12, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]EES-6, Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [4]Department of Chemistry&Biochemistry, Miami University, Oxford, Ohio; [5]Department of Natural Science, New Mexico Highlands University, Las Vegas, New Mexico.

PE1.7
Effects of Irradiation on SiC and SiC/SiC Composites at High Temperatures. Fengfeng Cheng and Li (Emily) Liu; Rensselaer Polytechnic Institute, Troy, New York.

PE1.8
Structural Studies of Porous Manganese Oxides. Izabela Kruk[1,2] and Mark A. Green[1]; [1]Center for Neutron Research, NIST, Gaithersburg, Maryland; [2]Chemistry, UCL, London, United Kingdom.

PE1.9
Adsorption of Small Alkanes and Other Molecules on MgO(100) Nanocubes: Thermodynamic and Neutron Scattering Results. David Canoto[1], T. Arnold[2], Andi M Barbour[1], S. Chanaa[1], R. Cook[1], P. Yaron[1] and J. Z. Larese[1,2]; [1]University of Tennessee, Knoxville, Tennessee; [2]Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PE1.10
Neutron Scattering and Thermodynamic Investigations of Hydrogen Adsorbed on MgO (100) Surfaces. Lillian R Frazier[1], Tom Arnold[3], Annabal Ramirez-Cuesta[4] and John Z Larese[1,2]; [1]Department of Chemistry, University of Tennessee, Knoxville, Knoxville, Tennessee; [2]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]Diamond Facility, Rutherford Appleton Laboratory, Didcot, United Kingdom; [4]ISIS Neutron Facility, Rutherford Appleton Laboratory, Didcot, United Kingdom.

PE1.11
Materials Chemistry of Ternary Technetium Oxides. Efrain E. Rodriguez[1,3], Frederic Poineau[2], Anna Llobet[1], Kenneth Czerwinski[2] and Anthony K. Cheetham[4]; [1]Manuel Lujan Center, LANL, Los Alamos, New Mexico; [2]Harry Reid Center for Environmental Sciences, UNLV, Las Vegas, Nevada; [3]Materials Research Lab, UCSB, Santa Barbara, California; [4]Materials Science and Metallurgy, Univ. of Cambridge, Cambridge, United Kingdom.

SESSION PF1:

PF1.1
Magnetic Incommensurability in Cobalt Perovskite of A-site Doped Systems. Juan Yu and Despina Louca; University of Virginia, Charlottesville, Virginia.

PF1.2
Checkerboard to Chain Charge-ordering Transition in TbBaFe2O5. Daniel K. Pratt[1], Sung Chang[2], Wei Tian[2], Andreas Kreyssig[2], Alexey Taskin[3], Jerel Zarestky[2], Yoichi Ando[3] and Robert McQueeney[1,2]; [1]Dept. of Physics and Astronomy, Iowa State University, Ames, Iowa; [2]Ames Labratory, Ames, Iowa; [3]Department of Frontier Materials Creation, Osaka University, Osaka, Japan.

PF1.3
Spin structures of magnetic phases in YMn2O5. Junghwa Kim[1], S. Lee[1], S. Park[2], M. Kenzelmann[3,4], S. Juerg[4], J. Chung[5], C. F Majkrzak[6], S. Wakimoto[7], S. Cheong[8], M. Matsuda[7], H. Kimura[9], Y. Noda[9] and K. Kakurai[7]; [1]Physics, University of Virginia, Charlottesville, Virginia; [2]KAERI, Daejeon, South Korea; [3]ETH, Zurich, Switzerland; [4]PSI, Villigen PSI, Switzerland; [5]Korea University, Seoul, South Korea; [6]NIST, Gaithersburg, Maryland; [7]JAEA, Tokai, Japan; [8]Rutgers University, Piscataway, New Jersey; [9]Tohoku University, Sendai, Japan.

PF1.4
Neutron Scattering Studies of Spin Excitations in the 2D Singlet Ground State Systems of Pure and Doped SrCu2(BO3)2. Sara Haravifard[1], Sarah Dunsiger[1], Bruce Gaulin[1], Hanna Dabkowska[1], Mark Telling[2], Samir El Shawish[3] and Janez Bon—*caronc*—a[3,4]; [1]Physics & Astronomy, McMaster University, Hamilton, Ontario, Canada; [2]Rutherford Appleton Laboratory, ISIS Pulsed Neutron Facility, Didcot, Oxon, United Kingdom; [3]J. Stefan Institute, Ljubljana, Slovenia; [4]Faculty of Mathematics and Physics, University of Ljubljana, Ljubljana, Slovenia.

PF1.5
Low Temperature Magnetic Scattering in $CePd_3$. Victor R Fanelli[1,2], J. M. Lawrence[1], A. D. Christianson[3], E. A. Goremychkin[4], C. Wang[1], E. D. Bauer[2] and K. J. McClellan[2]; [1]Physics and Astronomy, University of California Irvine, Irvine, California; [2]Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [4]Argonne National Laboratory, Argonne, Illinois.

PF1.6
Magnetic Layer Structure, Interface Roughness and the Origins of MR in Organic Semiconductor Spin Valves. Yaohua Liu[1], Shannon M. Watson[2], Julie A. Borchers[2], Taegweon Lee[1], Justin M. Gorham[1], Howard E. Katz[1], Howard D. Fairbrother[1] and Daniel H. Reich[1]; [1]The Johns Hopkins University, Baltimore, Maryland; [2]NCNR, NIST, Gaithersburg, Maryland.

PF1.7
Inelastic Neutron Scattering Study of Charge Ordering in La1/3Sr2/3FeO3. Jie Ma[1,2], Sung Chang[2], Jiaqiang Yan[2], Frans Trouw[3], M. Hehlen[3] and Robert John McQueeney[1,2]; [1]Iowa State University, Ames, Iowa; [2]Ames Laboratory, Ames, Iowa; [3]Los Alamos National Laboratory, Los Alamos, New Mexico.

PF1.8
Phonon Linewidths in Nickel and Aluminum at Elevated Temperatures. Max Kresch, Olivier Delaire, Matt Lucas, Rebecca Stevens, Brandon Keith, Jiao Lin and Brent Fultz; Materials Science, Caltech, Pasadena, California.

PF1.9
Quantum Critical Fluctuations in the Heavy Fermion Compound CeNi2Ge2. Bilal Zoghbi[1], Almut Schroeder[1] and Yiming Qiu[2]; [1]Department of Physics, Kent State University, Kent, Ohio; [2]National Institute of Standards and Technology, Center for Neutron research, Gaithersburg, Maryland.

PF1.10
Phonons in Bulk Metallic Glasses. Rebecca Stevens[1,2], Mary L Lind[2], William Johnson[2] and Brent Fultz[2]; [1]LANSCE, Los Alamos National Lab, Los Alamos, New Mexico; [2]Materials Science, California Institute of Technology, Pasadena, California.

PF1.11
Quantitative Structure Determination of Nanostructured Materials using PDF Analysis. Ahmad Salah Masadeh[1], Emil S Bozin[1], Christ Farrow[1], G. Paglia[1], P. Juhas[1], A. Karkamkar[2], M. G. Kanatzidis[2,3] and Simon L. J. Billinge[1,4,5]; [1]Department of Physics & Astronomy, Michigan state University, East Lansing, Michigan; [2]Chemistry, Michigan state University, East Lansing, Michigan; [3]Chemistry, Northwestern University, Evanston, Illinois; [4]Applied Physics & Applied Mathematics, Columbia University, New York, New York; [5]Condensed Matter and Materials Science, Brookhaven National Laboratory, Upton, New York.

PF1.12
Signature of Magnetic Phase Separation in Pr1-xCaxMnO3. Dalgis Mesa[1], Hao Sha[1], Jiandi Zhang[1], F. Ye[2], P. C. Dai[3], Jaime Fernandez-Baca[2], J. W. Lynn[4], Y. Tomioka[5] and Y. Tokura[6]; [1]Physics Dept., Florida International University, Miami, Florida; [2]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]University of Tennessee, Knoxville, Tennessee; [4]NIST Center of Neutron Research, Gaithersburg, Maryland; [5]Correlated Electron Research Center, Tsukuba 305-0046, Japan; [6]University of Tokyo, Tokyo 113-8656, Japan.

SESSION PG1:

PG1.1
Hydride Phase Formation and its Influence on Fatigue Crack Propagation in a Zircaloy-4 Alloy. Elena Garlea[1], Hahn Choo[1,2], Bjørn Clausen[3], Don W. Brown[4], Yanfei Gao[1], Gongyao Y. Wang[1], Peter K. Liaw[1], Jungwon Park[1] and Philip D. Rack[1]; [1]MSE, Univeristy of Tennessee, Knoxville, Tennessee; [2]Material Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]LANSCE-LC, Los Alamos National Laboratory, Los Alamos, New Mexico; [4]MST-8, Los Alamos National Laboratory, Los Alamos, New Mexico.

PG1.2
Neutron Reflectivity Profiling of Hydrogen in Metal-Insulator-Semiconductor Sensors. Steve Marshall[1], Bryan Vogt[2] and J. William Medlin[1]; [1]Chemical and Biological Engineering, University of Colorado at Boulder, Boulder, Colorado; [2]Chemical Engineering, Arizona State University, Tempe, Arizona.

PG1.3
Studies of Overload and Underload during Fatigue Crack Growth using Neutron Diffraction. Sooyeol Lee[1], Hahn Choo[1,2], Ke An[3], Ronald Rogge[4], Peter K Liaw[1], Thomas R Watkins[2], Camden R Hubbard[2] and Dwaine L Klarstrom[5]; [1]Materials Science and Engineering, University of Tennessee, Knoxville, Tennessee; [2]Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [4]National Research Council Canada, Chalk River Laboratories, Chalk River, Ontario, Canada; [5]Haynes International, Inc., Kokomo, Indiana.

SESSION PH1:

PH1.1
Perturbation of the Time-dependent Kruger Hamiltonian to Evaluate the Effects of the Beam Divergence on the Neutron Spin States. G. Danagoulian[1], Mike Snow[2], Mark Leuschner[2] and Brent Heuser[1]; [1]Nuclear, Plasma, and Radiological Engineering, University of Illinois at Urbana-Champaign, Urbana, Illinois; [2]Indiana University Cyclotron Facility, Bloominghton, Indiana.

PH1.2
Neutron as a Quantum System: Exploring Multi-entanglement in a Single-neutron. Yuji Hasegawa[1,2] and Helmut Rauch[1]; [1]Atominstitut, Vienna University of Technology, Vienna, Austria; [2]PRESTO, Japan Science and Technology, Saitama, Japan.

PH1.3
A Solid Methane Cold Neutron Moderator Study at IUCF. Yunchang Shin, W. Michael Snow, Chen-Yu Liu, Christopher M Lavelle and David V Baxter; Physics, Indiana University, Bloomington, Indiana.

TUESDAY ORAL PRESENTATIONS

May 13, 2008

Anasazi N Room

* Invited paper

SESSION G2: Industrial Applications
Chair: Ronald Rogge
Tuesday Morning, May 13, 2008
Anasazi N Room

8:30 AM *G2.1
The Composition and Nanostructure of Hydrated Portland Cement as Determined by Small-Angle Neutron Scattering. Jeffrey J Thomas, Dept. of Civil and Environmental Engineering, Northwestern University, Evanston, Illinois.

9:00 AM G2.2
Can Neutron Scattering Contribute to Elucidating how the Great Pyramids of Giza were Built? Sven C Vogel[1], L. L. Daemen[1] and M. W. Barsoum[2]; [1]Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Department of Materials Science and Engineering, Drexel University, Philadelphia, Pennsylvania.

9:15 AM *G2.3
Growth of Oxide Films on Ti and Zr as Observed with Electrochemistry and In-situ Neutron Reflectometry. James J. Noel[1], Zin Tun[2] and David W. Shoesmith[1]; [1]Chemistry, University of Western Ontario, London, Ontario, Canada; [2]Canadian Neutron Beam Centre, National Research Council of Canada, Chalk River, Ontario, Canada.

9:45 AM G2.4
In-situ Neutron Diffraction Measurements of Stresses in Carburized Gears. Camden Richards Hubbard[1], Robert A. LeMaster[2], Jeffrey R. Bunn[2], Bryan L. Boggs[2], Jonathon V. Kolwyck[2] and William Barton Bailey[1]; [1]Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]University of Tennessee at Martin, Martin, Tennessee.

10:15 AM BREAK

SEE POSTER PRESENTATIONS
10:30 AM - 12:15 PM

SESSION C3: Industrial Soft-Matter
Chair: Paul Butler
Tuesday Afternoon, May 13, 2008
Anasazi N Room

1:45 PM *C3.1
In-situ Studies of Structure Development During Fiber Spinning and Polymer Deformation. Juan David Londono[1], Steven Weigand[2], Donald Huang[1], William Guise[1], Denis Keane[2] and Hao Chang[1]; [1]DuPont Central Research and Development, E. I. DuPont, Wilmington, Delaware; [2]Synchrotron Center, Northwestern University, Evanston, Illinois.

2:15 PM *C3.2
The Influence of Collective Behavior on the Magnetic and Heating Properties of Iron Oxide Nanoparticles. Cindi Dennis[1], Andrew Jackson[2,3], Julie Borchers[2], Robert Ivkov[4], Allan Foreman[4], P. Jack Hoopes[5], Rendall Strawbridge[5], Zachary Pierce[5] and Cordula Gruettner[6]; [1]MSEL, NIST, Gaithersburg, Maryland; [2]NCNR, NIST, Gaithersburg, Maryland; [3]Dept. of Materials Science and Engineering, University of Maryland, College Park, Maryland; [4]Triton BioSystems, Inc., Chelmsford, Massachusetts; [5]Dartmouth College, Hanover, New Hampshire; [6]Micromod Partikeltechnologie GmbH, Rostock-Warnemuende, Germany.

2:45 PM C3.3
Quantifying the Adsorbed Water Molecules inside Dendrimers in Aqueous Solutions. Tianfu Li[1,2], Lionel Porcar[3], Kunlun Hong[4], Wei-Ren Chen[5] and Yun Liu[1,6]; [1]Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [2]China Institute of Atomic Energy, Beijing, China; [3]Institut Laue-Langevin, Grenoble, CEDEX, France; [4]The Center for Nanophase Materials Sciences, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [5]Neutron Scattering Science Division,Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [6]Department of Materials Science and Engineering, University of Maryland, College Park, Maryland.

3:00 PM *C3.4
Molecular Association and Toughening Mechanism in Double-network Hydrogels. Wenli Wu[1], Vijay Tirumala[1], Taiki Tominaga[2], Sanghun Lee[1], Eric K Lin[1] and Jian Ping Gong[2]; [1]Polymers Division, NIST, Gaithersburg, Maryland; [2]Graduate School of Science, Hokkaido University, Sapporo, Japan.

3:30 PM BREAK

SESSION H1: Neutron Physics
Chair: Takeyasu Ito
Tuesday Afternoon, May 13, 2008
Anasazi N Room

4:00 PM *H1.1
Precision Neutron Scattering Length Measurements Using Neutron Interferometry. Fred E. Wietfeldt, Physics, Tulane University, New Orleans, Louisiana.

4:30 PM H1.2
Results from the NPDG Experiment. Scott Wilburn, Los Alamos National Laboratory, Los Alamos, New Mexico.

4:45 PM H1.3
Measuring Neutron Spin Rotation in Liquid Helium. Christopher D Bass, NIST, Gaithersburg, Maryland.

5:00 PM H1.4
The UCNA Electron Asymmetry Experiment. Alexander Saunders, Los Alamos National Laboratory, Los Alamos, New Mexico.

5:15 PM H1.5
The Nab Neutron Decay Correlation Experiment. Dinko Pocanic, Institute for Nuclear and Particle Physics, University of Virginia, Charlottesville, Virginia.

5:30 PM H1.6
Progress Toward the SNS Neutron Electric Dipole Moment Experiment. Martin Cooper, Los Alamos National Laboratory, Los Alamos, New Mexico.

Anasazi S Room

SESSION F3: Multiferroics and Relaxors
Chair: Anna Llobet
Tuesday Morning, May 13, 2008
Anasazi S Room

8:30 AM *F3.1
Overview on Multiferroics. Sang-Wook Cheong, Department of Physics and Astronomy, Rutgers, Piscataway, New Jersey.

9:00 AM *F3.2
Order Parameters and Phase Diagram for the 125 Family of Multiferroics. A. Brooks Harris, physics and astronomy, university of pennsylvania, Philadelphia, Pennsylvania.

9:30 AM F3.3
Three Dimensional Magnetic Correlations in LuFe2O4. M. D. Lumsden[1], A. D. Christianson[1], M. Angst[1], Z. Yamani[2], W. Tian[1,3], R. Jin[1], S. E. Nagler[1], B. C. Sales[1] and D. Mandrus[1]; [1]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]National Research Council, Canadian Neutron Beam Center, Chalk River, Ontario, Canada; [3]Ames Laboratory, Iowa State University, Ames, Iowa.

9:45 AM F3.4
Magnetic Interactions in Geometrically Frustrated Triangular Lattice Antiferromagnet CuFeO2. Jaime A Fernandez-Baca[1], Feng Ye[1], Randy Fishman[1], Hyejung Kang[2], Jeffrey W Lynn[2] and Tsuyoshi Kimura[3]; [1]Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]NCNR, NIST, Gaithersburg, Maryland; [3]Osaka University, Osaka, Japan.

10:00 AM F3.5
Transverse Acoustic Mode Dynamics in the Relaxor KTa1-xNbxO3. Jean Toulouse[1], Eugene Iolin[1], Bernard Hennion[2], Daniel Petitgrand[2] and R. W. Erwin[3]; [1]Physics, Lehigh University, Bethlehem, Pennsylvania; [2]Laboratory Leon Brillouin, CEA-CNRS, Saclay, France; [3]NIST Center for Neutron Research, Gaithersburg, Maryland.

10:15 AM BREAK

SEE POSTER PRESENTATIONS
10:30 AM - 12:15 PM

SESSION F4: Competing Interactions
Chair: Despina Louca
Tuesday Afternoon, May 13, 2008
Anasazi S Room

1:45 PM *F4.1
Magnetism and Magnetic Exchange Interactions in Verwey Systems. Robert McQueeney[1,4], Sung Chang[4], Pavel Karen[2], Frans Trouw[3], Mona Yethiraj[8], Wouter Montfrooij[5], Toby Perring[7] and Juergen Honig[6]; [1]Physics & Astronomy, Iowa State University, Ames, Iowa; [2]Chemistry, University of Oslo, Oslo, Norway; [3]LANSCE, Los Alamos National Laboratory, Los Alamos, New Mexico; [4]Ames Laboratory, Ames, Iowa; [5]Physics, University of Missouri, Columbia, Missouri; [6]Chemistry, Purdue University, West Lafayette, Indiana; [7]ISIS Facility, Rutherford-Appleton Laboratory, Didcot, United Kingdom; [8]Center for Neutron Scattering, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

2:15 PM *F4.2
Origin of Magnetic Phase Separation in Single Crystal Doped Perovskite Cobaltites. Chris Leighton[1], Chunyong He[1], Sami El-Khatib[1,2], Mark Laver[2], Jeff Lynn[2], Christophe Jan[1], Harald Aarbogh[1] and John Mitchell[3]; [1]University of Minnesota, Minneapolis, Minnesota; [2]NIST Center for Neutron Research, Gaithersburg, Maryland; [3]Argonne National Laboratory, Argonne, Illinois.

2:45 PM F4.3
Polaron dynamics in $La_{0.7}Ba_{0.3}MnO_3$ and $La_{0.7}Sr_{0.3}MnO_3$. Ying Chen[1,2], Benjamin Ueland[2], Jeffery Lynn[2], Sergei Barilo[3], Yakov Mukovski[4] and R. Privezentsev[4]; [1]University of Maryland, College Park, Maryland; [2]NIST Center for Neutron Research, Gaithersburg, Maryland; [3]Institute of Solid States and Seminconductor Physics, Minsk, Belarus; [4]Moscow Institute of Steel and Alloys, Moscow, Russian Federation.

3:00 PM F4.4
Spin Waves in the Ferromagnetic Ground State of the Kagomé Staircase System $Co_3V_2O_8$. Mehmet Ramazanoglu[1], Pat Clancy[1], Bruce Gaulin[1], Carl P. Adams[1,3], Zahra Yamani[2] and John Berlinsky[1]; [1]Physics, McMaster Univ., Hamilton, Ontario, Canada; [2]Canadian Neutron Beam Centre, National Research Council Canada, Chalk River, Ontario, Canada; [3]Department of Physics, St. Francis Xavier Univ., Antigonish, Nova Scotia, Canada.

3:15 PM F4.5
Dynamic Frustration in $PrAu_2(Si_{1-x}Ge_x)_2$. Raymond Osborn[1], Eugene A. Goremychkin[1,4], Brian D. Rainford[2], Robin T. Macaluso[3], Devashibhai T. Adroja[4] and Michael M. Koza[5]; [1]Materials Science Division, Argonne National Laboratory, Argonne, Illinois; [2]Department of Physics and Astronomy, University of Southampton, Southampton, United Kingdom; [3]Program of Chemistry and Biochemistry, University of Northern Colorado, Greeley, Colorado; [4]ISIS Pulsed Neutron and Muon Source, Rutherford Appleton Laboratory, Chilton, Oxfordshire, United Kingdom; [5]Institut Laue Langevin, Grenoble, France.

3:30 PM BREAK

SESSION F5: Superconductivity
Chair: Roman Movshovich
Tuesday Afternoon, May 13, 2008
Anasazi S Room

4:00 PM *F5.1
What Clarified by Neutron Scattering in High-T_cResearch. Kazuyoshi Yamada, Tohoku University, Sendai, Miyagi, Japan.

4:30 PM *F5.2
Spin Resonance in the d-wave Superconductor CeCoIn5. Collin Leslie Broholm, [1]Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland; [2]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland.

5:00 PM F5.3
Spin-glass Freezing in Superconducting YBCO6.33 (Tc=8.4 K). Zahra Yamani[1], Bill Buyers[1], Fan Wang[2], Young-June Kim[2], Ruixing Liang[3], Doug Bonn[3], Walter Hardy[3], Chris Stock[4], Jae-Ho Chung[4] and Collin Broholm[4]; [1]CNBC, NRC, Chalk River, Ontario, Canada; [2]Department of Physics, UofT, Toronto, Ontario, Canada; [3]Department of Physics, UBC, Vancouver, British Columbia, Canada; [4]NCNR, NIST, Gaithersburg, Maryland.

5:15 PM *F5.4
Sleuthing Hidden Order in URu2Si2 with Neutrons. Chris Wiebe[1,2], John Janik[1,2], Graeme Luke[3], Yiming Qiu[4], John Copley[4] and Bill Buyers[5]; [1]Florida State University, Tallahassee, Florida; [2]NHMFL, Tallahassee, Florida; [3]McMaster University, Hamilton, Ontario, Canada; [4]NIST, Gaithersburg, Maryland; [5]CNBC, Chalk River, Ontario, Canada.

Sunset Room

SESSION E2: Hydrogen Storage
Chair: Jack Rush
Tuesday Morning, May 13, 2008
Sunset Room

8:30 AM *E2.1
Coexistance of Hydrogen and Polyanions in Multinary Main Group Metal Hydrides. Ulrich Haussermann, Chemistry, Arizona State University, Tempe, Arizona.

9:00 AM E2.2
Neutron Spectroscopy of γ-AlH3. Alexander I. Kolesnikov[1], J. Graetz[2], C. M. Jensen[3], W. Langley[3] and V. E. Antonov[4]; [1]Intense Pulsed Neutron Source Division, Argonne National Laboratory, Argonne, Illinois; [2]Department of Energy Sciences and Technology, Brookhaven National Laboratory, Upton, New York; [3]Department of

Chemistry, University of Hawaii, Honolulu, Hawaii; [4]Institute of Solid State Physics, RAS, Chernogolovka, Moscow District, Russian Federation.

9:15 AM *E2.3
Hydrogen Storage in Microporous Coordination Solids with Exposed Metal Sites. Mircea Dinca[1], Steven Kaye[1], Won Seok Han[1], Anne Dailly[2], Yun Liu[3], Craig Brown[3], Dan Neumann[3], Michael Hartman[3], Vanessa Peterson[3] and Jeffrey Long[1]; [1]Department of Chemistry, University of California, Berkeley, Berkeley, California; [2]Chemical and Environmental Sciences Laboratory, General Motors Corporation, Warren, Michigan; [3]Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland.

9:45 AM E2.4
Investigating Dihydrogen Binding to Coodinatively Unsaturated Metal Centers in Metal-Organic Frameworks. Yun Liu[1,2], Craig M. Brown[1], Dan A. Neumann[1], Houria Kabbour[3] and Channing C. Ahn[3]; [1]Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Department of Materials Science and Engineering, University of Maryland, College Park, Maryland; [3]Department of Materials Science, California Institute of Technology, Pasadena, California.

10:00 AM E2.5
Dynamics of Hydrogen Adsorption on Metal-Organic Framework Polymers (MOF). Irvin Petelo Lose Telepeni[1,2], Marco Zoppi[2], David Grant[1], Craig Brown[4], Jason Simmons[4], Martin Schroder[3], Xiang Lin[3] and Gavin Walker[1]; [1]School of Mechanical, Materials, and Manufacturing Engineering, University of Nottingham, Nottingham, United Kingdom; [2]Instituto Sistemi Complessi, CNR, Sesto Fiorentino, Italy; [3]School of Chemistry, University of Nottingham, Nottingham, United Kingdom; [4]Center for Neutron Research, NIST, Gaithersburg, Maryland.

10:15 AM BREAK

SEE POSTER PRESENTATIONS
10:30 AM - 12:15 PM

SESSION A2: Polarization
Chair: Brian Kirby
Tuesday Afternoon, May 13, 2008
Sunset Room

1:45 PM *A2.1
Modulated Intensity Small Angle Neutron Scattering (MISANS) - a Tool for High Resolution Spectroscopy on Nano Particles. Markus Bleuel[1], Ed Lang[1], Roland Gahler[2] and Jyotsana Lal[1]; [1]IPNS, Argonne National Lab., Argonne, Illinois; [2]Institut Laue Langevin, Grenoble, France.

2:15 PM A2.2
Polarimetric Neutron Spin Echo Spectroscopy. Catherine Pappas[1], Eddy Lelievre-Berna[2], Phillip Martin Bentley[1,2], Evgeny Moskvin[1,3], Bela Farago[2], Peter Falus[2], Sergey Grigoriev[3] and Vadim Dyadkin[3]; [1]HMI Berlin, Berlin, Germany; [2]ILL, Grenoble, France; [3]PNPI, Gatchina, Russian Federation.

2:30 PM A2.3
Polarized SANS Investigation of Magnetite Nanoparticle Magnetic Correlations. Kathryn Krycka[1], Charles Hogg[2], Yumi Ijiri[3], Ryan Booth[2], Julie Borchers[1], Wangchun Chen[1], Mark Laver[1], Thomas Gentile[1], Brian Maranville[1], Benjamin Breslauer[3] and Sara Majetich[2]; [1]NIST Center for Neutron Research, Gaithersburg, Maryland; [2]Carnegie Mellon University, Pittsburgh, Pennsylvania; [3]Oberlin College, Oberlin, Ohio.

2:45 PM A2.4
Can Multipole Magnetic Fields Play a Useful Role in Transporting, Polarizing and Focussing Neutron Beams on Small Samples? Laurence Passell, Alfredo U. Luccio and Vinita J. Ghosh; Brookhaven National Laboratory, Upton, New York.

3:00 PM *A2.5
Development of Polarized ^{3}He based Neutron Spin Filter at ORNL – Filling Station, Wide-angle Analyzer, and In-situ Polarizer/analyzer. Wai Tung Hal Lee, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

3:30 PM BREAK

SESSION E3: Water and Ice
Chair: Eugene Mamontove
Tuesday Afternoon, May 13, 2008
Sunset Room

4:00 PM E3.1
Dynamics of Water Confined on Surfaces of Metal Oxide Nanoparticles as Evidenced by Calorimetric and Inelastic Neutron Scattering Techniques. Andrey A. Levchenko[1], Juliana Boerio-Goates[2], Brian F. Woodfield[2], Alexander I. Kolesnikov[3], Nancy L. Ross[4], David J. Wesolowski[5], David R. Cole[5] and Alexandra Navrotsky[1]; [1]Peter A Rock Thermochemistry Laboratory and NEAT ORU, University of California at Davis, Davis, California; [2]Department of Chemistry and Biochemistry, Brigham Young University, Provo, Utah; [3]Intense Pulsed Neutron Source, Argonne National Laboratory, Argonne, Illinois; [4]Crystallography Laboratory and Department of Geosciences, Virginia Tech, Blacksburg, Virginia; [5]Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

4:15 PM E3.2
Dynamics of Hydration Water in Nanosized Polyoxomolybdate Clusters. Antonio Faraone[1,2], Emiliano Fratini[3], Achim Mueller[4] and Piero Baglioni[3]; [1]Department of Material Science and Engineering, University of Maryland, College Park, Maryland; [2]NIST Center for Neutron Research, NIST, Gaithersburg, Maryland; [3]Department of Chemistry and CSGI, University of Florence, Florence, Italy; [4]Facultät für Chemie, Universität Bielefeld, Postfach, Germany.

4:30 PM *E3.3
Density Measurement of 1-D Confined Water by Small Angle Neutron Scattering Method. Sow-Hsin Chen and Dazhi Liu; Nuclear Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts.

5:00 PM E3.4
Methane Hydrate Formation at the Gas/water Interface. Tadanori Koga[1], Johnny Wong[1], Jaseung Koo[1], Sushil Satija[2], Miriam Rafailovich[1] and Devinder Mahajan[1,3]; [1]Mat. Sci & Eng., Stony Brook University, Stony Brook, New York; [2]NIST, Gaithersburg, Maryland; [3]BNL, Upton, New York.

5:15 PM *E3.5
Hydrogen Storage in Molecular Compounds. Wendy L Mao, Geological and Environmental Sciences & Photon Science, SSRL, Stanford University, Stanford, California.

Zia (A-C) Room

SESSION C2: Colloids
Chair: Norm Wagner
Tuesday Morning, May 13, 2008
Zia (A-C) Room

8:30 AM C2.1
Water as a Complex Quantum Fluid:Results from Deep Inelastic Neutron Scattering. George Reiter, University of Houston, Houston, Texas.

8:45 AM C2.2
Water and Alcohol Re-dispersible Single Wall Carbon Nanotubes Fabricated by in-situ Polymerization of Micelles. Sung-Min Choi[1], Tae-Hwan Kim[1], Changwoo Doe[1] and Steven R. Kline[2]; [1]Department of Nuclear and Quantum Engineering, KAIST, Daejeon, South Korea; [2]NIST Center for Neutron Research, Gaithersburg, Maryland.

9:00 AM *C2.3
Flow-induced Structural and Rheological Changes in Emulsions and Nanoemulsions. Thomas G. Mason, Depts. of Chemistry and Physics, UCLA, Los Angeles, California.

9:30 AM C2.4
Characterization of Simple Fluids at Free Solid Interfaces and Under Confinement using Neutron Scattering Techniques. Gernot Rother[1], David R. Cole[1], Ariel A. Chialvo[1] and Kenneth C. Littrell[2]; [1]Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

9:45 AM *C2.5
SANS Measurements of Peptide Intramolecular Folding and Intermolecular Self-assembly into Hydrogels for Tissue Regeneration. Darrin Pochan, Materials Science and Eng, University of Delaware, Newark, Delaware.

10:15 AM BREAK

SEE POSTER PRESENTATIONS
10:30 AM - 12:15 PM

SESSION D3: Macromolecules in Motion
Chair: Dean Myles
Tuesday Afternoon, May 13, 2008
Zia (A-C) Room

1:45 PM *D3.1
Nanoscale Coupled Protein Domain Motion Revealed by Neutron Spin Echo Spectroscopy. David J E Callaway, New York University, New York, New York.

2:15 PM D3.2
Functionality and Glass Transition in Hydrated Proteins. Ferenc Mezei[1,2], Guo Chen[3], Peter Falus[4], Bela Farago[4], Paul W. Fenimore[3], Hans Frauenfelder[3], Benjamin H. McMahon[3] and Margarita Russina[5]; [1]LANSCE, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Institute for Solid Sate Physics, Budapest, Hungary; [3]CNS, Los Alamos National Laboratory, Los Alamos, New Mexico; [4]Institut-Laue-Langevin, Grenoble, France; [5]SF1, Hahn-Meitner-Institut, Grenoble, France.

2:30 PM *D3.3
Protein Physics: Roaming Energy Landscapes with Neutrons and Computer Simulation. Jeremy C. Smith, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

3:00 PM D3.4
Protein Dynamics in a Broad Frequency Range: Combining Neutron and Dielectric Spectroscopy Data. Alexei Sokolov, Sheila Khodadadi and Sebastian Pawlus; Polymer Science, University of Akron, Akron, Ohio.

3:15 PM D3.5
Charge-charge Interactions Between Peptides in Solution. Sylvia Ellen McLain, Oak Ridge National Lab, Oak Ridge, Tennessee.

3:30 PM BREAK

SESSION B1: Hierarchical Structures in Polymers
Chair: Greg Smith
Tuesday Afternoon, May 13, 2008
Zia (A-C) Room

4:00 PM *B1.1
Structure, Assembly and Phase Transitions in Polymer Nanocomposites and Tethered Hybrids. Kenneth S. Schweizer, Justin B. Hooper, Lisa M. Hall and Arthi Jayaraman; Materials Science, University of Illinois, Urbana, Illinois.

4:30 PM B1.2
3-dimensional Evolution of Templated Self-Assembly using Tomographic Small Angle Neutron Scattering. Ronald L. Jones, Kevin Yager, Brian C. Berry and Alamgir Karim; Polymers Division, NIST, Gaithersburg, Maryland.

4:45 PM B1.3
Small Angle Neutron Scattering Study of Comb-Shaped Copolymers as Proton Exchange Membranes (PEMs). Mu-Ping Nieh[1], Michael D. Guiver[2], Dae Sik Kim[2] and Tyler Norsten[2,3]; [1]Candian Neutron Beam Centre, NRC Canada, Chalk River, Ontario, Canada; [2]Institute for Chemical Process and Environmental Technology, NRC, Canada, Ottawa, Ontario, Canada; [3]New Materials Design & Synthesis, Xerox Research Center of Canada, Mississauga, Ontario, Canada.

5:00 PM B1.4
Generational Dependence of Structural Properties of Charged PAMAM Dendrimer in Aqueous Solutions. Wei-Ren Chen[1], Lionel Porcar[2,3], Yun Liu[2,4], Kunlun Hong[5], Verduzco Rafael[5], Paul D. Butler[2] and Linda J. Magid[6]; [1]NSSD SNS, ORNL, Oak Ridge, Tennessee; [2]NCNR, NIST, Gaithersburg, Tennessee; [3]ILL, Grenoble, France; [4]Department of Materials Science and Engineering, University of Maryland, College Park, Maryland; [5]CNMS, ORNL, Oak Ridge, Tennessee; [6]Department of Chemistry, the University of Tennessee, Knoxville, Tennessee.

5:15 PM *B1.5
Characterization of Block Copolymer Micelle Crystals under Shear Flow. Lynn Walker, Chemical Engineering, Carnegie Mellon University, Pittsburgh, Pennsylvania.

TUESDAY POSTERS

May 13, 2008

10:30 AM - 12:15 PM

Pavilion Room

SESSION PA2:

PA2.1
End-Compensated Magnetostatic Cavity for Polarized ^{3}He Neutron Spin Filter Cells. James McIver[1], Ross Erwin[1], Wangchun Chen[1,2] and Thomas Gentile[1]; [1]NIST, Gaithersburg, Maryland; [2]Indiana University, Bloomington, Indiana.

PA2.2
Recent Developments in Polarized Neutron Scattering at the NCNR. Wangchun Chen[1,2], Ross Erwin[1], James McIver[1], Julie Borchers[1], Changbo Fu[1,2], Thomas Gentile[1], Jeffrey Lynn[1] and Gordon Jones[3]; [1]NIST, Gaithersburg, Maryland; [2]Indiana University, Bloomington, Indiana; [3]Hamilton College, Clinton, New York.

PA2.3
Optimization of 3He Polarization Analyzer for SESAME at LENS. H. Yan, C. Y. Jiang, A. Washington, R. Pynn, W. M. Snow, P. J. Stonaha, X. Tong and V. R. Shah; Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana.

PA2.4
Polarized 3He Analyzer for LENS SESAME Instrument. C. Y. Jiang[1], X. Tong[1], H. Y. Yan[1], W. M. Snow[1], R. Pynn[1], V. R. Shah[1], A. Washington[1], P. J. Stonaha[1], G. L. Jones[2], W. C. Chen[1,3] and T. R. Gentile[3]; [1]Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana; [2]Hamilton College, Clinton, New York; [3]NIST Center for Neutron Research, Gaithersburg, Maryland.

PA2.5
Spin Echo Small Angle Scattering on ASTERIX. A. Washington[1], M. R. Fitzsimmons[2], W. T. Lee[3], V. R. Shah[1], P. Stonaha[1], K. Littrell[3] and R. Pynn[1,3]; [1]Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana; [2]Manuel Lujan Jr. Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Neutron Scattering Sciences Directorate, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PA2.6
Design and Testing of a Novel Birefringent Device for Spin Echo Angle Coding. Paul Stonaha[1], V. R. Shah[1], A. Washington[1], R. Pynn[1], B. Kirby[2], C. F. Majkrzak[2], B. Maranville[2] and W. T. Lee[3]; [1]Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana; [2]NIST Center for Neutron Research, Gaithersburg, Maryland; [3]Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PA2.7
Optimization Studies of a Polarizer Bender for SESAME. V. R. Shah, Roger Pynn, Mark Leuschner and David Baxter; Low Energy Neutron Source and Physics Department, Indiana University, Bloomington, Indiana.

PA2.8
Grazing-Incidence Neutron Optics based on Wolter Geometries. Mikhail Gubarev[1], Brian Ramsey[1] and David Mildner[2]; [1]MSFC/NASA, Hunsville, Alabama; [2]NIST, Gaithersburg, Maryland.

PA2.9
Application of Ultrasound to Multi Crystal Neutron Diffractometer: Resolution and Intensity Improvement. Eugene Iolin[1], Leonid Rusevich[2], Markus Strobl[3], Wolfgang Treimer[3], Ferenz Mezei[3] and Pavul Mikula[4]; [1]Physics, Lehigh University, Bethlehem, Pennsylvania; [2]Institute of Physical Energetic, Riga, Latvia; [3]BENSC, Hahn-Meitner-Institut, Berlin, Germany; [4]Nuclear Physics Institute, Rez near Prague, Czech Republic.

PA2.10
Linear PSD Arrays as Precision Tools for Neutron Powder Diffraction. Ronald R. Berliner, Nuclear Reactor Program and Department of Nuclear Engineering, North Carolina State University, Raleigh, North Carolina.

PA2.11
Neutron Detectors for Scattering Science at Oak Ridge National Laboratory. Lowell Crow, Neutron Facilities Development Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PA2.12
High Pressure Capabilities at the NIST Center for Neutron Research. Juscelino Batista Leao and Sarah J. Poulton; Neutron Condensed Matter Science, NIST Center for Neutron Research, Gaithersburg, Maryland.

PA2.13
A Faster High Temperature Closed-cycle Refrigerator for Neutron Scattering. William Clow, Evan Fitzgerald and Daniel Dender; NIST Center for Neutron Research, Gaithersburg, Maryland.

PA2.14
Developing a New Method of Crystal Orientation for the TOPAZ-SCD at SNS. Matthew Frost[1], Christina Hoffmann[1], Mark Overbay[1], Jack Thomison[1], Michael Austin[2], Echo Miller[2], Lisa Mosier[2], Robert Viola[2] and Peter Carmen[2]; [1]Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Square One Systems Design, Jackson, Wyoming.

PA2.15
Sample Orienting Device for SEQUOIA, the Fine Resolution Fermi Chopper Spectrometer at the SNS. Todd Erik Sherline, Bruce Hill and Garrett E. Granroth; Neutron Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PA2.16
High Temperature Furnace for In-situ Neutron Scattering Measurements. James J. Wall[1,2,4], Helmut M. Reiche[2], Sven C Vogel[2] and Bjorn Winkler[3]; [1]Department of Materials Science and Engineering, University of Tennessee, Knoxville, Tennessee; [2]LANSCE-LC, Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Institut fur Mineralogie, Abteilung Kristallographie, Universitaet Frankfurt, Frankfurt, Germany; [4]Electric Power Research Institute, Charlotte, North Carolina.

SESSION PB2:

PB2.1
A SANS Study of Solvent Penetration of Tripodal Organo-Silicon Dendrimers. N. Remmes[1], D. V. Baxter[1], D. Bossev[1], G. Warren[1] and D. Astruc[2]; [1]Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana; [2]Universite de Bordeaux, Bordeaux, Talence Cedex, France.

PB2.2
Quasi-elastic Neutron Scattering Study of PMMA-Silica Nanocomposites. Pinar Akcora[1], Sanat Kumar[1], Brian Benicewicz[2], Victoria Garcia-Sakai[3] and Linda S. Schadler[2]; [1]Chemical Engineering, Columbia University, New York, New York; [2]Materials Science and Engineering, Rensselaer Polyechnic Institute, New York, New York; [3]ISIS Pulsed Neutron Source, Oxford, United Kingdom.

PB2.3
Modelling QENS and MD Simulation Data of Polymers at High Q. Daniel M Andersson, [1]Materials Science & Engineering, University of Utah, Salt Lake City, Utah; [2]Applied Physics, Chalmers University of Technology, Göteborg, Sweden.

PB2.4
Orientation Distribution for Thin Film Block Copolymers Assembled by Solvent Annealing. Xiaohua Zhang[1], Sangcheol Kim[1,2], Ronald L. Jones[1], Alamgir Karim[1], Robert M. Briber[2] and Ho-Cheol Kim[3]; [1]National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Dept. of Materials Science and Engineering, University of Maryland, Gaithersburg, Maryland; [3]Almaden Research Center, IBM, Gaithersburg, California.

PB2.5
SANS Investigation of pH and Temperature Dependent Phase Behavior of a PEO-PPO-PEO Based Amphiphilic Pentablock Copolymer in Aqueous Media. Pappannan Thiyagarajan[1], Liang Guo[2], Michael D. Determan[3], Chieh-Tsung Lo[4] and Mallapragada K. Surya[3]; [1]IPNS, Argonne National Lab, Argonne, Illinois; [2]BioCAT, APS, Illinois Institute of Technology, Chicago, Illinois; [3]Department of Chemical and Biological Engineering, Iowa State University and Ames Lab, Ames, Iowa; [4]Department of Chemical Engineering, National Cheng Kung University, Tainan, Taiwan.

SESSION PC2:

PC2.1
SANS Method to Study of the Mixture System of Surfactant Solutions: C14E7+CTABr without and with Add of Salt. Rajewska Aldona, Institute of Atomic Energy, Swierk-Otwock, Poland.

PC2.2
Dynamic Crossovers in Protein Hydration Water. Marco Lagi[1,2], Yang Zhang[1], Piero Baglioni[2] and Sow-Hsin Chen[1]; [1]Dept. of Nuclear Science and Engineering, MIT, Cambridge, Massachusetts; [2]Dept. of Chemistry and CSGI, University of Florence, Florence, Italy.

PC2.3
Electromagnetic Field Induces Phosphorylation of SAPK/JNK. Hirofumi Funamizu[1] and Hozumi Tatsuoka[2]; [1]Department of Biomedical Engineering, Research Center for Advanced Science and Technology, University of Tokyo, Tokyo, Japan; [2]Department of Biomedical Engineering, Research Center for Advanced Science and Technology, University of Tokyo, Tokyo, Japan.

PC2.4
Intermediate Frequency Electrical Magnetic Fields and Gene Expression. Hirofumi Funamizu[1], Itsuro Saito[2] and Hozumi Tatsuoka[3]; [1]Department of Biomedical Engineering, Research Center for Advanced Science and Technology, University of Tokyo, Tokyo, Japan; [2]Department of Biomedical Engineering, Research Center for Advanced Science and Technology, tokyo, Japan; [3]Research Center for Advanced Science and Technology, tokyo, Japan.

PC2.5
Energy Dissipation Mechanisms in Undulating Lipid Bilayers. Dobrin Petrov Bossev[1] and Zheng Yi[1,2]; [1]IU Cyclotron Facility, Indiana University, Bloomington, Indiana; [2]NCNR, NIST, Gaithersburg, Maryland.

PC2.6
Mean Kinetic Energy of Liquid Helium Systems. C. Pantalei[1], R. Senesi[2] and C. Andreani[2]; [1]Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana; [2]Università degli studi di Roma "Tor Vergata", Roma, Italy.

SESSION PD2:

PD2.1
Aqueous Solutions of the Ionic Liquid 1-butyl-3-methylimidazolium chloride Denature Proteins. William T. Heller[1,2] and Gary A. Baker[2]; [1]Center for Structural Molecular Biology, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PD2.2
Probing the Molecular Interface of Cellulose and Lignin in Biomass. Volker Urban, Barbara Evans, Hugh O'Neill and Dean Myles; ORNL, Oak Ridge, Tennessee.

PD2.3
Role of Hydration Water in Dynamics of RNA Studied by Quasielastic Neutron Scattering. Joon Ho Roh[1,2], Robert M Briber[1], Sarah A Woodson[2], Dave Thirumalai[3] and Alexei P Sokolov[4]; [1]Materials Science and Engineering, University of Maryland, College Park, Maryland; [2]Biophysics, Johns Hopkins University, Baltimore, Maryland; [3]Biophysics Program, Institute For Physical Science and Technology, University of Maryland, College Park, Maryland; [4]Polymer Science, University of Akron, Akron, Ohio.

PD2.4
The Australian National Deuteration Facility. Peter J Holden, K. M. Hammerton, A. P. Duff, C. J. Garvey, A. Rekas, R. A. Russell, H. P. Wacklin, K. L. Wilde and S. I. Yun; Environmental Research, Australian Nuclear Science and Technology Organisation, Menai, New South Wales, Australia.

PD2.5
Polyglutamine Aggregation Studied by SANS.
Christopher Stanley[1] and Valerie Berthelier[2]; [1]Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Graduate School of Medicine, University of Tennessee, Medical Center, Knoxville, Tennessee.

PD2.6
Tethered Bilayer Lipid Membranes (tBLMs) with Mixed Lipid Compositions. Frank Heinrich[2,1], Hirsh Nanda[2], Michael S. Kent[3], David J. Vanderah[4] and Mathias Loesche[1,2]; [1]Physics, Carnegie Mellon University, Pittsburgh, Pennsylvania; [2]Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [3]Biomolecular Analysis and Imaging Laboratory, Sandia National Laboratory, Albuquerque, New Mexico; [4]Chemical Sciences and Technology Laboratory, National Institute of Standards and Technology, Gaithersburg, Maryland.

PD2.7
Neutron Phase Sensitive Reflectometry Study of the Profile of a Hydrophobic Surface and Water. Ursula Perez-Salas[1], Charles F Majkrzak[2], Norman F Berk[2], Frank Heinrich[2], David J Vanderah[3], Johan Stalgren[4] and Michael Toney[4]; [1]Materials Science Division, Argonne national Laboratory, Argonne, Illinois; [2]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [3]NIST Chemical Science and Technology Division, National Institute of Standards and Technology, Gaithersburg, Maryland; [4]Stanford Linear Accelerator Center, Stanford, Stanford, California.

SESSION PE2:

PE2.1
Neutron Diffraction Studies on 4-Coordinate Hydrogen Atom in an Yttrium Cluster. Muhammed Yousufuddin[1,5,6], Matthias J. Gutmann[2], Jens Baldamus[3], Olivier Tardif[3], Zhaomin Hou[3], Sax A. Mason[4], Garry J. McIntyre[4] and Robert Bau[1]; [1]Chemistry, University of Southern California, Los Angeles, California; [2]Rutherford Appleton Laboratory, ISIS Facility, Didcot, United Kingdom; [3]Riken, Organometallic Chemistry Laboratory, Wako, Japan; [4]Institut-Laue Langevin, Grenoble, France; [5]Current Address: Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [6]Current Address: Materials Science and Engineering, University of Maryland, College Park, Maryland.

PE2.2
Systematic Neutron Diffraction Analysis of the Chemical Order and Magnetic Properties of a Series Off-stoichiometric Ni-Mn-Ga Alloys. Marc Richard[1], Ratchatee Techapiesancharoenkij[2], Samuel Allen[2], Robert O'Handley[2] and Thomas Lograsso[3]; [1]Chemistry, The Richard Stockton College of New Jersey, Pomona, New Jersey; [2]Materials Science and Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts; [3]Ames National Laboratory, Ames, Iowa.

PE2.3
Local Structure of $Mg_{50}Co_{50}$ Hydrogen Storage Alloy by Neutron Total Scattering. J. Nakamura[1], H. Y. Shao[1], J. Matsuda[1], T. Proffen[2], Y. Nakamura[1] and E. Akiba[1]; [1]National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan; [2]Los Alamos National Laboratory (LANL), Los Alamos, New Mexico.

PE2.4
Some Applications of Inelastic Neutron Scattering and DFT in Hydrogen Containing Materials, Thermodynamics Study of the Structural and Dynamical Properties.
A. (Timmy) Ramirez-Cuesta, Molecular Spectroscopy, ISIS, Chilton, Oxon, United Kingdom.

PE2.5
Hydrogen Adsorption in Ti-doped SBA-15. Alice I. Acatrinei, Monika A Hartl and Luke L Daemen; LANSCE-LC, Los Alamos National Laboratory, Los Alamos, New Mexico.

PE2.6
Small Angle Scattering on Erbium Hydride/Deuteride Powders and Films. Monika A Hartl[1], Rex Hjelm[1], Mark Rodriguez[2] and Jim Browning[3]; [1]Lansce-LC, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Dept. 2564, Sandia National Laboratory - NM, Albuquerque, New Mexico; [3]Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PE2.7
Strong Hydrogen Bonds in Trialkali Hydrogendisulfates Studied with Inelastic Neutron Scattering and Periodic Density Functional Theory. Nina Verdal[1], Matthew R Hudson[2], Anibal J. Ramirez-Cuesta[3] and Bruce S. Hudson[2]; [1]Intense Pulsed Neutron Source, Argonne National Laboratory, Argonne, Illinois; [2]Department of Chemistry, Syracuse University, Syracuse, New York; [3]ISIS, Rutherford Appleton Laboratory, Chilton, OXON, United Kingdom.

PE2.8
Synthesis, Characterization, and Modeling of Stable Colloids of Organically Surface Tailored Liquid like Gold Nanoparticles (NPLs). Mitra Yoonessi[1], Jennifer Brubaker[2], Emily Seikel[3], Mark Pender[2], Andrey A. Veovodin[2,3] and Richard A. Vaia[2]; [1]Chemical Engineering, University of New Hampshire, Durham, New Hampshire; [2]Nanostructured and Biological Materials Branch, Wright Patterson Air Force Research Laboratory, WPAFB, Ohio; [3]Chemical Engineering, University of Dayton, Dayton, Ohio.

PE2.9
Evolution of Dihydrogen Bonding Network in Ammonia Borane as Function of Temperature from 10 to 340 K.
Nancy J Hess[1], Gregory K Schenter[1], Thomas Proffen[2], Luke L Daemen[2], Monika Hartl[2], Ashley C Stowe[3], David J Heldebrant[1] and Tom Autrey[1]; [1]Fundamental and Computational Science, Pacific Northwest National Laboratory, Richland, Washington; [2]Manuel Lujan, Jr. Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Y12 National Security Complex, Department of Energy, Oak Ridge, Tennessee.

PE2.10
Vibrational Spectra of Polycrystalline Materials using Coherent Inelastic Neutron Scattering. Daniel L. Roach and D. Keith Ross; Institute for Materials Research, University of Salford, Salford, United Kingdom.

PE2.11
The Effect of Pressure on Thermal Expansion in $Zr_2WP_2O_{12}$ and TaO_2F. Angus P. Wilkinson and Mehmet Cetinkol; School of Chemistry and Biochemistry, Georgia Institute of Technology, Atlanta, Georgia.

PE2.12
Observation of Erbium Deuteride Formation via in-situ D2 Loading. Mark A. Rodriguez[1], Ryan Wixom[1], Clark Snow[1] and Anna Llobet[2]; [1]Materials Characterization Dept. 1822, Sandia National Laboratories, Albuquerque, New Mexico; [2]LANSCE, Los Alamos National Laboratory, Albuquerque, New Mexico.

SESSION PF2:

PF2.1
Evolution of Diffuse Scattering in PZN-xPT Across the Morphotropic Phase Boundary. Daniel Phelan[1], Peter Gehring[1], Brahim Dkhil[2], Pascale Gemeiner[2], Guangyong Xu[4] and Chris Stock[3]; [1]NCNR, Gaithersburg, Maryland; [2]Ecole Centrale Paris, Paris, France; [3]ISIS, Oxford, United Kingdom; [4]Brookhaven, Upton, New York.

PF2.2
Novel Charge and Spin Density Waves near Quantum Critical Point in Model Itinerant Metal. Dmitry Sokolov[1], M. Aronson[1,2], R. Erwin[3], Y. Zhu[1], L. Wu[1] and S. Nagler[4]; [1]Brookhaven National

Lab., Upton, New York; [2]Stony Brook University, Stony Brook, New York; [3]NCNR, NIST, Gaithersburg, Maryland; [4]Neutron Scattering Science Division, ORNL, Oak Ridge, Tennessee.

PF2.3

Dimensional Crossover in ZnMn2O4. William Davis Ratcliff[1], Ying Chen[1.2], Yiming Qiu[1.2], S. Yeo[3], G. Gasparovic[1], Q. Huang[1.2], J. Lynn[1], Sang Cheong[3], Paula Piccoli[4] and Arthur Schultz[4]; [1]NCNR, NIST, Gaithersburg, Maryland; [2]Materials Science and Engineering, University of Maryland, College Park, Maryland; [3]Department of Physics, Rutgers University, Piscataway, Maryland; [4]IPNS, Argonne National Lab, Argonne, Illinois.

PF2.4

Abstract Withdrawn

PF2.5

Neutron Scattering Study of a Low Dimensional Gapped Quantum Antiferromagnetic System. Tao Hong[1.2], Chris Stock[2], Grant Tremelling[3], Chris Landee[3], Mark Turnbull[3], Kai Schmidt[4], Goetz Uhrig[5], Yiming Qiu[6] and Collin Broholm[2.6]; [1]Neutron Science Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland; [3]Carlson School of Chemistry and Department of Physics, Clark University, Worcester, Massachusetts; [4]Institute of Theoretical Physics, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland; [5]Theoretische Physik, Universitat des Saarlandes, Saarbrucken, Germany; [6]National Institute of Standards and Technology, Gaithersburg, Maryland.

PF2.6

Static and Dynamic Properties Associated with Polaron Formation in $La_{1-x}Ca_xMnO_3$. Benjamin Ueland[1], Y. Chen[1.2], J. W. Lynn[1], Y. M. Mukovskii[3] and R. Privezentsev[3]; [1]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Department of Materials Science and Engineering, University of Maryland, College Park, Maryland; [3]Moscow Institute of Steel and Alloys, Moscow, Russian Federation.

PF2.7

On the Nature of Disorder in the Pyrochlore Spin Glass, $Y_2Mo_2O_7$. John Greedan[1], A. Diego Lozano-Gorrin[1], Shahab Derakhshan[1], Delphine Gout[3], Thomas Proffen[3], HyunJeong Kim[2.3], Bozin Emil[2] and Simon Billinge[2]; [1]McMaster University, Hamilton, Ontario, Canada; [2]Michigan State University, East Lansing, Michigan; [3]L.A.N.S.C.E., Los Alamos, New Mexico.

PF2.8

Phonons as a Probe for the Anisotropic Superconducting Energy Gap. Frank Weber[1.2.3], Andreas Kreyssig[4.5], Lothar Pintschovius[1], Winfried Reichardt[1], Oliver Stockert[6], Dmitry Reznik[1.7], Rolf Heid[1] and Klaudia Hradil[8]; [1]Institute of solid state physics, Research Center Karlsruhe, Karlsruhe, Germany; [2]Physikalisches Institut, University of Karlsruhe, Karlsruhe, Germany; [3]Materials Science Division, Argonne National Laboratory, Lemont, Illinois; [4]Institute of solid state physics, Technical University of Dresden, Dresden, Germany; [5]Ames Laboratory, Ames, Iowa; [6]Max-Planck Institute for chemical physics of solids, Dresden, Germany; [7]Laboratoire Léon Brillouin, CE Saclay, Saclay, France; [8]Institute for physical chemistry, University of Göttingen, Göttingen, Germany.

PF2.9

Magnetic Order in $Y_{1-x}La_xVO_3$ ($x = 0.3$). Sung C Chang[1], Jiaqiang Yan[2] and Robert McQueeney[2.3]; [1]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Ames Laboratory, Ames, Iowa; [3]Department of Physics and Astronomy, Iowa State University, Ames, Iowa.

PF2.10

Polarized Neutron Diffraction Study of the Ferromagnetic Semiconductor Yb14MnSb11. X. Tong[1], H. Y. Yan[1], C. Y. Jiang[1], W. M. Snow[1], G. L. Jones[2], B. Collett[2], W. C. Chen[1], T. R. Gentile[3], P. M.B. Piccoli[4], M. E. Miller[4], A. J. Schultz[4], V. O. Garlea[5], B. C. Sales[5], S. E. Nagler[5], W. T. Lee[6] and C. Hoffmann[6]; [1]Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana; [2]Hamilton College, Clinton, New York; [3]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [4]Intense Pulsed Neutron Source, Argonne, Illinois; [5]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [6]Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PF2.11

Magnetic Scattering in UT_2Zn_{20}. CuiHuan Wang[1], Victor R. Fanelli[1], Jon M. Lawrence[1], Eric D. Bauer[2] and Andrew D. Christianson[3]; [1]Department of Physics and Astronomy, University of California, Irvine, Irvine, California; [2]Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PF2.12

Induced Antiferromagnetism and Frustration with the Metamagnetic Transition in Terbium Gallium Garnet. Despina Louca[1], Kazuya Kamazawa[1] and Taku Sato[2]; [1]Physics, U of VA, Charlottesville, Virginia; [2]Neutron Science Laboratory, U. of Tokyo, ISSP, Tokyo, Japan.

PF2.13

Electronic Properties of Chromium Chalcogenide Spinels. Pawel Lukasz Zajdel[1.2], Wing Yen Li[2] and Mark A. Green[1.3]; [1]NIST Center for Neutron Research, Gaithersburg, Maryland; [2]Chemistry, University College of London, London, United Kingdom; [3]Materials Science and Engineering, University of Maryland, College Park, Maryland.

PF2.14

Magnetic Excitations in a Quantum Spin Dimer System Ba3Cr2O8. Maiko Kofu[1], Jung-hwa Kim[1], Seung-Hun Lee[1], Bella Lake[2], Kirrily Rule[2], Yiming Qiu[3], Hiroaki Ueda[4] and Yutaka Ueda[4]; [1]Univ. of Virginia, Charlottesville, Virginia; [2]Hahn-Meitner Institute, Wannsee, Berlin, Germany; [3]NIST, Gaithersburg, Maryland; [4]Univ. of Tokyo, Kashiwa, Chiba, Japan.

PF2.15

Magnetic Field Effect on the Spin Wave Dispersion and Magnetic Structure of Ba2CoGe2O7. Clarina R dela Cruz[1], Shiliang Li[1], Sang-Wook Cheong[3], Andrey Zheludev[2], Herbert Mook[2] and Pengcheng Dai[1.2]; [1]Physics, University of Tennessee, Knoxville, Tennessee; [2]HFIR, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]Rutgers Center for Emergent Materials, Rutgers University, Piscataway, New Jersey.

PF2.16

Phase Instability Induced by Polar Nanoregions in Relaxors. Guangyong Xu[1], Jinsheng Wen[1.2], Chris Stock[3] and Peter M. Gehring[4]; [1]Condensed Matter Physics and Materials Sciences, Brookhaven National Laboratory, Upton, New York; [2]Stonybrook University, Stonybrook, New York; [3]ISIS Facility, Rutherford Appleton Lab, Didcot, Oxford, United Kingdom; [4]NCNR, NIST, Gaithersburg, Maryland.

PF2.17

Investigating Highly Correlated Lanthanide Intermetallic and Oxide Phases using Neutron Diffraction. Jasmine Nicole Millican[1], Jeffrey W. Lynn[1], Julia Y. Chan[2] and Judith K. Stalick[1]; [1]NIST Center for Neutron Research (NCNR), National Institute of Standards and Technology (NIST), Gaithersburg, Maryland; [2]Chemistry, Louisiana State University, Baton Rouge, Louisiana.

PF2.18

Zone Boundary Soft Modes in the Relaxor PMN. Peter M Gehring[1], Ian Swainson[2], Chris Stock[3], Guangyong Xu[4] and Hasuo Luo[5]; [1]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Chalk River Labs, National Research Council, Canadian Beam Centre, Chalk River, Ontario, Canada; [3]ISIS Facility, Rutherford Appleton Laboratory, Didcot, Oxon, United Kingdom; [4]Condensed Matter Physics and Materials Science, Brookhaven National Laboratory, Upton, New York; [5]Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai, China.

PF2.19

Polarized Neutron Reflectometry of Exchange Biased NiO/FeCoV Bilayers. Shah R Valloppilly[1], Brian Kirby[2], Christian Schanzer[3] and Peter Boeni[4]; [1]Low Energy Neutron Source and Physics Department, Indiana University, Bloomington, Indiana; [2]NIST Center for Neutron Research, Gaithersburg, Maryland; [3]Laboratory for Neutron Scattering, Villigen PSI, Villigen, Switzerland; [4]Physics Department E-21, Technical University of Munich, Munich, Germany.

PF2.20

Magnetic Characteristics of Complex Oxide F/S/F Trilayers. C. Visani[1], Z. Sefrioui[1], C. Leon[1], J. Santamaria[1], S.G.E. te Velthuis[2], A. Hoffmann[2], N. M. Nemes[1], M. Garcia-Hernandez[3], M. R. Fitzsimmons[4] and B. J. Kirby[4];

[1]Universidad Complutense de Madrid, Madrid, Spain; [2]Materials Science Division, Argonne National Laboratory, Argonne, Illinois; [3]Instituto de Ciencia de Materiales de Madrid, Madrid, Spain; [4]Los Alamos National Laboratory, Los Alamos, New Mexico.

PF2.21
Neutron Diffraction Study of Antiferromagnetic Ordering in $(LaMnO_3)_m/(SrMnO_3)_{2m}$ Superlattices. Steve May[1], J. L. Robertson[2], M. R. Fitzsimmons[3], S. G. E. te Velthuis[1], J. N. Eckstein[4], S. D. Bader[1] and A. Bhattacharya[1]; [1]Argonne National Laboratory, Argonne, Illinois; [2]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]Los Alamos National Laboratory, Los Alamos, New Mexico; [4]University of Illinois, Urbana-Champaign, Illinois.

WEDNESDAY ORAL PRESENTATIONS

May 14, 2008

Anasazi Ballroom

* Invited paper

SESSION I2: NSSA 2008 Prize Lectures and Fellows
Chair: Roger Pynn
Wednesday Morning, May 14, 2008
Anasazi Ballroom

8:30 AM *I2.1
Small-angle Neutron Scattering: Enabling Scientific and Technological Advances in Polymer Science and Engineering. Frank S Bates, Chem. Eng. and Mat. Sci., University of Minnesota, Minneapolis, Minnesota.

9:15 AM *I2.2
Fun Times at NCNR (NIST Center for Neutron Research). Seung-Hun Lee, University of Virginia, Charlottesville, Virginia.

10:00 AM INTRODUCTION OF NSSA FELLOWS

Pavilion Room

10:30 AM - 12:15 PM SEE POSTER PRESENTATIONS

12:15 PM LUNCH WITH POSTER AWARDS

1:00 PM *I2.3
Moving Forward: Building on the Legacy of IPNS. Gerry Lander, [1]Institut Laue-Langevin, Grenoble, France; [2]ITU, JRC, Karlsruhe, Germany.

Anasazi N Room

SESSION G3: Energy Generation and Storage
Chair: Don Brown
Wednesday Afternoon, May 14, 2008
Anasazi N Room

1:45 PM *G3.1
Application of Neutron Imaging to Investigation of Proton Exchange Membrane Fuel Cell Water Management. Thomas A. Trabold, Jon P. Owejan and Jeffrey J. Gagliardo; Fuel Cell Research Laboratory, General Motors, Honeoye Falls, New York.

2:15 PM G3.2
Development of the Neutron Phase Imaging System with Gratings at a Monochromatic Cold Neutron Beam Line. Seung Wook Lee[1,2], Daniel Hussey[1], David Jacobson[1], Cheul Muu Sim[2] and Muhammad Arif[1]; [1]National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Korea Atomic Energy Research Institute, Daejeon, South Korea.

2:30 PM G3.3
Neutron Reflectometry Study of Hydrogen Absorption and Desorption Properties of Thin MgAl Films. Helmut Fritzsche[1], Mouna Saoudi[1], Julian Haagsma[3,2], Colin Ophus[3,2], Erik Luber[3,2], Chris T. Harrower[3,2] and Dave Mitlin[3,2]; [1]Canadian Neutron Beam Centre, National Research Council Canada, Chalk River, Ontario, Canada; [2]NINT, National Research Council Canada, Edmonton, Alberta, Canada; [3]Chemical and Materials Engineering, University of Alberta, Edmonton, Alberta, Canada.

2:45 PM G3.4
Structural Studies of MIL-53, A Potential H2 Storage Material, As A Function of Temperature and Gas Loading. Jae-Hyuk Her[1,2], Yun Liu[1,2], Craig Brown[1], Dan Neumann[1] and Anne Dailly[3]; [1]NIST Center for Neutron Research, National Institute of Standard and Technology, Gaithersburg, Maryland; [2]Department of Materials and Engineering, University of Maryland, College Park, Maryland; [3]Chemical and Environmental Science Laboratory, General Motors Corporation, Warren, Michigan.

3:00 PM *G3.5
Neutron Diffraction Analysis of Irradiated Low-Enriched Uranium-Molybdenum Research Reactor Fuels. Kelly Conlon and D. Sears; Atomic Energy of Canada Ltd., Chalk River, Ontario, Canada.

3:30 PM BREAK

Anasazi S Room

SESSION F6: Exotic Magnetism
Chair: Ying Chen
Wednesday Afternoon, May 14, 2008
Anasazi S Room

1:45 PM F6.1
Neutron and X-ray Scattering Studies of Spin-Peierls-like Phase in ZnCr2O4. Sungdae Ji[1], Seunghun Lee[1], Collin Broholm[2], William Ratcliff[3], Sang-Wook Cheong[4] and Paul Zschack[5]; [1]Physics, University of Virginia, Charlottesville, Virginia; [2]Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland; [3]NIST Center for Neutron Research, Gaithersburg, Maryland; [4]Physics and Astronomy, Rutgers University, Piscataway, New Jersey; [5]Frederick-Seitz Materials Research Lab, University of Illinois at Urbana-Champaign, Piscataway, Illinois.

2:00 PM F6.2
Direct Measurement of Magnetic Excitations in the Spin Ladder Compound $(C_5H_{12}N)_2CuBr_4$. Andrei Savici[1], Garrett Granroth[2], Daniel M. Pajerowski[3], Collin Broholm[1], Craig M. Brown[4], Stephen E. Nagler[2], Daniel R. Talham[5] and Mark W. Meisel[3]; [1]Department of Physics and Astronomy, Johns Hopkins University, Baltimore, Maryland; [2]Neutron Scattering Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]Department of Physics, University of Florida, Gainesville, Florida; [4]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [5]Department of Chemistry, University of Florida, Gainesville, Florida.

2:15 PM *F6.3
Spin Polarons in the Singlet Ground State of the Doped Shastry Sutherland System SrCu(2-x)Mg(x)(BO3)2. Bruce D. Gaulin, Department of Physics and Astronomy, McMaster University, Hamilton, Ontario, Canada.

2:45 PM F6.4
Excitations in a Four-Leg Antiferromagnetic Heisenberg Spin Tube. Ovidiu Garlea[1], Andrey Zheludev[1], Louis-Pierre Regnault[2], Martin Boehm[3], Jae-ho Chung[4], Yiming Qiu[4], Klaus Habicht[5] and Michael Meissner[5]; [1]ORNL, Oak Ridge, Tennessee; [2]CEA, Grenoble,

France; [3]ILL, Grenoble, France; [4]NCNR, Gaithersburg, Maryland; [5]BENSC Hahn-Meitner Institut,, Berlin, Germany.

3:00 PM F6.5
Spinons, Itinerancy and Charge Transfer in Strongly Correlated Chain Cuprates. Igor Zaliznyak[1], Andrew Walters[2], Toby Perring[2], Andrei Savici[1], Genda Gu[1], Chi-Cheng Lee[1], Wei Ku[1] and Jean-Sebastien Caux[3]; [1]CMPMS, Brookhaven National Laboratory, Upton, New York; [2]ISIS Facility, Rutherford Appleton Laboratory, Chilton, Didcot OX11 0QX, United Kingdom; [3]Institute for Theoretical Physics, University of Amsterdam, Amsterdam, 1018 XE, Netherlands.

3:15 PM F6.6
Magnetodynamics of Heavy Fermion YbT2Zn20 (T=Co,Fe,Rh). A. D. Christianson[1], E. A. Goremychkin[2,3], Michael M. Koza[4], J. L. Zarestky[5], C. H. Wang[6], A. I. Kolesnikov[2], N. Ni[5], S. Jia[5], E. D. Mun[5], S. L. Bud'ko[5] and P. C. Canfield[5]; [1]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Argonne National Laboratory, Argonne, Illinois; [3]ISIS Facility, Rutherford Appleton Laboratory, Chilton, Didcot, United Kingdom; [4]Institut Laue-Langevin, Grenoble, France; [5]Ames Laboratory and Department of Physics, Iowa State University, Ames, Iowa; [6]University of California, Irvine, California.

3:30 PM BREAK

Sunset Room

SESSION A3: Instrument Concepts
Chair: Laurence Passell
Wednesday Afternoon, May 14, 2008
Sunset Room

1:45 PM *A3.1
IMAGINE – Neutron Laue Diffractometer at the High Flux Isotope Reactor. Flora Meilleur[1,2], Dean A Myles[3], Bryan C Chakoumakos[2], Christina Hoffmann[2], Chris A Tulk[2] and Leigthon Coates[2]; [1]Department of Structural and Molecular Biology, NCSU, Raleigh, North Carolina; [2]Neutron Scattering Science Division, ORNL, Oak Ridge, Tennessee; [3]Center for Structural Molecular Biology, ORNL, Oak Ridge, Tennessee.

2:15 PM A3.2
State of the SNS Backscattering Spectrometer, BASIS. Eugene Mamontov[1], Michaela Zamponi[2,1], Stephanie Hammons[1], Mark Hagen[1] and Kenneth Herwig[1]; [1]SNS/ORNL, Oak Ridge, Tennessee; [2]Julich Centre for Neutron Science, Garching, Germany.

2:30 PM A3.3
The New SANS Instrument at LENS. H. Kaiser, D. V. Baxter, D. Bossev, J. Fry, N. Remmes and P. E. Sokol; Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana.

2:45 PM A3.4
A Reactor Based White Beam Strain Scanner: Simulation and Experimental Progress on this Innovative 'Colourful' Approach to Steady State Neutron Diffraction. Aaron M. Percival[1], Ronald B. Rogge[2] and Lynann Clapham[1]; [1]Physics, Engineering Physics and Astronomy, Queen's University, Kingston, Ontario, Canada; [2]Canadian Neutron Beam Centre, Chalk River, Ontario, Canada.

3:00 PM A3.5
General-Purpose High-Flux SANS at Oak Ridge National Laboratory. Ken Littrell[1], Y. B Melnichenko[1], G. W Lynn[2,1], K. M. Atchley[1], G. D. Wignall[1], W. T. Heller[2], V. S. Urban[2], G. S. Smith[1] and D. A.A. Myles[2]; [1]HFIR/NSSD, Oak Ridge National lab, Oak Ridge, Tennessee; [2]Chemical Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

3:15 PM A3.6
Single Crystal Diffraction with Elastic Discrimination. John-Paul Castellan, Stephan Rosenkranz and Raymond Osborn; MSD, Argonne National Laboratory, Argonne, Illinois.

3:30 PM BREAK

Zia (A-C) Room

SESSION B2: Nanocomposites and Dynamics
Chair: Janna Maranas
Wednesday Afternoon, May 14, 2008
Zia (A-C) Room

1:45 PM *B2.1
Long and Short-range Dynamics in Polymer-C60 Nanocomposite Systems. Peter F Green[1] and Jamie Kropka[2]; [1]Materials Science and Engineering, The University of Michigan, Ann Arbor, Michigan; [2]Chemical Engineering, University of Texas at Austin, Austin, Texas.

2:15 PM *B2.2
Ultra-slow Particle Dynamics and Aging Effect on Segmental Mobility of Network Forming Polymer Nanocomposites. Sanat Kumar[1], Pinar Akcora[1], Brian Benicewicz[2], Pappannan Thiyagarajan[3], Suresh Narayanan[3], Linda S. Schadler[2] and Victoria Garcia-Sakai[4]; [1]Columbia University, New York, New York; [2]Rensselaer Polyechnic Institute, New York, New York; [3]Argonne National Laboratory, Argonne, Illinois; [4]ISIS Pulsed Neutron Source, Oxford, United Kingdom.

2:45 PM B2.3
Nanoparticle-directed Self-assembly of Block-copolymers: Measurement of 3D Order. Kevin Yager[1], Alamgir Karim[1] and Eric Amis[2]; [1]Polymers Division, NIST, Gaithersburg, Maryland; [2]Materials Science and Engineering Laboratory, NIST, Gaithersburg, Maryland.

3:00 PM B2.4
Neutrons - A versatile tool to study the Structural Dynamics of Polymeric Systems. Daniel M Andersson, [1]Materials Science & Engineering, University of Utah, Salt Lake City, Utah; [2]Applied Physics, Chalmers University of Technology, Göteborg, Sweden.

3:15 PM B2.5
Anomalous Diffusion in Short Chain Polymer Melts. Michaela Zamponi[1,2], Andreas Wischnewski[1], Michael Monkenbusch[1], Lutz Willner[1], Dieter Richter[1], Marina Guenza[3] and Bela Farago[4]; [1]Research Centre Juelich, Juelich, Germany; [2]Oak Ridge National Laboratory, Oak Rigde, Tennessee; [3]Unversity of Oregon, Eugene, Oregon; [4]Institut Laue-Langevin, Grenoble, France.

3:30 PM BREAK

WEDNESDAY POSTERS

May 14, 2008

10:30 AM - 12:15 PM

Pavilion Room

SESSION PA3:

PA3.1
FIRES: The Way Forward for IRIS. Franz Demmel[1] and Daniel M Andersson[2,3]; [1]ISIS, RAL, Science & Technology Facilities Council, Chilton, Didcot, United Kingdom; [2]Materials Science & Engineering, University of Utah, Salt Lake City, Utah; [3]Applied Physics, Chalmers University of Technology, Göteborg, Sweden.

PA3.2
Small Angle Neutron Scattering Development at Canadian Neutron Beam Centre (CNBC)– Chalk River Laboratory. Mu-Ping Nieh, Zahra Yamani, John Katsaras and Nobert Kucerka; Candian Neutron Beam Centre, NRC Canada, Chalk River, Ontario, Canada.

PA3.3
First Results from the New Supermirror Guide on HRPD at ISIS. Richard M Ibberson, Kevin S Knight, Laurent C Chapon and Paolo G Radaelli; ISIS Facility, Rutherford Appleton Laboratory, Didcot, United Kingdom.

PA3.4
Resolution of VISION, a Crystal-Analyzer Spectrometer. Philip A. Seeger[1], Luke L. Daemen[2] and John Z. Larese[3]; [1]Consultant, Los Alamos, New Mexico; [2]LANSCE, Los Alamos National Laboratory, Los Alamos, New Mexico; [3]Department of Chemistry, University of Tennessee, Knoxville, Tennessee.

PA3.5
Characterization of the Neutron Flux and Spectrum at the LENS SANS Beamline Using TOF and Gold Foil Activation. Measurements. J. Fry, N. Remmes, H. Kaiser, D. V. Baxter and P. E. Sokol; LOW ENERGY NEUTRON SOURCE and Department of Physics, Indiana University, Bloomington, Indiana.

PA3.6
Neutron Diffraction at a Low-Flux Source. Ronald R. Berliner, Doug DiJulio and Ayman Hawari; Nuclear Reactor Program and Department of Nuclear Engineering, North Carolina State University, Raleigh, North Carolina.

PA3.7
The New Very Small-Angle Neutron Scattering (VSANS) Diffractometer at NIST Center for Neutron Research. John George Barker, Charles Glinka, James Moyer, David Mildner, Boualem Hammouda and Paul Butler; Center for Neutron Research, NIST, Gaithersburg, Maryland.

PA3.8
Double-focusing Thermal Triple Axis Spectrometers at the NCNR. Jeff Lynn[1], Ying Chen[1,2], Jiying Li[1,2], Nick Maliszewskyj[1], Mike Murbach[1], Colin Wrenn[1] and Christoph Brocker[1]; [1]NCNR, NIST, Gaithersburg, Maryland; [2]Materials Science and Engineering, University of Maryland, College Park, Maryland.

PA3.9
The New Multi-Axis Crystal Spectrometer (MACS) at the NIST Center for Neutron Research. Jose Abelardo Rodriguez[1,2], D. M. Adler[2], P. C. Brand[2], C. B. Broholm[3,2], J. C. Cook[2], C. Brocker[2], R. Hammond[3], Z. Huang[2], P. Hundertmark[2], J. W. Lynn[2], N. C. Maliszewskyj[2], J. Moyer[2], J. Orndorff[3], D. Pierce[2], T. D. Pike[2], G. Scharfstein[3], S. A. Smee[3] and R. Vilaseca[2]; [1]Materials Science and Engineering, University of Maryland, College Park, Maryland; [2]NIST Center for Neutron Research, Gaithersburg, Maryland; [3]Department of Physics and Astronomy, The Johns Hopkins University, Baltimore, Maryland.

PA3.10
The Materials Diffractometer at NIST. Mark A Green, NIST Center for Neutron Research, Gaithersburg, Maryland.

PA3.11
The Cold Neutron Chopper Spectrometer at the Spallation Neutron Source – Status, Expected Performance, Scientific Possibilities. Georg Ehlers[1], Chrissi Schnell[1], Jennifer Niedziela[1], Scott Keener[1] and Paul Sokol[2]; [1]Spallation Neutron Source, Oak Ridge, Tennessee; [2]Physics Department, Indiana University, Bloomington, Indiana.

PA3.12
Update on SEQUOIA, the Fine Resolution Fermi Chopper Spectrometer at the SNS. Garrett Granroth[1], Todd E. Sherline[1], David H. Vandergriff[2] and Stephen E. Nagler[1]; [1]Neutron Scattering Sciences Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Neutron Facilities Development Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PA3.13
The POWGEN 3 Instrument at the Spallation Neutron Source: The Next Generation of Powder Diffractometers. Luke Heroux, Neutron Scattering Sciences Division, ORNL, Oak Ridge, Tennessee.

PA3.14
A Diffractometer Dedicated to High Pressure Studies at the SNS. Jamie Molaison, Antonio Moreira dos Santos, Christopher Tulk and Gene Ice; Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PA3.15
Commissioning ARCS at the SNS. Douglas L Abernathy[1], Mark J. Loguillo[1], Kevin M. Shaw[1], Matthew B. Stone[1] and Brent T. Fultz[2]; [1]Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Materials Science and Applied Physics, California Institute of Technology, Pasadena, California.

PA3.16
Update on TOPAZ – Single-Crystal Neutron Diffractometer at the SNS for ORNL. Christina Hoffmann[1], Matthew Frost[1], Jack Thomison[2], Mark Overbay[2], Larry Davis[2] and Alexandru Stoica[1]; [1]NSSD, ORNL, Oak Ridge, Tennessee; [2]NFDD, ORNL, Oak Ridge, Tennessee.

PA3.17
Better Nanoscience through Better Software: Powder Diffraction and Local Structure. Chris Farrow[2,1], Simon J. L. Billinge[2,1], Jacques Bloch[1], Emil Bozin[2,1], Dmitriy Bryndin[1], Pavol Juhas[2,1] and Jiwu Liu[1]; [1]Physics and Astronomy, Michigan State University, East Lansing, Michigan; [2]Applied Mathematics and Applied Physics, Columbia University, New York, New York.

PA3.18
Automated Sample Changer for the HIPPO Diffractometer. Sven C Vogel[1], Philip G. Bruch[1], Helmut M. Reiche[1] and James J. Wall[1,2]; [1]Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Electric Power Research Institute, Charlotte, North Carolina.

SESSION PB3:

PB3.1
Small Angle Neutron Scatteirng Study of Structure of Oligo(Ethylene Glycol) Grafted Polymers in Dilute Solutions. Gang Cheng[1], Yuri Melnichenko[1], Kunlun Hong[1] and Boualem Hammouda[2]; [1]ORNL, Oak ridge, Tennessee; [2]NCNR, NIST, Gaithersburg, Maryland.

PB3.2
The Effect of Substitution on the Structure and Thermodynamics of Cellulose Acetates. Mark D. Dadmun[1,2], Rujul Mehta[1], Gary Lynn[2], Joe Bozell[3], Timothy Rials[3] and David Harper[3]; [1]Chemistry, University of Tennessee, Knoxville, Tennessee; [2]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [3]Forest Products Center, University of Tennessee, Knoxville, Tennessee.

PB3.3
Dynamic Confinement of Poly(ethylene oxide) in a Blend with Poly(vinyl acetate). Madhu Sudan Tyagi, NIST Center for Neutron Research, Gaithersburg, Maryland.

PB3.4
Solid-state Phase Morphology of Biodegradable Biopolymers and Biopolymer Blends. Christopher Garvey[1], Peter Holden[1], John Foster[2], Robert Russell[1] and Vasyl Haramus[3]; [1]ANSTO, Menai, New South Wales, Australia; [2]School of Biotechnology and Biomolecular Sciences, University of New South Wales, Sydney, New South Wales, Australia; [3]Geesthacht Neutron Facility, , GKSS Research Centre, Geesthacht, Germany.

SESSION PD3:

PD3.1 Transferred to D2.2

PD3.2
Significance of the Fully Extended Conformation of Ceramide Molecules in the Nanostructure of Stratum Corneum - Change of Paradigm. Mikhail Alekseevich Kiselev, Frank Laboratory of Neutron Physics, Joint Institute for Nuclear Research, Dubna, Moscow region, Russian Federation.

PD3.3
Molecular Mechanism of Diphtheria Toxin Entry into Host Cells. Michael S. Kent[1], Jaclyn Murton[1], Duncan McGillivray[2], Frank Heinrich[3,4], Charles Majkrzak[4] and Mathias Lösche[3,4]; [1]Sandia National Labs, Albuquerque, New Mexico; [2]The Australian National University, Canberra, Australian Capital Territory, Australia; [3]Carnegie Mellon University, Pittsburgh, Pennsylvania; [4]NCNR, National Institutes of Standards and Technology, Gaithersburg, Maryland.

PD3.4
The Location of Cholesterol in Polyunsaturated Fatty Acid Membranes. Thad A. Harroun[1], Siewert J. Marrink[2], Alex H. de Vries[2], John Katsaras[3] and Stephen R. Wassall[4]; [1]Department of Physics, Brock University, St. Catharines, Ontario, Canada; [2]Groningen Biomolecular Sciences and Biotechnology Institute, University of Groningen, Groningen, Netherlands; [3]Canadian Neutron Beam Centre, National Research Council, Chalk River, Ontario, Canada; [4]Department of Physics, Indiana University-Purdue University Indianapolis, Indianapolis, Indiana.

PD3.5
Lipid Bilayer Structure Determined by the Simultaneous Analysis of Neutron and X-ray Scattering Data. Norbert Kucerka[1], John F Nagle[2], Jonathan N Sachs[3], Scott E Feller[4], Jeremy S Pencer[1], Andrew J Jackson[5] and John Katsaras[1]; [1]Canadian Neutron Beam Centre, National Research Council of Canada, Chalk River, Ontario, Canada; [2]Department of Physics, Carnegie Mellon University, Pittsburgh, Pennsylvania; [3]Biomedical Engineering, University of Minnesota, Minneapolis, Minnesota; [4]Department of Chemistry, Wabash College, Crawfordsville, Indiana; [5]NIST Center for Neutron Research, Gaithersburg, Maryland.

PD3.6
Conformational Changes of Gag HIV-1 on a Tethered Bilayer Measured by Neutron Reflectivity Provides Insights into Viral Particle Assembly. Hirsh Nanda[1], Siddhartha A.K. Datta[3], Frank Heinrich[2], Alan Rein[3] and Susan Krueger[1]; [1]NIST Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Department of Physics, Carnegie Mellon University, Pittsburgh, Pennsylvania; [3]HIV Drug Resistance Program, National Cancer Institute, Fredrick, Maryland.

SESSION PE3:

PE3.1
NPDF: A High-resolution Total Scattering Powder Diffractometer. Thomas Proffen and Hyunjeong Kim; Lujan Center, Los Alamos National Laboratory, Los Alamos, New Mexico.

PE3.2
Inelastic Neutron Scattering Studies, Neutron Diffraction and Solid State NMR studies of Perchloric Acid Dihydrate, $H_5O_2ClO_4$: Isotope Effects and Dispersion. Bruce S. Hudson[1], Nina Verdal[3.1], Anibal A. Ramirez-Cuesta[5], Gerard Harbison[2] and Ashfia Huq[4]; [1]Department of Chemistry, Syracuse University, Syracuse, New York; [2]Department of Chemistry, University of Nebraska, Lincoln, Nebraska; [3]IPNS, Argonne National Laboratory, Argonne, Illinois; [4]SNS, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [5]ISIS Facility, Rutherford Appleton Laboratory, Chilton, Oxfordshire, United Kingdom.

PE3.3
Transferred to E3.2

PE3.4
Abstract Withdrawn

PE3.5
Hydrogen Quantum States, Dynamics, and Nanoconfined Melting in Potassium Intercalated Graphite. James Brandon Keith, Justin Purewal, Channing Ahn, Jiao Lin, Michael McKerns and Brent Fultz; California Institute of Technology, Pasadena, California.

PE3.6
Novel Lanthanide Chloride – Methanol Adducts as Scintillators for γ-ray and Neutron Detectors. Bryan Chakoumakos, Radu Custelcean, J. O. Ramey, J. A. Kolopus, Rongying Jin, L. A. Boatner, J. S. Neal and D. J. Wisniewski; Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PE3.7
PDF Analysis of Ammonia Borane Nanocomposites in a Mesoporous Scaffold. Hyunjeong Kim[1], Thomas Proffen[1], Monika Hartl[1], Luke L. Daemen[1], Valeri Petkov[2], Ashley C. Stowe[3], Nancy J. Hess[4], Greg K. Schenter[4], Abhi Karkamkar[4] and Tom Autrey[4]; [1]Lujan Neutron Scattering Center, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Department of Physics, Central Michigan University, Mt. Pleasant, Michigan; [3]Technology Development Organization, National Security Complex, Oak Ridge, Tennessee; [4]Pacific Northwest National Laboratory, Richland, Washington.

PE3.8
An In-Situ Neutron Diffraction Study of the Phase Transformations in Polycrystalline Magnetic Shape Memory Alloy Ni49.2Mn29.6Ga21.1. Roxana Hutanu, Ian Swainson and Michael Gharghouri; National Research Council Canada, Canadian Neutron Beam Centre, Chalk River, Ontario, Canada.

PE3.9
Physical Properties of $(GeTe)_{85}(AgSbTe_2)_{15}$ Thermoelectric Materials. Claudia J. Rawn[1,2], Jeff W. Sharp[3], Alan Thompson[3], Bryan C. Chakoumakos[4] and Mark Green[5,6]; [1]Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Materials Science and Engineering, University of Tennessee, Knoxville, Tennessee; [3]Marlow Industries, Inc, Dallas, Texas; [4]Neutron Scattering Science Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [5]NIST Center for Neutron Research, National Institute for Standards and Technology, Gaithersburg, Maryland; [6]Materials Science and Engineering, University of Maryland, College Park, Maryland.

PE3.10
In-situ Neutron Powder Diffraction Study of Erbium Hydride Systems. Anna Llobet Megias[1], James F Browning[2,3], Mark A Rodriguez[3], Clark Snow[3] and Ryan Wixom[3]; [1]LANSCE- Lujan Center, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, Tennessee; [3]Sandia National Laboratories, Albuquerque, New Mexico.

PE3.11
Nanoscale Materials Chemistry: Studies of Confinement using Neutrons. S. Chanaa[1], Hangning Chen[1], P. Landry[1], A. Barbour[1], M. Felty[1] and J. Z. Larese[1,2]; [1]University of Tennessee, Knoxville, Tennessee; [2]Oak Ridge National Laboratory, Oak Ridge, Tennessee.

PE3.12
Dynamics of Hydrogen Adsorbed in THF-Ice Clathrate and HKUST-1. Frans Trouw[1], Kimberly Tait[1,4], Rebecca Stevens[1,2] and Craig Brown[3,5]; [1]Lujan Center, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Materials Science, California Institute of Technology, Pasadena, California; [3]Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [4]Department of Natural History, Royal Ontario Museum, Toronto, Ontario, Canada; [5]Indiana University Cyclotron Facility, Indiana University, Bloomington, Indiana.

PE3.13
In Situ Neutron Reflectometry Study of Erbium Deuteride Thin Films as a Function of Temperature and Pressure. Jim Browning[1], Ryan R. Wixom[2], Gregory S. Smith[1], Erik B. Watkins[3], Clark S. Snow[2] and Jarek Majewski[4]; [1]Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Sandia National Laboratories, Albuquerque, New Mexico; [3]University of California at Davis, Davis, California; [4]Los Alamos National Laboratory, Los Alamos, New Mexico.

PE3.14
Transferred to G2.2

PE3.15
Rotational and Torsional Dynamics in the Hydrazinium Halides by Inelastic and Quasi-elastic Neutron Scattering. Monika A Hartl[1], Alice I Acatrinei[1], Luke L Daemen[1], Guenter Muhrer[1], Max Roemer[4], Dieter Lentz[4], Juergen Eckert[3], Zunbeltz Izaola[2] and Margarita Russina[2]; [1]Lansce-LC, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]BENSC, HMI, Berlin, Germany; [3]Materials Research Laboratory, University of California, Santa Barbara, California; [4]Department of Chemistry and

Biochemistry, Freie Universitaet Berlin, Berlin, Germany.

PE3.16
Inelastic Neutron Scattering of Inorganic Hydrides as Hydrogen Storage Materials Using the Filter Difference Spectrometer at LANSCE. Alice I. Acatrinei[1], Monika A Hartl[1], Luke L Daemen[1], Thomas S Autrey[2], Ashley C Stowe[3] and Ragaiy Zidan[4]; [1]LANSCE-LC, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Molecular Interactions Group, Pacific Northwest National Laboratory, Richland, Washington; [3]BWXT Y-12, National Security Complex, Oak Ridge, Tennessee; [4]Energy Security Department, Savannah River National Laboratory, Aiken, North Carolina.

PE3.17
Re-examination of Structure of Tetrahydrofuran Aqueous Solution. He Cheng, [1]state key laboratory of polymer physics and chemistry, Institute of chemistry chinese academy of sciences, Beijing, China; [2]NIST center for neutron research, the institute of standard and technology, gaithersburg, Maryland.

SESSION PF3:

PF3.1
Bose-Einstein Coherence in Two Dimensional Superfluid Helium. Souleymane Diallo[1,2], Henry Glyde[2], Richard Azuah[3], Jonathan Pearce[4] and Jon Taylor[5]; [1]Ames Laboratory/Iowa State University, Ames, Iowa; [2]Physics and Astronomy, University of Delaware, Newark, Delaware; [3]NIST Center for Neutron Research, Gaithersburg, Maryland; [4]National Physical Laboratory, Teddington, United Kingdom; [5]ISIS Neutron Facility, Chilton, United Kingdom.

PF3.2
Quantum Phase Transition and a Bose Glass Phase in Nanoscale Liquid Helium. Henry Glyde[1], Jacques Bossy[2], Jonathan Pearce[3] and Helmut Schober[4]; [1]Physics and Astronomy, University of Delaware, Newark, Delaware; [2]Institut Nèel, CNRS-UJF, BP 166, 38042, Grenoble, France; [3]National Physical Laboratory, Hampton Road, TW11 0DL, Teddington, United Kingdom; [4]Institut Laue Langevin, 38042, Grenoble, France.

PF3.3
Studies of the Dynamics of Alkane Nanoparticles. Haskell Taub[1], Siao-Kwan Wang[1], Mengjun Bai[1], Maikel Rheinstadter[1], John Copley[2], Victoria Garcia Sakai[2], Goran Gasparovic[2], Timothy Jenkins[2], Pamela Soza[3], Ulrich Volkmann[3] and Flemming Yssing Hansen[4]; [1]Physics and Astronomy, University of Missouri, Columbia, Missouri; [2]Center for Neutron Research, National Institute of Science and Technology, Gaitersburg, Maryland; [3]Physics, P. Universidad Católica, Santiago, Chile; [4]Chemistry, Technical University of Denmark, Lyngby, DK-2800, Denmark.

PF3.4
Dynamic Singularity in Multicomponent Glass-forming Metallic Liquids. Mavila Chathoth Suresh, I. Physikalisches Institut, University of Goettingen, Goettingen, Neidersachen, Germany.

PF3.5
Determining the Phonon Density of States of Nanophosphors. Luiz G. Jacobsohn[1], Rebecca Stevens[2], Frans R Trouw[2], Matthias J Graff[3], Stephanie C Tornga[1], Bryan L Bennett[1] and Ross E Muenchausen[1]; [1]Materials Science & Technology Division, Los Alamos National Laboratory, Los Alamos, New Mexico; [2]Los Alamos Neutron Science Center, Los Alamos, New Mexico; [3]Theoretical Division, Los Alamos National Laboratory, Los Alamos, New Mexico.

PF3.6
Anomalous Phonon Stiffenings and Electron-Phonon Interaction in A15 V3X Compounds, a Study by Inelastic Neutron Scattering and First-Principles Simulations. Olivier Delaire, Matt Lucas, Max Kresch, Jiao Lin, Jorge Munoz and Brent Fultz; Materials Science, CALTECH, Pasadena, California.

PF3.7
Competing Interactions and Magnetic Order in [Er/Tb] Multilayers. Thomas Brueckel, Joerg Voigt, Emmanuel Kentzinger and Ulrich Ruecker; Institute for Solid State Research, Forschungszentrum Juelich GmbH, Juelich, Germany.

PF3.8
Determination of Complex Magnetic Profiles in an Asymmetric Fe/Gd Multilayer. Evgeny Kravtsov[1], Daniel Haskel[1], Suzanne G.E. te Velthuis[2], Yongseong Choi[2] and J. Samuel Jiang[2]; [1]Advanced Photon Source, Argonne National Laboratory, Argonne, Illinois; [2]Materials Science Division, Argonne National Laboratory, Argonne, Illinois.

PF3.9
Size Effect in the Spin Glass Magnetization of Thin AuFe Films as Studied by Polarized Neutron Reflectometry. Helmut Fritzsche[1], Mouna Saoudi[1], Gerard Nieuwenhuys[2,3] and Marcel Hesselberth[3]; [1]Canadian Neutron Beam Centre, National Research Council Canada, Chalk River, Ontario, Canada; [2]Research Department Condensed Matter Research with Neutrons and Muons, Paul-Scherrer-Institute, Villigen, Switzerland; [3]Kamerlingh Onnes Laboratory, Leiden Univeristy, Leiden, Netherlands.

PF3.10
Generalized Density of States for Confined Molecular Oxygen from Inelastic Neutron Scattering. D. Kilburn and P. E. Sokol; Low Energy Neutron Source and Department of Physics, Indiana University, Bloomington, Indiana.

PF3.11
The Study of Molecular Dynamics Changes that Accompany the Phase Transition Processes in Molecular in Solids by Incoherent Neutron Scattering. Vasile B. Tripadus, Dorina Aranghel and Mihai Statescu; Departament of Nuclear Physics (DFN-Tandem), National Institute of Physics and Nuclear Engineering, Bucharest, Romania.

PF3.12
Measurement of the Depth Dependent Anisotropy Field in Co/Pd Graded Media. Shannon Watson[1], Joe Davies[2], Brian Kirby[1], Julie Borchers[1], Kai Liu[3] and Gergely Zimanyi[3]; [1]Center for Neutron Research, National Institute of Standards and Technology, Gaithersburg, Maryland; [2]Metallurgy, National Institute of Standards and Technology, Gaithersburg, Maryland; [3]Physics, University of California - Davis, Davis, California.

PF3.13
Local Structure Effects in ReO_3 and $CuIr_2S_4$ From Atomic Pair Distribution Function (PDF) Analysis. Emil Bozin[1], John L Provis[2], Tapan Chatterji[3], Henry E Fischer[3], Ahmad S Masadeh[1], John F Mitchell[4] and Simon JL Billinge[1]; [1]Department of Physics and Astronomy, Michigan State University, East Lansing, Michigan; [2]Department of Chemical and Biomolecular Engineering, The University of Melbourne, Melbourne, Victoria, Australia; [3]Institut Laue-Langevin, Grenoble, France; [4]Material Science Division, Argonne National Laboratory, Argonne, Illinois.

PF3.14
Phonons and Negative Thermal Expansion in Cuprite. Mark Edward Hagen[1] and Stephen M Shapiro[2]; [1]Spallation Neutron Source, Oak Ridge National Laboratory, Oak Ridge, Tennessee; [2]Dept. of Condensed Matter Physics and Materials Science, Brookhaven National Laboratory, Upton, New York.

SESSION PG3:

PG3.1
Investigation of the Crystallographic Structure of the ϵ Phase in the Fe-Al System by High-Temperature Neutron Diffraction. Sven C Vogel[1], M. Eumann[2], M. Palm[3] and F. Stein[3]; [1]Los Alamos National Laboratory, Los Alamos, New Mexico; [2]MADAUS AG, Cologne, Germany; [3]MPI fur Eisenforschung GmbH, Duesseldorf, Germany.

PG3.2
Quantitative Texture Analysis of Metals, Polymers and Rocks by Neutron Diffraction. Stanislav —– Vratislav, Maja Dlouha and Ladislav Kalvoda; Solid State Engineering, Czech Technical University in Prague, Prague 1, Prague, Czech Republic.

PG3.3
Following the Evolution of Retained Austenite in TRIP Steels by In-Situ Neutron Diffraction. Alison F Mark[1], E. Essadiqi[2], M. A. Gharghouri[3] and J. D. Boyd[1]; [1]Mechanical and Materials Engineering, Queen's University, Kingston, Ontario, Canada; [2]Materials Technology Laboratories, CANMET, Ottawa, Ontario, Canada; [3]Canadian Neutron Beam Centre, National Research Council of Canada, Chalk River, Ontario, Canada.

PG3.4
Elastic Strain in Bulk Metallic Glasses: How to Understand In-situ Diffraction Data. Alexandru Stoica, Dong Ma and Xun-Li Wang; NSSD, ORNL, Knoxville, Tennessee.

SESSION: European Spallation Source

ESS-1
Hungary for ESS. F. Mezei, T. Kun, L. Rosta; ESS Hungary Company.