

Postdoctoral Research Associate in Molecular Simulations for Separations

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

ORNL09-85-CSD

Project Description:

The Nanomaterials Chemistry Group in the Chemical Sciences Division (CSD) at the Oak Ridge National Laboratory invites applications in the area of molecular simulations (classical molecular dynamics (MD) and Monte Carlo (MC)) of porous materials and ionic liquids for separations of important materials relevant to U.S. DOE. The candidate will perform fundamental research in the molecular simulations of solubility and transport of targeted molecules in novel separation media such as ordered porous carbons and ionic liquids. The research will also involve a minor effort of force field development in support of the simulations. World-class computational facilities are available both at ORNL and from other DOE supercomputing sites. The National Center for Computational Sciences at ORNL provides the most powerful computing resources in the world for open scientific research. The Center is host to the Cray XT4 "Jaguar" supercomputer, ranked No. 2 on the current Top500 list of the world's fastest supercomputers. The simulation work is expected to interact strongly with parallel experimental efforts in the Nanomaterials Chemistry Group which is equipped with a wide range of specialized tools for synthesis and characterization of novel separation media and for the testing of their separation efficacies.

Qualifications:

This position requires a Ph.D. in chemistry, chemical engineering, or a related field. Candidates must have previous experience in classical MD and MC simulations. Experience with modeling porous materials and/or ionic liquids is desirable. Experience with force-field development is a plus. Excellent oral and written communication skills are required, and presentations and publication of scientific results in peer-reviewed journals are expected. The candidate must have the ability to work in a team and interact effectively with a broad range of colleagues. Demonstrated ability to communicate in English to an international scientific audience is essential. Creativity in research is highly valued.

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 Question:

For more information about this position please contact De-en Jiang (jiangd@ornl.gov). Please reference this position title in your correspondence.

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/orni-pdpm/application.htm>. When applying for this position, please reference the position title and number.

NOTE: Applications will be accepted until July 1st, 2009 or until the position is filled. 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.

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