

**Neutron Scattering Instrument Scientist, Engineering Diffraction
Neutron Scattering Science Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee**

ORNL09-132-NSSD

Project Description:

The Neutron Sciences Directorate at Oak Ridge National Laboratory (ORNL) invites applications for the position of Neutron Scattering Instrument Scientist, Engineering Diffraction. With the world's highest flux reactor-based neutron source (the High Flux Isotope Reactor) and the world's most intense pulsed accelerator-based neutron source (the Spallation Neutron Source), ORNL has become the world's foremost center for neutron science. Research at these facilities will encompass the physical, chemical, materials, biological, and medical sciences and will provide opportunities for up to 2000 researchers each year from industry, research facilities, and universities all over the world. To learn more about Neutron Sciences at ORNL go to: <http://neutrons.ornl.gov>.

The position is part of the Neutron Science Career Development Program. This program is designed to provide an environment in which early-career scientists and technicians can be a part of innovative concepts for neutron-related instrumentation, while helping end users develop proposals, conduct experiments, and analyze data. The position is for a 3-year appointment that can be renewed for up to 2 additional years with opportunity for full-time employment at ORNL. More information about the Neutron Science Career Development Program can be found at www.ornl.gov/ornl/neutrons

Responsibilities:

The successful candidate will be a team member to provide operational support for the new VULCAN diffractometer at the Spallation Neutron Source and to develop a vigorous scientific program associated with the instrument. Entered into commissioning on June 26, 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.

Major duties and responsibilities:

- Will join the existing team of scientific staff to provide user support for VULCAN. This will include helping users to develop user proposal, conduct experiments, and analyze data
- Will maintain the instrument and coordinate with support groups to make sure that the instrument is ready for each user experiment
- Will work with VULCAN team and other research groups at ORNL to conduct world leading research using VULCAN and related instruments at ORNL
- Will work with the VULCAN team to conceive, plan, and execute upgrades of the instrument. This will include both hardware and software
- Will take part in development of new methods for making engineering diffraction measurements and interpretation of the data

- Will ensure compliance with environmental, safety, health, and quality program requirements including ISMS
- Will maintain a strong commitment to the implementation and perpetuation of laboratory and ethics

Qualifications:

A Ph.D. plus postdoctoral experience in materials science, physics, mechanical engineering, or related fields, or equivalent combination of training and experience, is required. Preference will be given to candidates with strong background in neutron or synchrotron scattering. Strong written and oral communications skills and the desire to work in a team environment on technically and scientifically challenging problems are desirable. This position is available immediately. Applications will be accepted until the position is filled. Formal review of the applications will start November 2.

Applicants cannot have received the most recent degree more than five years prior to the date of application and must complete all degree requirements before starting their appointment.

How to Apply:

Qualified applicants must apply online at https://www2.ornl.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.ornl.gov/orise/edu/ornl/ornl-pdpm/application.htm>. When applying for this position, please reference the position title and number.

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.