

Postdoctoral Position in Neutrino Physics and Detector Development at University of California, Davis

The Neutrino and Dark Matter group at the University of California (UC), Davis invites applications for a postdoctoral position with an anticipated start date of October 1, 2020. A Ph.D. in experimental particle physics or nuclear physics is required.

The successful candidate will join our effort on the Accelerator Neutrino Neutron Interaction Experiment (ANNIE), which is now at the start of physics data-taking at Fermilab. ANNIE will make some of the first precision measurements of the neutron multiplicity in neutrino and antineutrino interactions on water, while at the same time serving as a testbed for new technology, including picosecond photodetectors and novel target media such as water-based liquid scintillator. These developments are directed towards the realization of future large hybrid optical detectors (e.g. Theia) which will exploit time and chromatic separation of Cherenkov and scintillation light to achieve unprecedented sensitivity for neutrino interactions over a broad energy range. Thus, the person in this position will have a unique opportunity: they can take advantage of having new and exciting data to analyze from a brand-new experiment (ANNIE) while also taking a leading role in developing cutting edge technology for the next generation of large detectors. Thus, experience in both hardware and software is preferred, plus the ability to quickly learn new material and techniques from areas outside “classical” particle physics (e.g. organic chemistry, nuclear physics, molecular and optical physics) is also a plus.

The UC Davis Neutrino and Dark Matter Group currently consists of four professors, four postdocs, and five graduate students. In addition to ANNIE, we are involved in DUNE, LUX/LZ, DarkSide, and Theia. We have excellent shop facilities, a fully-outfitted chemistry laboratory, a 1.5 MW TRIGA reactor, and a 67 MeV cyclotron with variable energy proton and neutron beams for use in detector development. Our proximity to LBL, SLAC, and LLNL also allows for collaborative projects, plus frequent and convenient access to national lab facilities.

Please submit a cover letter, curriculum vitae, and statement of research interests and experience, all in PDF format, and arrange to have at least three letters of reference sent to rsvoboda@physics.ucdavis.edu.

Apply by September 15, 2020 for full consideration, but the position will remain open until filled.

The University of California, Davis, is an affirmative action/equal opportunity employer with a strong institutional commitment to the achievement of diversity among its faculty and staff.