We invite outstanding applications for a postdoctoral fellowship in the Department of Physics & Astronomy at the University of Pennsylvania to conduct research in experimental particle physics with the ATLAS detector. The successful candidate should have a PhD in experimental particle physics, be highly motivated to work in electronics and instrumentation, and have a strong interest in searching for physics beyond the standard model.

Ongoing physics analyses cover searches for supersymmetric partners to the top quark, including novel signatures from R-Parity violating models developed in part by theorists at Penn, and searches in the golden trilepton channel for supersymmetric gaugino production. There is also interest in searches for new massive particles that decay to highly boosted top quarks, W, Z, and/or Higgs bosons, where jet substructure techniques can select the hadronic decays. It is expected that the successful candidate will play a leading role in physics analysis for one of these searches or a new search driven by his/her interests.

The ATLAS inner charged particle tracking detector will be completely replaced by an upgraded detector in 2023-2025. Since 2007, Penn has played a leading role in the design of the front end electronics for the upgrade silicon strip tracking detector. Penn has primary responsibility for the design and development of a custom digital integrated circuit, the Hybrid Chip Controller (HCC). The HCC interfaces directly to the ATLAS trigger and clock signals and assembles data for each event from a group of ABC chips connected to individual sensors. Expected activities in the next few years include further development of tests for prototype HCC chips, and development of a test system at Penn capable of reading out a module with 1 HCC and a group of ABCs. This will be crucial to test, calibrate, and better understand the operation of the silicon strips readout system before mass production commences. The successful candidate is expected to contribute significantly to these activities at Penn in Philadelphia.

Applications should be addressed to Professor Evelyn Thomson at thomsone@upenn.edu. Required application materials include a curriculum vitae and a letter describing your research interests and experience relevant to this postdoctoral fellowship. Applicants should also submit the names and contact information of three individuals who will provide letters of recommendation. Recommenders will be contacted with instructions on how to submit a letter. Review of applications will continue until the position is filled.

The University of Pennsylvania is an equal opportunity employer. Minorities, women, individuals with disabilities, and protected veterans are encouraged to apply.