

Los Alamos National Laboratory Experimental Nuclear Physics Postdoc

Vacancy Name: [IRC89623](#)

Online Application: <http://jobs.lanl.gov>

What You Will Do

The Nuclear and Particle Physics and Applications (P-3) group in the Physics division is looking for one or more postdoctoral researchers to work in the Low Energy Nuclear Physics Team on direct and indirect measurements of neutron induced reactions. The successful candidate(s) will perform measurements and analysis at the Los Alamos Neutron Science Center (LANSCE) or external charged particle and rare isotope beam facilities. There are additional opportunities to develop the suite of instruments located at the Los Alamos Neutron Science Center and as part of P-3's external measurement programs. At LANSCE, tools include the [Detector for Advanced Neutron Capture Experiments \(DANCE\)](#), the [Low-Energy \(n,Z\) \(LENZ\) instrument](#), the [Chi-Nu Prompt Fission Neutron Instrument](#), the [fission Time-Projection-Chamber](#), the [SPecrometer for Ion DEtermination Research \(SPIDER\)](#), the [Device for Indirect Capture Experiments on Radionuclides \(DICER\)](#), the [Irradiation of Electronics Chips\(ICE\)](#) program. The teams are actively involved in developing new instruments to take advantage of the unique time-of-flight neutron beams made available at LANSCE. Outside Los Alamos, we pursue measurements studying the underlying nuclear physics used to infer nuclear reaction rates for short-lived nuclei.

Research areas in the group include studies of nuclear astrophysics (s-process, r-process, heavy element synthesis), nuclear structure (gamma-ray spectroscopy, level density, photon strength function), nuclear reactions, and studies of the fission mechanism. The team is tightly coupled to the LANL nuclear physics and astrophysics theory group as well as modeling and simulation teams in theoretical design, computational physics, and computer and computation sciences divisions. The intense neutron spallation sources at LANSCE are used in much of this work and cover a neutron energy range from sub-thermal to 800 MeV.

A broad range of expertise and background is desired, and there are multiple distinct projects that a successful candidate could pursue within the research disciplines of the group. There are opportunities for postdoctoral positions that are focused on hardware development, analysis, or simulation. There may be additional opportunities for collaborative work with scientists from other groups or divisions at LANL. Highly qualified applicants will be considered for Director's or Agnew National Security Postdoctoral Fellowships with exceptional candidates being considered for the prestigious Marie Curie, Richard P. Feynman, J. Robert Oppenheimer, or Frederick Reines Fellowships.

What You Will Need

Required Skills:

- Ph.D. in a relevant area of nuclear physics, particle physics, astrophysics, nuclear engineering, or related areas to support the current and future experimental physics program
- Ability to carry out independent and collaborative research
- Ability to communicate both technically and interpersonally both orally and in writing

Desired Skills:

(We include a broad range of skills, any of which we would request be noted in the cover letter.

There is no expectation that a candidate has all, or even more than one of these skills)

- Experience in particle or gamma-ray detector development and/or implementation
- Experience with Monte Carlo based particle/gamma-ray simulation tools
- Experience with detector electronic hardware and/or data acquisition design and development
- Experience with stellar modeling and/or nucleosynthesis network tools
- Experience with nuclear reaction models

Education

A Ph.D. in Physics or a related field completed within the last six years or soon to be completed is required. Exceptions can be made to the six-year time-frame—please inquire if this is relevant.

Notes to Applicants:

- Please send any questions for details or information to [Aaron Couture](mailto:acouture@lanl.gov), who is co-chairing the search committee (acouture@lanl.gov).
- In addition to applying on-line, please send a curriculum vitae, a cover letter summarizing relevant qualifications, research, and career goals, and arrange for three letters of recommendation to be sent to Aaron Couture (acouture@lanl.gov).
- Candidates may be considered for a Director's Fellowship and outstanding candidates may be considered for the prestigious Marie Curie, Richard P. Feynman, J. Robert Oppenheimer, Frederick Reines or Harold Agnew Fellowships.
- General information on the [LANL Postdoc Program](#) and [postdoctoral salaries](#) available.