

Postdoctoral Research Associate in Sensitivity and Uncertainty Analysis Methods

Nuclear Modeling, Design and Safety Nuclear Science and Technology Division Oak Ridge National Laboratory Oak Ridge, Tennessee

ORNL10-67-NSTD

Project Description:

The Nuclear Modeling, Design and Safety (NMDS) Group within the Nuclear Science and Technology Division (NSTD), Energy and Engineering Sciences Directorate, Oak Ridge National Laboratory (ORNL), seeks entry-level, highly-motivated applicants for a postdoctoral research associate position, focused on the development of methods and computational tools for sensitivity and uncertainty (S/U) analysis for nuclear systems. The NMDS group coordinates the activities of seven other groups, including Nuclear Data and Criticality Safety, Radiation Transport, Reactor Physics, Thermal Hydraulics and Irradiation Engineering, and Nuclear Security Modeling. Additionally, the group is responsible for the development, enhancement, and maintenance of the SCALE software suite, which is developed with the sponsorship of the U.S. Department of Energy and the Nuclear Regulatory Commission and is used by regulators, licensees and researchers for nuclear criticality safety, reactor physics, radiation shielding, and sensitivity and uncertainty analysis in approximately 40 nations. SCALE is developed in a collaborative team environment of approximately 25 staff members, coordinated by the NMDS group. The primary functions of the position are (1) maintain and enhance existing S/U capabilities in SCALE; (2) develop advanced S/U techniques to improve current capabilities; (3) expand S/U capabilities into currently unsupported analysis areas.

Qualifications:

The successful candidate must have demonstrated expertise in sensitivity and uncertainty analysis techniques for criticality safety, reactor physics and/or thermal hydraulics. The candidate must have expertise in computer programming with Fortran (95 or 2003 standard) and UNIX/LINUX-based operating systems. Experience with existing criticality safety or radiation transport codes in SCALE is a plus.

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 software development team and must possess the associated interpersonal and communication skills.

U.S. citizenship is not required; however, it is desirable that the candidate either holds or is able to obtain a Department of Energy security clearance. 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. Salary (\$60,000 to \$86,000 per year plus benefits) will be determined according to the education, research skills, and experience of qualified candidates.

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. Applications will be accepted until the position is filled.

Technical Questions:

Questions regarding the position can be directed to Brad Rearden at reardenb@ornl.gov. Please include the requisition number and title when corresponding.

How to Apply:

Qualified applicants must apply online at https://www2.ornl.gov/ORNL_POST/. All applicants will need to register before they can begin the online application. For complete instructions, on how to apply, please see the instructions at <http://www.ornl.gov/orise/edu/ornl/ornl-pdpm/application.htm>.

This appointment is offered through the ORNL Postgraduate Research Participation Program and is administered by the Oak Ridge Institute for Science and Education (ORISE). The program is open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.