

Two Postdoctoral Positions in High Energy Physics
Texas Tech University (TTU)

Texas Tech University invites applications for two postdoctoral research associate positions in experimental high energy physics (HEP). The TTU HEP group, led by Professors N. Akchurin, Y. Feng, S-W. Lee, C. Madrid, and I. Volobouev, is actively involved in the Compact Muon Solenoid (CMS) experiment at the Large Hadron Collider (LHC). Our work includes CMS data analysis, operations, and upgrades for the high luminosity LHC (HL-LHC), along with a rigorous R&D program in advanced technology detector development for HEP research.

Our CMS physics program includes searches for physics beyond the Standard Model, in particular supersymmetry and dark sector, and studies of electroweak gauge bosons. We maintain the CMS hadronic calorimeters (HCAL), which we played a critical role in the development, construction, and commissioning over the last two decades. Additionally, we are responsible for constructing nearly 5,000 silicon sensor modules for the CMS high-granularity end-cap calorimeter (HGAL) over the next few years for the HL-LHC upgrade.

We also pursue an ambitious detector R&D program that incorporates fast high-density electronics with embedded AI/ML, precision timing, and enabling technologies for future colliders at the Advanced Particle Detector Laboratory (APD-Lab). The APD-Lab also houses a large cleanroom and is well-equipped for generic detector R&D. We collaborate with computer science experts on AI/ML algorithm development and industry partners on heterogeneous computing R&D. In addition, the High Performance Computing Center (HPCC) on campus facilitates AI/ML and heterogeneous computing R&D.

Successful candidates are expected to contribute towards at least two of the following activities: CMS data analysis; CMS operations; HGAL construction, installation, and commissioning; future detector R&D; AI/ML based reconstruction algorithm development; and heterogeneous computing R&D. Postdoctoral researchers are also encouraged to develop their own research interest. The positions may be based either at TTU, Fermilab, or CERN, with requisite sojourns at each location. The renewable appointment is initially for two years.

Applicants should submit a vita, list of publications, research statement, and contact information for at least three references. Applications should be submitted online at <http://jobs.texastech.edu> using requisition ID 38430BR. For questions about the position or application process please contact the search committee directly at phas.hep.search@ttu.edu. Review of applications will start September 30, 2024 and will continue until the positions are filled.

All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, gender expression, national origin, age, disability, genetic information or status as a protected veteran.