

Postdoctoral Research Associates in Experimental Nuclear/Particle Physics

The Department of Physics and Astronomy (<http://www.physics.sunysb.edu/Physics/>) at Stony Brook University seeks to hire two postdoctoral researchers in experimental nuclear/particle physics. The successful applicants will work with the groups of Professors Krishna Kumar and Abhay Deshpande on the parity-violating electron scattering (PVES) program at Jefferson Laboratory (JLAB), and R&D for a future Electron Ion Collider (EIC). Specifically, the groups are focused on the PREX and CREX experiments to measure the neutron RMS radii of Pb-208 and Ca-48 respectively and the future PVES projects MOLLER and SOLID that will search for physics beyond the Standard Model at JLab, as well as detector design and construction activities with the sPHENIX detector at BNL. The EIC & R&D will be organized within the activities of the various nuclear physics experimental group efforts at Stony Brook. The research activities will involve both data analysis and hardware development some of which will be carried out in newly renovated laboratory space in the department as well as at JLab and BNL. Occasional travel to JLab will be required to fully engage in various research projects, as well as to participate in data collection and on-site detector maintenance.

The successful candidates will participate in the following activities to fulfill the group's responsibilities, as well as EIC R&D.

- Development of PREX/CREX fused silica electron detectors, relevant simulations, online and offline analysis software, and the experimental configuration in Hall A at JLab.
- Development of MOLLER detector prototypes, relevant simulations, and participation in engineering design efforts for various MOLLER subsystems, especially the toroidal spectrometer.
- Development of the SOLID software framework, tracking algorithms, DAQ subsystem, and various detector R&D projects.
- Participation in detector construction activities of the sPHENIX ongoing within the SBU experimental groups.
- Participation in the electron beam polarimetry effort at JLab Hall-A, both in the Compton and the Moller polarimeter subgroups.

Required Qualifications: PhD in Experimental Nuclear or Particle physics. Experience with Monte Carlo simulations, analysis of large data sets, and hardware development of detector systems in fixed target or collider experiments is highly desirable.

Preferred Qualifications: Previous experience in any or all of the broad areas of detector development, electronics and engineering design, online and offline analysis software development and data analysis, Monte Carlo simulation, lasers and photodetectors in accelerator-based nuclear or particle physics experiments, electron beam polarimetry.

The positions are available starting July 1, 2017. Initial appointment is for one year, with the possibility of extension for a second and third year upon satisfactory performance and available funding. For more information, please visit websites:

- <http://www.stonybrook.edu/commcms/nuclear-experiment/personal/abhaydeshpande.html>
- <http://www.stonybrook.edu/commcms/nuclear-experiment/personal/krishnakumar.html>

For a full position description, or to apply online, visit: www.stonybrook.edu/jobs (Req. # 1700745)