

Prof. Frank Bates

is the recipient of the

2008 Sustained Research Prize

of the Neutron Scattering Society of America with the citation:

“For his pioneering SANS experiments that probe the structure and thermodynamics of polymeric fluids and block copolymers.”

The Neutron Scattering Society of America (NSSA) established the Sustained Research Prize to recognize a *sustained contribution* to a scientific subfield, or subfields, using neutron scattering techniques, or a sustained contribution to the development of neutron scattering techniques. The primary consideration shall be an enduring impact on science. Preference shall be given to applicants whose work was carried out predominantly in North America.

The nominations were reviewed by a committee of experts in the fields to which neutron scattering contributes and the NSSA is pleased to announce that the 2006 recipient of the Sustained Research Prize is **Prof. Frank Bates** of the University of Minnesota. The prize and a \$2,500 honorarium will be awarded at the 2008 ACNS May 11-15 in Santa Fe, NM (www.lansce.lanl.gov/acns2008/).



Prof. Frank Bates

Over the past 25 years Prof. Bates has established himself as a world leader in soft condensed matter, and in particular, as the most innovative practitioner of small angle neutron scattering studies of polymers in the US. As a young scientist, he first showed that the interactions between otherwise identical deuterium-labeled and unlabeled polymer chains, were strong enough for phase separation. This work has provided insight into the nature of subtle intermolecular interactions. He and his collaborators pioneered the use of neutrons to study polymers under flow. He demonstrated that shearing a disordered block copolymer led to a beautifully aligned lamellar phase that disappeared when the shearing stopped, which shed new light on the coupling between fluctuations and external fields. A common thread of Bates' research over the years was to use polymeric materials as test beds for studying a wide variety of critical phenomena encompassing critical scaling, Lifschitz points, order-disorder transitions, and universality classification.

Prof. Bates is currently Regents Professor and Head of the Chemical Engineering and Materials Science at the University of Minnesota, where he has been since 1989. Among many honors he has won the APS Dillon Prize (1989) and Polymer Prize (1997), been elected to the National Academy of Engineering (2002), Materials Research Society's David Turnbull

Lectureship (2004) and Fellowship of the AAAS (2005). His service to the neutron scattering community is exemplified by serving as Chairman of the National Steering Group for the Advanced Neutron Source and as President of NSSA (1996-1999).

Prof. Seung-Hun Lee

is the recipient of the

2008 Science Prize

of the Neutron Scattering Society of America with the citation:

“For his innovative and insightful neutron scattering studies of frustrated magnetic systems”

The Neutron Scattering Society of America (NSSA) established the Science Prize to recognize *a major scientific accomplishment or important scientific contribution within the last 5 years* using neutron scattering techniques. Nominees must be within 12 years of receiving their PhD degree. Preference shall be given to applicants whose work was carried out predominantly in North America.

The nominations were reviewed by a committee of experts in the scientific areas to which neutron scattering contributes, and the NSSA is pleased to announce that the 2006 recipient of the Science Prize is **Prof. Seung-Hun Lee** of the University of Virginia. The prize and a \$2,500 honorarium will be awarded at the 2008 ACNS May 11-15 in Santa Fe, NM (www.lansce.lanl.gov/acns2008/).



Prof. Seung-Hun Lee

Frustrated systems are ubiquitous and interesting because their behavior is difficult to predict; frustration can lead to macroscopic degeneracies and qualitatively new states of matter. Magnetic systems offer good examples in the form of spin lattices, where all interactions between spins cannot be simultaneously satisfied. Consequently, long-range order in such systems may be impossible and the system may remain in a spin liquid state at all temperature. Prof. Lee made important contributions to understanding the disordered spin liquid state by using inelastic neutron scattering to study the frustrated magnet ZrCr_2O_4 where semi-classical ($S=3/2$) spins form the most frustrating lattice: a network of corner-sharing tetrahedra. Lee and his co-workers developed a model that explained their data in terms of a hidden order in the spin-liquid phase. As the system cools, the spins self-organize into groups of six, forming anti-ferromagnetic hexagonal rings. Their results identified for the first time a fundamental composite-spin degree of freedom in the spin-liquid phase that embodies the zero-energy modes that govern the low energy dynamics.

Prof. Lee is currently an Associate Professor of Physics at the University of Virginia. Prior to this position he spent nearly 10 years at the NIST Center for Neutron Research. His outstanding scientific contributions were previously recognized by the NIST Chapter of Sigma Xi, which awarded him its Outstanding Young Investigator Award in 2004, and in 2002, his being awarded the Outstanding Young Researcher Award by the Association of Korean Physicists in America.