Postdoctoral Research Associate in Carbon Fiber Precursor Research and Development

Polymer Matrix Composites Group
Materials Science & Technology Division Physical Sciences Directorate Oak Ridge National Laboratory
Oak Ridge, Tennessee

ORNL09-68-MSTD

Project Description:
The Polymer Matrix Composites Group at the Oak Ridge National Laboratory (http://www.ornl.gov) has an opening in development of alternative carbon fiber precursors beginning summer 2009. This full-time position is focused on investigation and implementation of new carbon fiber precursors and requires a strong background in functional modification of polymers and characterization, polymer compounding, melt-processing, fiber-spinning and post-spinning operations. Experience in carbonaceous materials and precursor fiber stabilization and carbonization will be advantageous. Although a Post-Doctoral appointment is anticipated, ORNL will also consider Post-Masters applicants having the combination of education, skills, and experience as described below.

ORNL is conducting research on advanced precursors and processing methods to economically convert those precursors into finished carbon fiber at lower costs. A materials processing researcher is needed to work on process development and scaling, working closely with carbon fiber experts and reporting directly to the Principal Investigator. In addition to these responsibilities, the job holder will interact regularly with program managers, group members, automotive OEMs, automotive suppliers, and US Department of Energy personnel, prepare and present periodic reports documenting research and development, and assist in developing and implementing related follow-on projects and strategy for transferring developed technology.

Qualifications:
PhD degree in materials science, chemistry, engineering, or closely related field. The preferred candidate should have training and/or experience in polymer modification, processing, fiber science, and polymer processing-structure-property relationships, including a graduate degree in an appropriate field of science or engineering. Desirable expertise includes chemical characterization methods (e.g., Raman spectroscopy, solid state NMR spectroscopy, elemental analysis, FTIR, and XPS), thermal analysis (DSC, TGA, DMA, and TMA), morphological characterization (XRD, SEM, TEM, and AFM), polymer rheology/extrusion, design of experiments, and data analysis. Innovation, dedication, teamwork, problem-solving and communication skills are highly valued. Duties will include (1) polymer compounding and precursor fiber generation; (2) investigating and optimizing precursor fiber stabilization and carbonization parameters; (3) development of protocol for reaction kinetics data collection; and (4) technical interactions with carbon fiber experts.

Applicants must be citizens of US or Canada or legal permanent residents of the US.

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:
Amit Naskar at naskarak@ornl.gov. (Include the requisition number and title when responding.)

How to Apply:
Qualified applicants may apply online at https://www2.orau.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.orau.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 Postgraduate 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.