

Opportunity Title: ORNL Radioisotope Production Post-Bachelor's Research Associate

Opportunity Reference Code: ORNL20-33-EESD

Organization Oak Ridge National Laboratory (ORNL)

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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.

Purist, a start-up company and part of the DOE-sponsored Innovation Crossroads Program, is focused on developing a technology that can be implemented in small-scale, underutilized research nuclear reactors for on-demand production of high-purity medical radioisotopes. Purist is seeking candidates for a Post-Bachelor's Research Associate to support this project. The successful candidate will conduct experiments to design, fabricate, and characterize targets for radioisotope production. The candidate will actively contribute to the optimization of the radioisotope production system through design and engineering efforts.

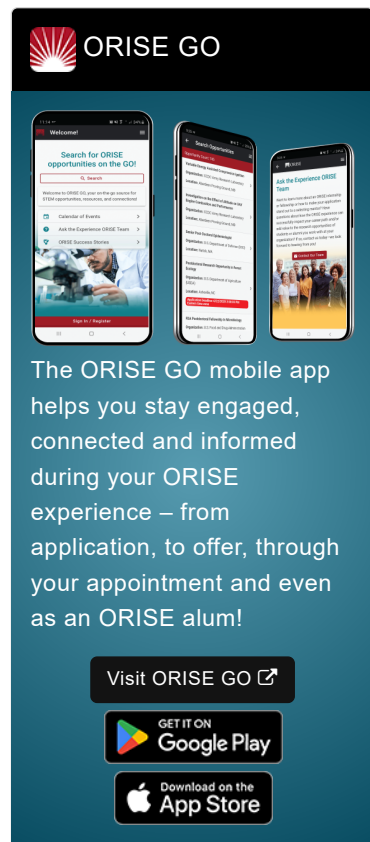
Major Duties and Responsibilities:

- Target design based on transition metals and lanthanides.
- Target synthesis and fabrication, including thin films and nanowires.
- Target characterization using techniques including: SEM, TEM, EDS, and ICP-MS.
- Designing and executing experiments to optimize unit process steps, device structures, process integration, and automation of the isotope production technology.
- Analyses and interpreting of experimental data and development of predictive computer models.

Qualifications Candidates should currently be pursuing or recently have completed a bachelor's degree in chemistry, physics, materials science, chemical engineering, or other relevant engineering fields. Strong desire for candidates to currently be enrolled in a master's program or pursuing continuing education. Preference will be given to those who have experience in nuclear science and/or electrochemical science, inorganic and lanthanide chemistry and/or polymer-based chemistry.

Preferred Skills:

- Capable of innovative research with minimal supervision.
- Ability to work collaboratively in a team environment and interact effectively with a broad range of colleagues.
- Motivated, safety-conscious, and possess excellent communication skills, both oral and written.
- Ability to follow procedures and accurately analyze and record test data.
- Undergraduate research experience in a laboratory environment.
- Having prior hands-on laboratory experience is favorable, particularly experience with: lanthanide/transition metal target fabrication, capabilities with thin films – including nanoscale, deposition and electrochemical techniques, and polymer chemistry.



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- Experience with computer modeling and simulation of nuclear processes is also considered a plus.

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).

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree received within the last 36 months or currently pursuing.
 - **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#))
 - **Engineering** ([8](#))
 - **Physics** ([1](#))
 - **Age:** Must be 18 years of age

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