Materials Research Society

Hynes Convention Center and Sheraton Boston Hotel
Boston, Massachusetts, November 26-30, 2001

Special MRS Symposium, Thursday, November 29, 2001
Fairfax A, Sheraton Boston Hotel

Symposium on Emerging Applications of Neutron Scattering In Materials Science and Engineering Research

Symposium Organizers:

Linda Horton, Oak Ridge National Laboratory
Andrew Quong, Lawrence Livermore National Laboratory
Xun-Li Wang, Spallation Neutron Source, Oak Ridge National Laboratory
Jim Rhyne, Neutron Scattering Society of America and University of Missouri

This special one-day symposium will present a series of invited presentations on recent examples of fundamental materials research that involves neutron characterization. Neutrons are an exceptional probe of matter, due to a combination of fundamental characteristics including their penetrating power, sensitivity to light elements, and magnetic moment. The symposium will feature discussion of emerging applications of neutron scattering that will be made possible with recent upgrades of neutron sources and facilities under construction. A panel discussion, including sponsors of research that incorporates neutron characterization, will conclude the symposium. In addition, the symposium will promote interactions among neutron and materials scientists that will form the foundation for joint research ventures.

8:30 **Thomas E. Mason, Keynote Speaker**
Spallation Neutron Source, Oak Ridge National Laboratory
Future Applications of Neutron Scattering in Materials Science and Engineering

9:00 **Gabrielle Long, National Institute of Standards and Technology**
Small-Angle Neutron Scattering Studies of Anisotropic Ceramic Materials

9:25 **Doug Lowndes, Oak Ridge National Laboratory**
Opportunities for Nanoscience Research using Neutrons

9:50 **Break**

10:30 **Philip J. Withers, University of Manchester**
Insights into Materials Engineering by Neutron Diffraction

10:55 **Ersan Ustundag, California Institute of Technology**
Use of Neutron Diffraction in Engineering Science

11:20 **Dimitri Argyriou, Argonne National Laboratory**
New Science from Old Materials: The Role of Neutron Scattering in Understanding CMR

11:45 **Lunch**

1:30 **TBD**
Neutron Scattering Studies of Polymers

1:55 **Herb Mook, Oak Ridge National Laboratory**
Neutron Scattering Studies of $YBa_2Cu_3O_{6+x}$ Superconductors

2:20 **Bruce D. Gaulin, McMaster University**
Neutron Scattering from Exotic Magnetic Ground States

3:00 **Panel Discussion**