What Can You Do With Neutrons?

A Workshop to Introduce Neutron Scattering Techniques to the Novice
May 19-20, 2011, Oak Ridge National Laboratory

Clifford Shull and Bertram N. Brockhouse were awarded the 1994 Nobel Prize in Physics "*for pioneering contributions to the development of neutron scattering techniques*." Today neutron scattering is a powerful suite of scientific tools for determining atomic and spin structure and dynamics and is widely used in condensed matter physics, materials science, materials chemistry, polymer science, biological sciences, and engineering. Neutron scattering experiments can be completed at a number of facilities spanning the globe, including the Spallation Neutron Source (SNS) and High Flux Isotope Reactor (HFIR) at Oak Ridge National Laboratory (ORNL). Today the number of active neutron users in Europe outnumbers those that are active in the US, therefore there is a need to increase the number of neutron scattering users in the US to take advantage of the rapid growth in the capacity at the neutron scattering facilities in the US.

To address this challenge a Workshop will be held May 19 and 20 at Oak Ridge National Laboratory in the Joint Institute for Neutron Sciences. ***The goal of this workshop is to introduce the capabilities and opportunities of neutron scattering techniques to scientists with little or no neutron scattering experience.***

The meeting is designed to educate scientists interested in using neutron scattering in their research by:

- Presenting examples of scientific problems that have been solved by neutrons in determining hard and soft matter structure and dynamics
- Discussing the SNS and HFIR facilities and capabilities
- Detailing the process of writing a proposal to obtain neutron scattering time
- Elucidating the process of planning and executing an experiment
- Providing tours of SNS and HFIR

Breakout sessions will be held to allow one-on-one discussions of workshop participants with ORNL Instrument Scientists to identify how neutrons can be used to solve participants' scientific problems. These sessions will also include extensive panel discussions, with the goal of allowing all participants an opportunity to explore how they might apply neutron methods to address the challenges in their research. By the end of the Workshop, the attendees should have the vision and knowledge to prepare their own beamline proposal for performing experiments at the HFIR, SNS or other neutron facilities.

For more information, see the Web site at: http://neutrons.ornl.gov/conf/Workshop_May2011/
or contact Hope Moore-Webb, Oak Ridge TN 865.576-8630; hmoore2@utk.edu

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