

Postdoctoral Research Associate in Fuel Cells, Batteries and Neutron Scattering
Chemical Sciences Division
Oak Ridge National Laboratory
Oak Ridge, Tennessee

ORNL10-08-CSD

Project Description:

In situ neutron scattering studies under conditions that simulate the dynamic fuel cell operating environment can provide information such as structure; defect location, concentration and ordering; phase transitions as a function of chemical composition, temperature and oxygen partial pressure; phase separation and decomposition; phase behavior in in situ dynamic ion-conducting environments; vibration and diffusion properties of mobile species.

ORNL is seeking a postdoctoral researcher to study a variety of solid oxide fuel cell and battery materials using a combination of materials synthesis and in situ powder neutron diffraction and inelastic scattering. Responsibilities include synthesis and perform in-situ neutron diffraction studies of fuel cell and battery materials, and use the system to study these materials using neutron powder diffraction and other scattering techniques. Reports to the Materials Chemistry Group, Chemical Sciences Division and instrument scientist of POWGEN, (powder diffractometer at the Spallation Neutron Source). Materials Chemistry Group is also engaged in research related to synthesis of nanoparticles and nanostructures and also the growth of epitaxial films using sol-gel processing for high temperature superconductor wires. The successful candidates will join an interdisciplinary research team with expertise in thin film growth, materials chemistry, inorganic materials, fuel cell, battery, neutron science and photovoltaics.

Qualifications:

Candidates with a recent Ph.D. in Chemistry, Materials Science, Physics, or related fields will be considered. Expertise in synthesis of bulk, nanoparticles, nanocomposites and thin film based fuel cell and battery materials and characterization using x-ray/neutron scattering and microscopy related techniques are desirable. The candidate is expected to publish research results in scientific journals, maintain a strong commitment to the implementation and perpetuation of values and ethics and ensure compliance with environmental, safety, health and quality program requirements. Strong written and oral communication skills and the desire to work in a team environment on scientifically challenging problems are required.

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.

Technical Questions:

Questions regarding the position can be directed to M. Parans Paranthaman at paranthamanm@ornl.gov. Please include the requisition number and title when corresponding.

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>. 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.