Los Alamos National Laboratory
Experimental Nuclear Physics Postdoc

Vacancy Name: IRC63157

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

What You Will Do

The P-27 group in Physics division is looking for postdoctoral candidates to work in the Nuclear Astrophysics and Structure (NAS) and Nuclear Data (ND) Teams on direct and indirect measurements of neutron induced reactions. The successful candidate will perform measurements and analysis at the Los Alamos Neutron Science Center 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 (LANSCE) and part of P-27'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, and the SPecrometer for Ion DEtermination Research (SPIDER). 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 actively pursue measurements studying the underlying nuclear physics 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 teams are tightly coupled to the LANL T-2 nuclear physics and astrophysics theory group as well as rad-hydro modeling teams in CCS-2, XCP, and XTD. 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 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. with demonstrated scientific achievement in a relevant area of nuclear physics, particle physics, astrophysics, nuclear engineering, or related areas to support the current and future experimental physics program

- Demonstrated ability to carry out independent and collaborative research
- Demonstrated ability to communicate both technically and interpersonally both orally and in writing

Desired 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 five years or soon to be completed is required.

Notes to Applicants:

- 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.
- For general information on the LANL Postdoc Program, go to:
    - http://www.lanl.gov/careers/career-options/postdoctoral-research/index.php