

# **Postdoctoral Research Associates in Carbon Fiber Research and Development**

## **Materials Science and Technology Division Physical Sciences Directorate Oak Ridge National Laboratory Oak Ridge, Tennessee**

ORNL10-03-MSTD

### **Project Description:**

The Polymer Matrix Composites Group (Materials Science and Technology Division) at the Oak Ridge National Laboratory (ORNL) (<http://www.ms.ornl.gov/PMC/index.shtml>) has **two (2)** openings in development of high performance carbon fiber beginning in early 2010. These full-time positions are focused primarily on the development of carbon fibers with mechanical properties significantly exceeding the current state-of-the-art.

ORNL is conducting research on the development of new carbon fiber precursors, conversion processes, post-treatment processes, and downstream manufacturing. Historically, ORNL has focused on cost reduction of commercial grade carbon fibers. ORNL is now investigating high performance fibers. Multiple researchers are needed to work on material and process development to significantly increase fiber mechanical properties. The researchers will work closely with other team members and report directly to the Principal Investigator. The preferred candidates should have training and/or experience in synthesis and processing of carbonaceous materials, including a graduate degree in an appropriate field of science or engineering. Additional desirable expertise includes carbon materials theory; carbon nanomaterials dispersion; carbon and/or composite materials characterization (e.g., XPS, FTIR, diffraction, mechanical testing); polymer chemistry and/or processing; computational materials design; design of experiments; composite materials manufacturing; and/or data analysis. In addition to these responsibilities, the candidate will be required to prepare and present periodic reports documenting research and development; and assist in developing and implementing related follow-on projects and strategy for transitioning developed technology.

**Applicants must be citizens or legal permanent residents of the U.S.**

### **Qualifications:**

This position requires a Ph.D. in an applicable science and engineering field. The successful candidates are required to have a strong background in synthesis, processing, and characterization of carbonaceous materials. The candidates must demonstrate exceptional initiative, ability to solve difficult technical problems with minimal technical direction and teamwork. Communication skills are also highly desired. Experience in the following areas is highly desirable: (1) theoretical modeling of carbon fiber properties; (2) developing and optimizing new precursors for high performance carbon fibers; (3) developing and

optimizing new conversion processes for manufacturing high performance carbon fibers; and (4) developing equipment for the new synthesis and/or conversion processes.

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:**

Questions regarding the position can be directed to Robert E. Norris Jr. at [norrisrejr@ornl.gov](mailto:norrisrejr@ornl.gov). Please include the requisition number and title when corresponding.

**How to Apply:**

Qualified applicants may apply online at [https://www2.ornl.gov/ORNL\\_POST/](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.

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.