

Postdoctoral Associate in Carbon Nanomaterial Chemistry and Hybrid Architectures

Center for Nanophase Materials Sciences Oak Ridge National Laboratory Oak Ridge, Tennessee

ORNL08-40-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 **Functional Hybrid Nanostructures** group. The applicant will purify, synthetically modify, and characterize single-walled and multi-walled carbon nanotubes and related nanomaterials and will carry out research dispersing these materials in conducting polymers to develop novel functional nanocomposites. The applicant also is responsible for helping to establish the user facilities in this area, for collaborating with and supporting users, and for operating and maintaining the facilities. The CNMS (<http://cnms.ornl.gov/>) is a collaborative nanoscience user research facility established by the Office of Science, U.S. Department of Energy. The CNMS has a diverse spectrum of nanoscience research activities including a nanofabrication facility; laboratory-based research on macromolecular materials, catalysts, functional nanomaterials, and magnetism and transport; characterization with electron microscopes, scanning probes, and x-ray diffraction and scattering; and theory, modeling, and simulation.

Duties:

Develop chemical and physical approaches to chemically purify, characterize, functionalize, and process single-walled carbon nanotubes (SWNT) and other carbon nanostructures into hybrid architectures, especially optoelectronic nanotube-polymer composites. Develop synthetic methods to chemically modify SWNTs to improve solubility, dispersion, or function and methods for their characterization. Develop synthetic methods to prepare SWNT-polymer composites with enhanced functional properties, especially optoelectronic composites with photovoltaic or electroluminescent functionality. In consultation with CNMS/ORNL staff, develop collaborative user facilities and provide scientific support for users. Participate in projects involving scientific research and developing methodology and instrumentation. Train users in the methods used and to operate equipment as needed, and provide timely technical support. Ensure efficient use of the facilities by coordinating scheduling with users and staff. Participate with other scientists in developing methodology and instrumentation. Participate in the design, implementation, and evaluation of collaborative experiments.

Qualifications:

Ph.D. (within last 4 years) in organic or polymer chemistry, or materials science. Experience in organic synthesis and characterization, and standard analytical techniques are required, with experience in carbon nanotube chemistry or processing. Electron microscopy experience and a broad range of knowledge regarding materials characterization techniques are desirable. Ability to conduct creative, independent research is required. Applicants should have excellent analytical and interpersonal skills, and the ability to work collaboratively in a team environment and interact effectively with a broad range of

colleagues. Demonstrated ability to communicate in English to an international scientific audience is essential. Record of productive and creative research demonstrated by publications in peer-reviewed journals.

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 corresponding to ORNL regarding this position, please reference the position title and number. Applications will be accepted until January 1, 2008 or until the position is filled.

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.

Technical Questions:

Technical questions regarding the position can be directed to Dr. David B. Geohegan (geohegandb@ornl.gov).