

**Opportunity Title:** ORNL Advanced Nuclear Reactor Applications Post-Master's Research Associate

**Opportunity Reference Code:** ORNL18-73-RNSD

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

**Reference Code** ORNL18-73-RNSD

**Description** Oak Ridge National Laboratory (ORNL) is the largest US Department of Energy (DOE) science and energy laboratory, conducting basic and applied research to deliver transformative solutions to compelling problems in energy and security. Our diverse capabilities span a broad range of scientific and engineering disciplines which enable us to explore fundamental science challenges and to carry out the research needed to accelerate delivery of solutions to the marketplace.

As part of the Nuclear Science and Engineering Directorate (NSED), the Reactor and Nuclear Systems Division (RNSD) is seeking a post-master's research associate to conduct modeling and simulation research for integrated systems analysis for advanced reactor applications. The successful candidate will have the opportunity to work independently and in a team environment. Work will include using multidisciplinary nuclear systems analysis software to assess new and existing reactor technologies; analyze reactor, fuel cycle, and balance of plant integration; and support model development to improve systems analysis software. This position will interact extensively with internal and external collaborators.

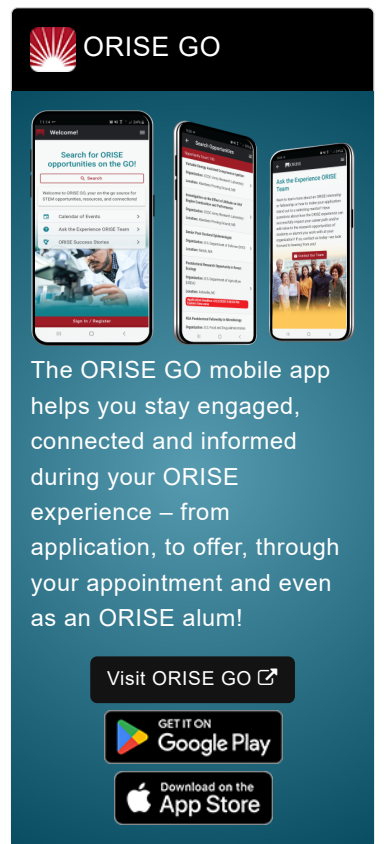
**Qualifications** The research will require using multidisciplinary analytical codes, including SERPENT, SCALE, Modelica, etc., in advanced and innovative ways. The successful candidate will be expected to effectively work and communicate with technical peers, program managers, and sponsors. He or she will be expected to consistently deliver high-quality research results on time and within budget. This work will involve performing applied research and development in one or more of the following areas:

- Model development and analysis supporting reactor concept design, materials and manufacturing analysis, and reactor and fabrication facility licensing
- Performance and support of single- and coupled multiphysics analysis of commercial light water reactors in an integrated hybrid system architecture

The successful candidate will be expected to thoroughly document work performed, publish key research findings in scientific journals and conferences, and write detailed technical reports to meet quality assurance and project reporting requirements.


This position requires access to technology that is subject to export control requirements. Successful candidates must be qualified for such access without an export control license.


Travel will likely be required for this position, including occasional visits to collaborating research individuals and organizations at their sites for up to one week at a time.




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Research Associate

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### Qualifications

- MS degree in nuclear engineering, mechanical engineering, materials science or engineering, engineering physics, or related field required
- Knowledge of nuclear systems analysis as demonstrated through research and associated publications required
- Excellent interpersonal and communication skills, including verbal, presentation, and writing skills required
- Familiarity with a wide range of nuclear reactor technologies and concepts, including light water reactors (LWRs), molten salt reactors (MSRs), gas-cooled reactors (GCRs), and sodium fast reactors (SFRs) preferred
- Familiarity with a wide range of nuclear fuel technologies and concepts and the capability to analyze reactor performance given a range of operational parameters preferred
- Demonstrated self-motivation in nuclear energy R&D preferred
- Demonstrated ability and desire to function as part of a cohesive team preferred

The ORNL Postgraduate 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).

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| <b>Eligibility Requirements</b> | <ul style="list-style-type: none"><li>• <b>Citizenship:</b> U.S. Citizen Only</li><li>• <b>Degree:</b> Master's Degree received within the last 60 month(s).</li><li>• <b>Discipline(s):</b><ul style="list-style-type: none"><li>◦ <b>Engineering</b> (<a href="#">27</a> )</li></ul></li></ul> |
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