

Postdoctoral Research Associate in Experimental Research in Surface Chemistry

**Chemical Sciences Division
Physical Sciences Directorate
Oak Ridge National Laboratory
Oak Ridge, Tennessee**

ORNL08-109-CSD

Project Description:

The Surface Chemistry and Heterogeneous Catalysis Group of the Chemical Sciences Division at Oak Ridge National Laboratory is seeking a post-doctoral associate to work on a research project in surface chemistry of metal and oxide surfaces. The candidate will perform fundamental experimental research on the surface chemistry of model catalysts, especially studies of the adsorption, interaction and reaction of small molecules on model catalytic surfaces. Experiments will focus on the use of synchrotron based methods, especially soft x-ray photoelectron spectroscopy (sXPS) and x-ray absorption spectroscopy (NEXAFS) for the study of surfaces fabricated and controlled in an ultra-high vacuum (UHV) environment. The research approach will entail *in vacuo* preparation of, and metal growth on, highly oriented oxide surfaces, and studies of the surface chemistry of redox reactions occurring on these surfaces. The work will be complemented by collaborations and interactions with others in the group who are working on other UHV based surface chemistry experiments utilizing reflection absorption infra-red spectroscopy (RAIRS), temperature programmed desorption (TPD), conventional x-ray photoelectron spectroscopy, scanned probe microscopy and computational modeling of related surfaces. The candidate will work at the National Synchrotron Light Source on the experimental end station at beamline U-12a with occasional extended visits to Oak Ridge National Laboratory. In addition to the core research, the candidate will also collaborate with and assist external Users of the beamline end station and will assist with maintenance, reporting, ES&H and other incidental duties associated with the beamline.

Qualifications:

Candidates must have a PhD in physical chemistry or a closely related field. This position requires a strong experimentalist with demonstrated experience in UHV-based techniques as a minimum. Experience with synchrotron based science is highly desirable. The candidate should be a self-starter, able to work independently and able to participate creatively in refining program directions. Presentations at national meetings and publication of scientific results in peer-reviewed journals are expected. The candidate must have good oral and written communication skills, and be able to interact effectively with a broad range of colleagues. 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.

How to Apply:

Qualified applicants may 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 Postdoctoral Research Associates Program and is administered by Oak Ridge Associated Universities (ORAU). This appointment 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.