Brookhaven National Laboratory is a nonprofit research and development institution whose purpose is to advance ideas and knowledge through a multidisciplinary program of basic and applied research. The Physics Department currently has a full time opportunity for a postdoctoral research associate.

Organization Overview

The Electronic Detector Group (EDG) in the Physics Department at Brookhaven National Laboratory has major current responsibilities in many neutrino and muon experiments; EDG physicists are working on the Deep Underground Neutrino Experiment (DUNE) and its prototype (ProtoDUNE), Daya Bay, SBND, MicroBooNE, ICARUS, and the muon g-2 experiment. The EDG currently has twenty physicists at various career levels and a long history of research in fundamental particle physics. In collaboration with the Instrumentation Division, the group is performing research and development in electronics and detector design for liquid-argon TPCs. In collaboration with the BNL Chemistry Department, the group is performing research and development on water-based liquid scintillator and reactor neutrino experiments.

Essential Duties and Responsibilities

The candidate will participate in both near-term neutrino experiments and preparations for the Deep Underground Neutrino Experiment (DUNE). This position requires a Ph.D. degree in experimental high energy or nuclear physics. Experience with object-oriented programming, detector simulation, data analysis, and detector physics/development are highly desirable. The candidate will work within the electronic detector group and have broad associations with other groups in the laboratory and throughout the world to carry out his/her function. Domestic and international travel should be expected. He/She is expected to work under the general assignment of the EDG scientific staff.

Required Knowledge, Skills and Abilities

- A Ph.D. in high energy or nuclear physics.
- Interest in physics at the intensity frontier.

Preferred Knowledge, Skills, and Abilities

- Exceptional track record in experimental particle or nuclear physics with accomplishments in hardware design and/or construction, analysis and simulations.
- Experience with data acquisition and analysis
- Experience with detector development: design, construction, testing, operation
- Experience with Geant4 and detector simulation
- Experience with object-oriented programming, including ROOT, Python, LArSoft
- Extensive analysis of experimental and simulated neutrino data
- Experience with liquid argon time projection neutrino detectors and analysis of their data

Other Information

- BNL policy requires that research associate appointments be made to individuals who have received their doctorate within the past five years.
- Requires travel, including foreign travel.

At Brookhaven National Laboratory we believe that a comprehensive employee benefits program is an important and meaningful part of the compensation employees receive.   Our benefits program includes but is not limited to:

- Medical Plans

- Vacation

- Holidays

- Dental Plans

- Life Insurance

- On site Child Development Center, swimming pool, weight room, tennis courts, and many other employee perks and benefits

We invite you to consider Brookhaven National Laboratory for employment. To be considered for this position, please apply online at External Positions (http://www.bnl.gov/hr/careers/jobs/index.php?q=3) and enter the Job ID number 622 into the "Search by Job ID" field. Please contact Elizabeth Worcester (etw@bnl.gov) for more information.

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