

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

Opportunity Reference Code: ORNL19-12-RNSD

Organization Oak Ridge National Laboratory (ORNL)

Reference Code ORNL19-12-RNSD

Description The Reactor Physics (RP) group within the Reactor and Nuclear Systems Division (RNSD) at Oak Ridge National Laboratory (ORNL) seeks applications for an applied Post-Master's Research Associate position with emphasis in the area of reactor physics analysis.

RNSD conducts leading-edge science, technology, and engineering research and development for current and advanced nuclear reactors and fuel cycles; storage, transport, and disposal of used nuclear fuel; non-reactor nuclear systems (e.g., accelerators, irradiation facilities, fusion energy systems); and nuclear security and defense programs.

One focus area of the RP group is performing reactor physics analysis of research and advanced reactors. The group develops and uses state-of-the-art modeling and simulation tools and methods to help evaluate and solve critical U.S. nuclear energy problems and to advance a variety of national programs. The successful candidate will work with experienced reactor physics experts to perform analyses and interpret the simulation results for molten salt reactor (MSR) designs. Additionally, the candidate will perform computer code simulations and post-process and interpret the results to support the ongoing study for conversion of the High Flux Isotope Reactor (HFIR) from high enriched uranium (HEU) fuel to low enriched uranium (LEU) fuel. The computational tools to be used include SCALE and MCNP. When opportunities dictate, the Research Associate will also work on the broader scope of ongoing RNSD activities.

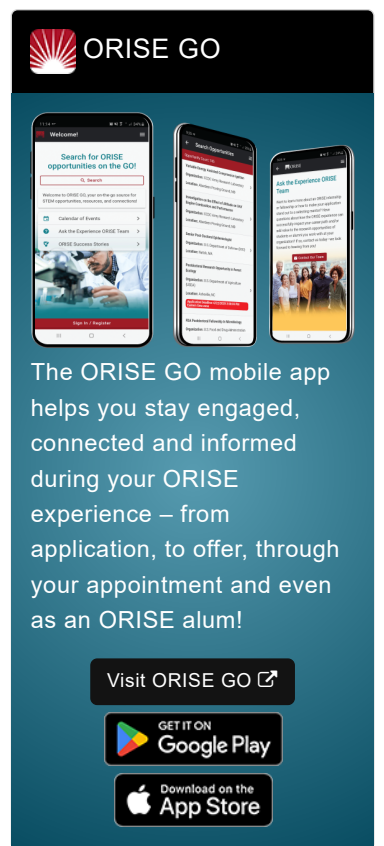
Information about the Reactor and Nuclear Systems Division is available at <http://www.ornl.gov/division/rnsd>.

Qualifications Candidates must have a master's degree in nuclear engineering or must have completed all master's degree requirements before starting their appointments. Candidates should have a demonstrated aptitude in the application and/or development of reactor neutronics modeling tools. Applicants must have proven problem-solving skills and a willingness to apply those skills to a variety of large, complex problems. The candidate must have experience with the MCNP Monte Carlo modeling tool. Experience with the SCALE package is also preferred.

Desirable experience includes depletion analysis, reactor design, Python scripting, statistical analysis, and data analytics.


Excellent communication skills, including verbal, presentation, and writing skills are required to enable effective interaction with a diverse set of technical peers and program managers. The successful candidate may be asked to work with other members of the group to develop new programs, write proposals, and pursue new funding opportunities.


The ORNL Post-Master's Research Associates Program is administered by Oak Ridge Associated Universities through its contract with the U.S.




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Department of Energy to manage the Oak Ridge Institute for Science and Education (ORISE).

- Eligibility Requirements**
- **Citizenship:** LPR or U.S. Citizen
 - **Degree:** Master's Degree.
 - **Discipline(s):**
 - **Engineering** ([2](#)👁)
 - **Age:** Must be 18 years of age

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