

Opportunity Title: ORNL Composites Processing Development and Evaluation

Post-Master's Research Associate

Opportunity Reference Code: ORNL18-40-MSTD

Organization Oak Ridge National Laboratory (ORNL)

Reference Code ORNL18-40-MSTD

Description The Materials Science and Technology Division at Oak Ridge National Laboratory (ORNL) is seeking a Post-Master's Research Associate to support the Carbon and Composites Group. The Research Associate will focus on composite materials processing and evaluation to enhance cost-effective performance of advanced structural materials in addressing a variety of areas where composites will impact energy missions of national interest. In this opportunity, the Research Associate will support and conduct experimental research around constituents and final product forms comprising fiber-reinforced polymer-based composite materials.

Major Duties/Responsibilities

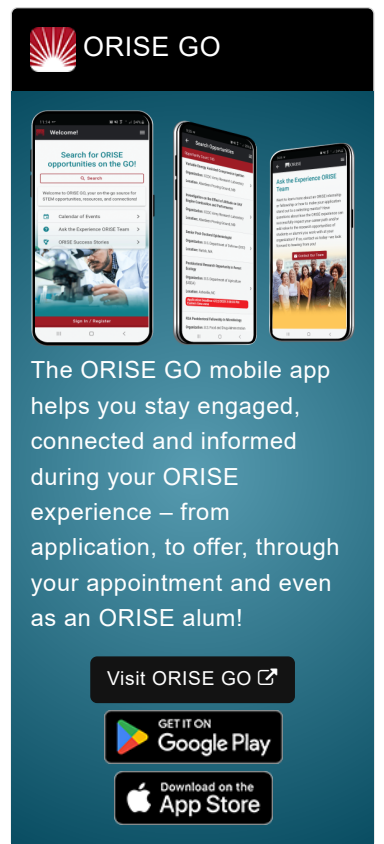
- Manufacture demonstration and test articles from polymer composites and conduct tests of materials and component samples
- Utilize materials and process composite engineering for a wide variety of manufacturing technologies, such as extrusion, injection molding, resin transfer molding, compression molding and blow molding
- Record, present and report research results
- Development and evaluation of composite intermediates such as s prepreg, preforms, compounds such as Sheet Molding or Bulk Molding Compounds (SMC or BMC) for advanced manufacturing of structural composites
- Assist in development of improved constituent and intermediate product forms and packaging
- Ensure compliance with environment, safety, health and quality program requirements
- Maintain strong dedication to the implementation and perpetuation of values and ethics

Position is mentored by the Group Leader, Carbon and Composites, in the Materials Science and Technology Division and interfaces with administrative staff, managers and visitors to ORNL.

Qualifications A master's of science in materials engineering, mechanical engineering, chemical engineering, engineering mechanics, or a related discipline completed within the last five years.

Preferred

- Experience with manufacturing/fabricating and characterizing polymer composites and underlying constituents
- Familiarity with design approaches for polymer composites structures
- Experience with mechanical, physical, and analytical characterization techniques
- Demonstrated written and oral communication skills
- Experience with composites, fiber reinforcement, composite intermediates, and/or advanced non-metallic manufacturing
- Self-starter, capable of creative contributions with minimal supervision



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and the ability to work collaboratively in a team environment and interact effectively with a broad range of colleagues

- Ability to function well in a dynamic research environment, set priorities to accomplish multiple tasks within deadlines, and adapt to ever-changing needs

The ORNL Postgraduate Research Associates Program is administered by Oak Ridge Associated Universities through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education (ORISE).

Eligibility • **Citizenship:** LPR or U.S. Citizen

Requirements • **Degree:** Master's Degree received within the last 60 month(s).

- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([1](#)👁)
 - **Engineering** ([6](#)👁)
 - **Physics** ([1](#)👁)

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