



**University of New Hampshire
Department of Physics
Experimental Postdoctoral Position**

The Nuclear and Particle Physics Group at the University of New Hampshire has an immediate opening for a post-doctoral research associate, who will be expected to take a leading role in the Heavy Photon Search (HPS) experiment at Jefferson Lab Hall B.

The HPS is a new experiment designed to look for a new, heavy, gauge boson (the heavy photon, or dark photon) in the mass range 20-1000 MeV that couples to electrons through kinetic mixing with couplings α'/α in the range 10^{-5} to 10^{-10} . The HPS will search for the e^+e^- or $\mu^+\mu^-$ decay of the heavy photon, possibly with a displaced vertex, using a new compact forward spectrometer, which employs silicon microstrip detectors for vertexing and tracking, and a PbWO₄ electromagnetic calorimeter for fast triggering and electron identification, and a muon detector for muon identification. This experiment will also search for true-muonium, a bound state of $\mu^+\mu^-$ particles that has not previously been observed. The collaboration is expecting to commission the new detector this Fall, with a first data run in early 2015.

The candidate will also participate in the group's robust experimental program at Jlab. Specific projects include the search for new heavy gauge bosons (HPS at Jlab), studies of proton and deuteron spin structure functions, studies of short range correlations, polarized target development, and detector upgrades for the JLab 12 GeV era. The successful candidate will have a PhD in nuclear or particle physics and will be expected to strongly contribute to the ongoing program, but is also encouraged to propose and initiate new experiments.

The group's efforts are supported by the US Department of Energy. The University of New Hampshire is an equal opportunity employer. Candidates of both genders and all ethnicities are strongly urged to apply. The position is available immediately and will remain open until filled.

Applicants should send a resume (CV) and a summary of relevant research experience, and arrange for 3 letters of recommendation to be sent, to Maurik.Holtrop@unh.edu.