

Opportunity Title: ORNL Reactor Physics Analysis Post-Master's Research

Associate

Opportunity Reference Code: ORNL16-65-RNSD

Organization Oak Ridge National Laboratory (ORNL)

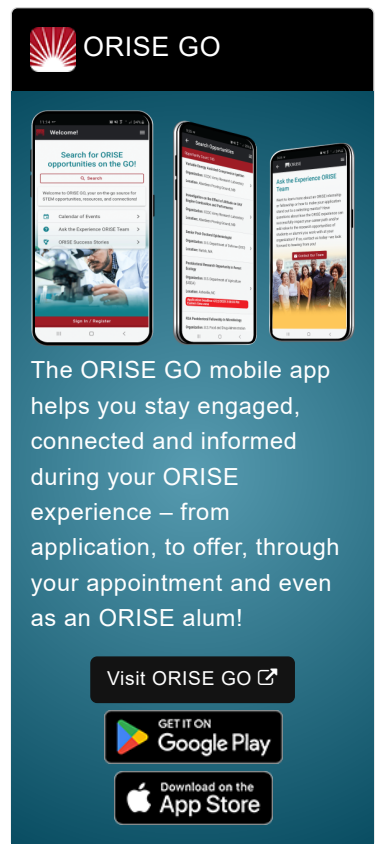
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Description The Reactor Physics (RP) Group within the Reactor and Nuclear Systems Division (RNSD), Nuclear Science and Engineering Directorate, Oak Ridge National Laboratory (ORNL), seeks entry-level, highly-motivated applicants for a post-master's research associate position, with emphasis in reactor physics and fuel cycle analysis related to light water reactors (LWRs) and advanced reactor designs (e.g. molten salt reactors, sodium fast reactors, gas cooled reactors). The RP group conducts R&D in nuclear reactor physics and performs analysis and methods development in areas such as reactor core physics, lattice physics cross-section processing, nuclear fuel cycle assessments, radionuclide inventories, source terms, and decay heat. A key characteristic of this group is the combination of methods/software development and applications expertise. In addition, the RP Group collaborates closely with other RNSD and ORNL groups in areas such as thermal-hydraulics, radiation transport and shielding, criticality safety, nuclear data processing and testing, material and fuel irradiation, reactor system safety, nuclear nonproliferation, and the development, enhancement, and maintenance of SCALE and other code systems.

An anticipated function of this position is to perform nuclear reactor analyses in support of R&D primarily related to current and advanced power reactors, research reactors, and the assessment of current and proposed nuclear fuel cycles. The successful candidate will be involved in conceptualizing and performing applied research and development in the area of reactor physics in one or more of the following areas:

- Light water reactors (PWRs and BWRs), including both lattice physics and full-core analysis
- Advanced reactors such as gas-cooled high temperature reactors and salt-cooled reactors
- Research reactor concept development and analysis
- Nuclear fuel cycle analysis based on thermal and fast-spectrum systems with uranium and thorium fuels.
- Analysis and assessment of enhanced accident-tolerant fuel (ATF) concepts for LWRs.

Qualifications Candidates must have completed a M.S. in nuclear engineering. The candidate must have demonstrated problem-solving skills and a willingness to apply those skills to a variety of problems. It is highly desirable for the candidate to have experience with the SCALE code system. Experience with analysis of LWRs and advanced reactor designs and fuel cycle analysis is also desirable. The candidate must have demonstrated problem-solving skills and a willingness to apply those skills to a variety of problems. The candidate will participate as a member of a collaborative reactor analysis team and must possess the associated interpersonal and communication skills. Salary will be determined according to the educational, research skills, and experience of qualified candidates.



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Technical Questions:

Contact Steve Bowman at (bowmansm@ornl.gov). Please reference the position title and number when corresponding about this position.

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.

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

- Eligibility**
- **Degree:** Master's Degree received within the last 60 month(s).
- Requirements**
- **Discipline(s):**
 - **Communications and Graphics Design** ([1](#)👁)
 - **Engineering** ([1](#)👁)
 - **Physics** ([16](#)👁)

Affirmation I certify that I have completed coursework towards a degree in science, technology, engineering, mathematics, or a related field.

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