

Location: Livermore, CA
Full Time, Temporary

What Your Job Will Be Like

We are seeking motivated and energetic scientists and engineers (job title: R&D S&E Physics) to perform research in radiation detection science relevant to a growing portfolio of arms control research projects. You will conduct your work in a dynamic, innovative, and fast-paced team environment as well as contribute to multiple projects through software and hardware development for the detection of radiation-emitting materials. Your work will encompass laboratory experiments and testing of devices for specific applications; modeling and simulation of neutron/gamma localizers and imagers; and algorithm development for particle identification and image reconstruction using state-of-the-art facilities and equipment. You will apply your deep technical knowledge of radiation detection techniques to existing programs, as well as have the capability and independence to propose new groundbreaking projects that fall within the scope of Sandia's mission areas.

On any given day you may be required to:

- Research physical phenomena through experimental measurement and develop theories based on data
- Simulate radiation transport and interactions of detector systems, including verification and validation of the code
- Develop and characterize radiation detector systems
- Work with the team to propose new work
- Travel as required for the job

Due to the nature of the work, the selected applicant must be able to work onsite 100% of the time at the Livermore, CA site.

Qualifications We Require:

- PhD in Particle Physics, Nuclear Engineering, Optical Sciences, Nuclear Physics or relevant subject area
- Demonstrated experience with either:
 - developing algorithms for radiation detection and imaging techniques, or
 - readout hardware, data acquisition systems and software
- Demonstrated proficiency in scientific programming, preferably C++ or Python
- Ability to obtain and maintain a DOE Q-level security clearance

Qualifications We Desire

- Demonstrated proficiency in Monte Carlo-based radiation transport codes (MCNP, Geant4)
- Demonstrated expertise in statistics/data science
- Demonstrated experience in uncertainty quantification
- Demonstrated creativity and problem-solving skills
- Excellent verbal and written communication skills

About Our Team:

The Radiation and Nuclear Detection Systems department undertakes research and development of ionizing radiation and rare signature detection systems to address broad nuclear security needs in support of various US Government programs. Through internal and external collaborations our department targets applications in nuclear proliferation detection, nuclear non-proliferation, international safeguards, arms control treaty verification, radiological emergency response, and other national security objectives. We specialize in designing detection systems for the anticipated radiation signature and background for specific applications starting at Technology Readiness Level 1 (basic research) all the way up to 5 (field experiments). Areas of significant experience and expertise include: fission-energy neutron detection and imaging, gamma spectroscopy, weak source detection techniques, and high-channel-count systems. Radiation transport modeling and simulation is used extensively to understand and verify experimental results and optimize detector design. Data analysis and algorithm development for particle identification and discrimination is conducted.

Apply online at:
sandia.gov/careers
Job #: 689668

About Sandia:

Sandia National Laboratories is the nation's premier science and engineering lab for national security and technology innovation, with teams of specialists focused on cutting-edge work in a broad array of areas. Some of the main reasons we love our jobs:

- Challenging work with amazing impact that contributes to security, peace, and freedom worldwide
- Extraordinary co-workers
- Some of the best tools, equipment, and research facilities in the world
- Career advancement and enrichment opportunities
- Flexible work arrangements for many positions include 9/80 (work 80 hours every two weeks, with every other Friday off) and 4/10 (work 4 ten-hour days each week) compressed workweeks, part-time work, and telecommuting (a mix of onsite work and working from home)
- Generous vacations, strong medical and other benefits, competitive 401k, learning opportunities, relocation assistance and amenities aimed at creating a solid work/life balance*

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*These benefits vary by job classification.

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All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability, or veteran status and any other protected class under state or federal law.