Postdoctoral Research Associate in Neutron Scattering

Neutron Scattering Sciences Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee

ORNL10–34–NSSD

Project Description:
The Neutron Scattering Sciences Division (NSSD) of Oak Ridge National Laboratory (ORNL) (http://www.ornl.gov) operates two of the brightest neutron sources in the world, the Spallation Neutron Source (SNS) and the High Flux Isotope Reactor (HFIR), for basic and applied research in a broad array of disciplines including physics, chemistry, materials science and biology. SNS and HFIR are home to a group of scientists and a suite of instruments dedicated to the study of materials science and engineering.

Responsibilities:
The Powder Diffraction Group in NSSD has several opportunities for postdoctoral research. Specific areas of interest include the following:

1. Phase transformation and deformation behavior in high-strength steel
2. Structure, thermal stability, and deformation of nano structured ferritic alloys
3. Texture and dynamic recrystallization of Mg alloys
4. In-situ neutron scattering measurement of transient phenomena

Each candidate will be part of an interdisciplinary research team involving scientists in several divisions at Oak Ridge National Laboratory, primarily Materials Science and Technology Division and Computer Science and Mathematics Division. The research will utilize the VULCAN diffractometer at the Spallation Neutron Source as a primary research tool, although there will be complementary experiments involving synchrotron scattering and microscopy. In commissioning as of summer 2009, VULCAN is a world-class engineering diffractometer designed to tackle a broad range of problems in materials science and engineering, including stress mapping in structural components, in-situ deformation studies, transient behaviors during synthesis and processing, and the kinetics of multi-length scale phase transformations.

Qualifications:
A Ph.D. in materials science, physics, mechanical engineering, or related fields is required. Preference will be given to candidates with experience in neutron or synchrotron scattering techniques (e.g., diffraction or small angle scattering). Strong written and oral communications skills are desirable. The candidate must be willing to work in a team environment on technically and scientifically challenging problems. These positions are available immediately. Applications will be accepted until the positions are filled. Applicants cannot have received the most recent degree more than five years prior to the date of application appointment and must complete all degree requirements before starting their appointment.

Technical Questions:
Questions regarding the position can be directed to Dr. Xun-Li Wang at wangxl@ornl.gov. Please include the requisition number and title when corresponding.

How to Apply:
Qualified applicants must apply online at https://www2.orau.gov/ORNL_POST/. All applicants will need to register before they can begin the online application. For complete instructions, on how to apply, please see the instructions at http://www.orau.gov/orise/edu/ornl/ornl-pdpm/application.htm.

This appointment is offered through the ORNL Postgraduate Research Participation Program and is administered by the Oak Ridge Institute for Science and Education (ORISE). The program is open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.