

**Opportunity Title:** ORNL Chemist/Engineer for self-healing vacuum insulation panels Post-Bachelor's Research Associate

**Opportunity Reference Code:** ORNL18-107-ETSD

**Organization** Oak Ridge National Laboratory (ORNL)

**Reference Code** ORNL18-107-ETSD

**Description** Oak Ridge National Laboratory (ORNL) currently has two Post-Bachelor's Research Associate positions available for a chemist or engineer with expertise in polymer chemistry, mechanical engineering and/or thin film coating technologies. The Post-Bachelor's Research Associate will assist in developing novel multi-layered self-healing barrier films for vacuum insulation panels. The Research Associate will work on synthesis and characterization of self-healing materials and formulation for fabrication, development of prototypes film samples using ORNL's coating facilities and testing the prototype self-healing samples via various experimental and analytical methods. The project is highly collaborative and takes advantage of multiple areas of expertise and facilities at ORNL.

**Major Duties/Responsibilities**

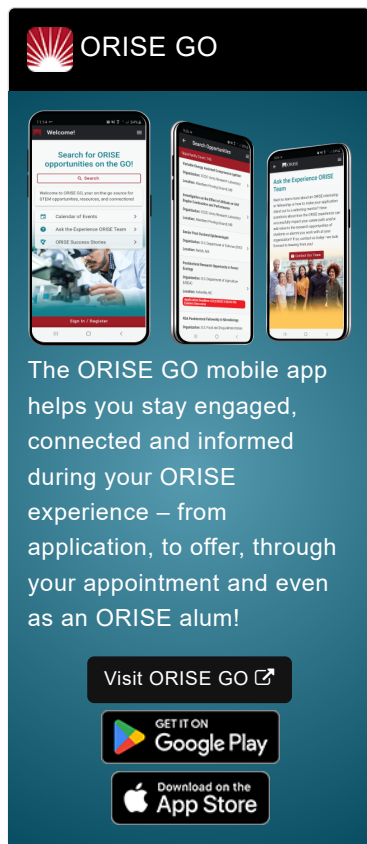
- Synthesize and perform reaction kinetic studies of self-healing chemicals with and without additives
- Develop viscosity-optimized slurries of self-healing chemicals to create coatings for films
- Develop prototype film samples containing thin coatings of self-healing chemicals
- Test coating quality using optical or microscopic techniques
- Develop and test film samples in a custom vacuum pump apparatus to verify their self-healing capability
- Responsible for presenting and reporting research results in a timely manner
- Assist in publishing scientific results in peer-reviewed journals
- Ensure compliance with environment, safety, health and quality program requirements
- Maintain strong commitment to the implementation and perpetuation of values and ethics

**Qualifications** The candidate should have a bachelor's degree in chemistry, chemical engineering, material science, polymer science, mechanical engineering or related-field. The candidate must possess demonstrated experience and expertise in polymer chemistry or related area. Excellent oral and written communication skills are desired. The abilities to work independently and participate in a collaborative team effort are required. The ability to work on multiple tasks in a limited amount of time and to independently set priorities to accomplish multiple tasks to meet deadlines is required.

The ORNL Post-Bachelor's 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 Requirements**

- **Degree:** Bachelor's Degree.
- **Discipline(s):**

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- **Chemistry and Materials Sciences** ([1](#)👁)
- **Engineering** ([3](#)👁)

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