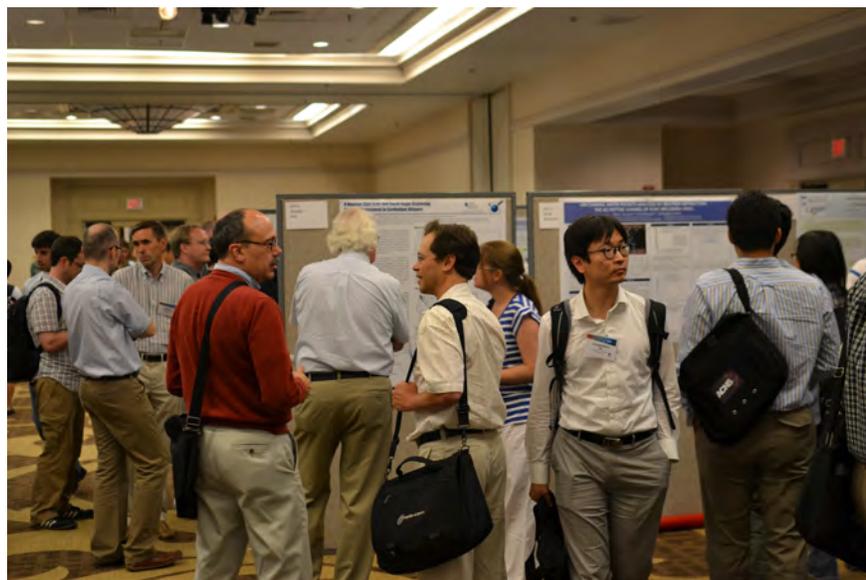


2012 American Conference on Neutron Scattering (ACNS 2012)

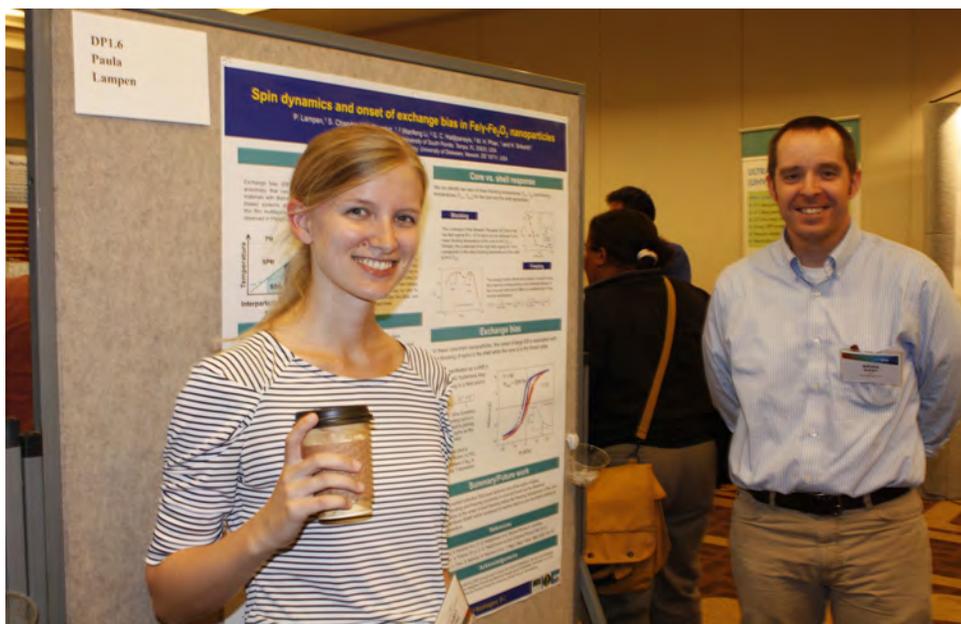
The Conference was held June 24-28 at Georgetown University, along the scenic Potomac River and near the historic Georgetown section of Washington, District of Columbia, close to downtown and adjacent to the famous Chesapeake and Ohio Canal (a National Historic Park). This 6th conference in the series was sponsored by the Neutron Scattering Society of America (NSSA) and hosted by the Center for Neutron Research at the National Institute of Standards and Technology (NIST). By all measures, the meeting can be judged an overwhelming success with more than 380 enthusiastic people in attendance and a notably interesting set of lectures and poster sessions (more than 325 in total) which covered the principle topics of biology, hard and soft condensed matter, chemistry, neutron physics, energy and engineering applications, as well as sources, instrumentation and software. The diversity of scientific disciplines covered attests to the current breadth of applications of neutron scattering studies. (Conference program details, including abstracts of presentations, can be found on line at www.mrs.org/acns-2012 and www.neutronsattering.org.) The success of the Conference was due in large part to the efforts of the organizing committee (chair Julie Borchers and NSSA president Bruce Gaulin), the program committee (co-chairs Nitash Balsara and Stephan Rosenkranz), the local organizing committee (chair Susan Krueger), Materials Research Society conference coordinators (Jackie Mancheas, Debbie Kriss, and Donna Waterson), and also the generous support of: the Neutron Sciences Directorate at Oak Ridge National Laboratory, the Lujan Neutron Scattering Center at Los Alamos National Laboratory, the NIST Center for Neutron Research (NCNR), the National Research Council Canadian Neutron Beam Centre, and the United States Department of Energy, Office of Basic Energy Sciences. Exhibitors from national facilities as well as commercial manufacturers of relevant equipment were represented at the ACNS and provided information about services and products. The commercial vendors included Advanced Design Consulting, Blake Industries, Cryogenic Limited, General Electric Energy (Reuter Stokes), Janis Research Company, the Kurt J. Lesker Company, and Springer publishers.



All three poster sessions at the Conference were very heavily attended and a lot of interesting discussion was generated. It is remarkable that neutron scattering methods continue to find an expanding number of applications in a broad range of scientific areas.

On the Sunday preceding the main program of the Conference, a couple of tutorial sessions were organized. The first dealt with advances in time-of-flight powder diffraction and was chaired by Thomas Proffen of Oak Ridge National Laboratory. The second tutorial focused on novel techniques for small angle neutron scattering and was chaired by Kathryn Krycka of the NIST Center for Neutron Research.

In addition to the scientific program, several awards were presented at the Conference by the NNSA. Guangyong Xu of Brookhaven National Laboratory, Robert J. Birgeneau of the University of California, Berkeley, and Gian Piero Felcher of Argonne National Laboratory, were presented with the Science Prize, Shull Prize, and Sustained Research Prize, respectively. Claire White of Los Alamos National Laboratory received the Outstanding Student Research Prize. More details on these awards are given in an article in Volume 23, Number 2 (April, May, June 2012) of *Neutron News*. In dedicated sessions, the prize recipients presented lectures about the work for which they had been recognized, except for Gian Felcher who was not able to attend. In his place, Suzanne te Velthuis made a presentation on his behalf. Robert Birgeneau spoke about structural, magnetic, and superconducting transitions in the iron pnictides and chalcogenides while Guangyong Xu described studies probing local polar structures in relaxor ferroelectrics using both neutron and x-ray scattering methods. Suzanne te Velthuis summarized some of Gian Felcher's groundbreaking work on probing surfaces and interfaces with neutron reflectometry. Finally, Claire White talked about recent progress in elucidating accurate structural representations of disordered complex materials. Besides the aforementioned prizes, nine new Fellows of the NNSA were announced, in acknowledgment of their outstanding contributions to neutron scattering and the North American neutron scattering community -- Julie Borchers, Robert Cava, Charles Glinka, Eric Kaler, Roger Pynn, Steven Shapiro, Gregory Smith, Haskell Taub, and Samuel Werner. Congratulations to all of them for this well-deserved recognition.



Paula Lampen of the University of South Florida and Brian Kirby of NIST in the midst of discussing magnetic nanoparticles at one of the popular poster sessions.

At the Conference Banquet on Tuesday evening, two interesting and inspiring talks were presented. The first was given by Sam Werner about the founding of the NSSA, 20 years earlier. He conveyed a sense of the history of the organization, how its membership has increased substantially over the years, and the degree to which it has evolved to become an important proponent of neutron scattering research within the larger scientific community. The second talk was given by Robert Shull, a distinguished senior scientist and Fellow at NIST, who also happens to be the son of Nobel Laureate and pioneering neutron scatterer, the late Clifford Shull. Robert Shull recounted some of the extraordinary science that his father performed with neutrons which ultimately led to, along with the contributions of other early pioneers in the field such as Bert Brockhouse, the establishment of neutron scattering research as an indispensable microscopic probe of condensed matter. Along the way, Dr. Shull also gave us a glimpse of the personal life and times of this great scientist and founding father of our field.

It should also be mentioned that in addition to the well-received invited and contributed oral presentations, as well as the three immensely popular poster sessions, several excellent plenary talks were given. Timothy Lodge of the University of Minnesota spoke about the dynamics of chain exchange in block copolymer micelles and Leon Balents of the University of California, Santa Barbara, talked about quantum spin liquids. From the US Office of Science and Technology Policy, Altaf Carim gave a presentation on federal science and technology policy and initiatives together with the anticipated budget for fiscal year 2013. To complete the series of lectures, Yasuhiko Fujii, gave a very informative talk on the activities of the Asia-Oceania Neutron Scattering Association (AONSA) in his role as president of the organization.



Conference participants join staff members for a tour of the NCNR facility. In the photo above, one of the 5 new guides being installed in the expanded experimental hall is shown in the foreground.

In addition to the Plenary Sessions each morning, the conference featured four parallel oral sessions during each day followed by a poster session in the late afternoon or evening. The oral sessions were well attended and included invited and contributed talks focused on topics such as “Complex Fluids and Gels” and “Lattice Dynamics.” Invited talks ranged from an overview of the structural properties of organogels using rheology, dielectric spectroscopy and Small Angle Neutron Scattering by Danilo Pozzo (University of Washington) to a description of the high-field scattering magnet developments at the National High Magnetic Field Laboratory by Mark Bird. The superconductivity session chaired by Dr. Robert Birgeneau, Shull Prize winner, was particularly dynamic and featured an invited talk by Daniel Pratt (University of Iowa/NIST) on long range magnetic order and excitations in CaFe_2As_2 .

The Conference culminated on Thursday with a tour of the NIST Center for Neutron Research in Gaithersburg, MD. Visitors were able to see first hand the newly completed guide hall of the NCNR expansion project. After approximately a year-long shut down for this construction, the facility is back up and running as the new guides and instruments are in the process of being installed.

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