

Opportunity Title: ORNL Energy Storage and Conversion Post-Bachelor's

Research Associate

Opportunity Reference Code: ORNL20-25-CSD

Organization Oak Ridge National Laboratory (ORNL)

Reference Code ORNL20-25-CSD

Description Oak Ridge National Laboratory (ORNL) is the largest U.S. Department of Energy (DOE) science and energy laboratory, conducting basic and applied research to deliver transformative solutions to compelling problems in energy, environment, and security.

The Energy Storage and Membrane Materials Group within the Chemical Sciences Division (CSD) within the Physical Sciences Directorate (PSD) at ORNL is seeking candidates for a Post-Bachelor's Research Associate position. This is a full-time position focused on the development and implementation of new electrochemical components for rechargeable batteries. Specific emphasis will be placed on the growth of ceramic, polymer, and liquid electrolytes as well as the processing science of electrode production. Duties will include (1) the construction and testing of electrochemical cells for rechargeable batteries, (2) performing routine characterization studies, (3) plotting data and writing reports on the data, and (4) interacting with battery experts as part of a team. In addition, the successful candidate will be expected to participate in laboratory maintenance operations, interacting with customers, and transitioning the technology. The position is designed for those with little laboratory experience but who are interested in learning new skills, expanding their research horizons, and making an impact in the world as part of a multidisciplinary team.

Major Duties and Responsibilities:

- Synthesis of lithium containing materials potentially including high-temperature ceramics, polymers, and liquid electrolytes.
- Fabrication of batteries and testing battery performance.
- Collaborating with the team to maintain equipment including glove boxes, vacuum systems, and gas cylinders.
- Thoroughly documenting work performed and contributing to publishing key research findings to meet quality assurance and project reporting requirements.
- Utilizing Windows-based personal computers for instrumentation operation, data reporting, analytical calculations, and sample management.

The position appointment is for one year, with an optional one year extension possible (two year maximum), depending on performance and available funding.

Qualifications Candidates should have completed a bachelor's degree in a laboratory-based physical science, such as chemistry, physics, material science, or geology, or in engineering, such as chemical, nuclear, mechanical, or a related field.

Required Skills:



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- Excellent interpersonal skills, including verbal, presentation, and writing skills.
- Able to work in a glove box for several hours.
- Sensitive to personnel and team safety.
- Able to lift 30 pounds.

Preferred Skills:

- Experience with polymer synthesis or ceramic synthesis.
- Experience with glove box systems.
- Analytical chemistry classes.

Living in East Tennessee: While the opportunity to work at ORNL is an amazing experience in itself, it's easy to overlook everything else East Tennessee has to offer if you haven't had the opportunity to spend time here. From spending your weekends downtown at Knoxville's farmers market, the Rhythm n' Blooms Music Festival, or the Dogwood Arts Festival, to some of the best hiking, kayaking, and camping in the U.S., East Tennessee has something to offer everyone.

The ORNL Post-Bachelor's Research Associate Program is administered by Oak Ridge Associated Universities through its contract with DOE to manage the Oak Ridge Institute for Science and Education (ORISE).

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| Eligibility Requirements | <ul style="list-style-type: none">• Citizenship: LPR or U.S. Citizen• Degree: Bachelor's Degree received within the last 36 months or currently pursuing.• Discipline(s):<ul style="list-style-type: none">◦ Chemistry and Materials Sciences (12 👁)◦ Earth and Geosciences (1 👁)◦ Engineering (3 👁)◦ Physics (1 👁)• Age: Must be 18 years of age |
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