



Postdoctoral Research Associate Position
Ultrahigh Vacuum Scanning Force Microscopy
Center for Nanophase Materials Sciences, Oak Ridge National Laboratory

ORNL11-48-CNMS

Project Description

The Center for Nanophase Materials Sciences (CNMS) at Oak Ridge National Laboratory (ORNL) is seeking to fill a postdoctoral position in the field of scanning probe microscopy. The applicant will conduct research on the functionality of energy materials at the atomic scale, including thermoelectric semiconductors, correlated electron oxides, ionic conductors and molecular films. The primary experimental technique is an ultra-high vacuum (UHV) cryogenic Scanning Force Microscope, combining tunneling microscopy with quartz resonator-based force-feedback mechanism, and allowing operations down to 2K and in the magnetic field up to 3T. The combined methodologies of force-tunneling and force-dissipation measurements will be employed, coupled with advanced spectroscopy and atomic manipulation. The program will have a strong component of innovative technique development. The [CNMS](#) is a collaborative nanoscience user research facility established by the Office of Science, U.S. Department of Energy.

Qualifications

This position requires a Ph.D. in condensed matter physics, surface science, chemical physics or a related field. The successful applicant must have prior background in ultra-high vacuum operations. Strong background in scanning probe microscopy with atomic resolution and technique development/instrument design is preferred. Familiarity with numerical data analysis and customization of control software is a plus (Labview, Matlab). Prior research work needs to be supported by a strong record of publications in peer-reviewed journals, preferably as a senior author, and presentations at scientific conferences. The applicant should be motivated, safety conscious and possess excellent oral and written communication skills. The applicant must have the ability to work in a team, interact effectively with colleagues and external collaborators. Demonstrated ability to communicate in English to an international scientific audience is essential. Applicants must have received their highest degree not more than five years prior to the date of application, and must complete all degree requirements before starting the appointment.

Technical Questions

For more information about this position, please contact Dr. Peter Maksymovych (5nm@ornl.gov) and reference the ad number listed above in the subject line. Applications will be accepted until the position is filled.

How to Apply

Qualified applicants may apply online at https://www2.ornl.gov/ORNL_POST/. All applicants will need to register before beginning the online application. For complete information 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). 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.