The University of Colorado Experimental High Energy Physics group has an available position for a Research Scientist to work with the CMS experiment at the LHC.

The CU CMS group is involved in a broad range of activities including detector and electronics R&D directed toward the planned upgrades of the experiment over the next decade. The current opening is to work on R&D for the Phase 2 upgrade of the trigger and data acquisition systems for the High Luminosity LHC upgrade. The successful candidate will contribute to the development of a hardware trigger based on the CMS silicon tracker. The trigger system consists of ATCA boards communicating with optical fibers and using FPGA processors. The candidate will contribute to the design, implementation, testing, construction, and operation of the trigger system, including logic implemented in firmware and software modeling and monitoring tools.

Desired qualifications include the following:
- Experience in FPGA firmware development and simulation (Verilog and/or VHDL)
- Experience with high level synthesis (HLS) tools for firmware development
- Strong analytical skills as applied to solving engineering problems
- Experience with modern particle detectors and data analysis techniques
- Experience with detector simulations and trigger algorithm development
- Ability to design and implement online DAQ and detector monitoring systems
- Ability to work collaboratively with other engineers and physicists as well as students and postdoctoral researchers

Candidates should possess a Ph.D. in physics, electrical engineering, or computer science, or a master's or bachelor's degree with significant post-degree experience in experimental HEP. This position could be especially well suited for people with several years of postdoc experience at a HEP experiment and relevant expertise in firmware and/or software development. The successful candidate will be hired as either a Professional Research Assistant or a Research Associate, with the latter appropriate for a candidate with a Ph.D. Both titles imply a career research position without a fixed term, subject to availability of funding. Salary will be commensurate with qualifications and experience. Work will be performed primarily in Boulder, Colorado with significant travel to CERN, Fermilab, and other collaborating institutions.

For questions or further information please contact Prof. Keith Ulmer keith.ulmer@colorado.edu.

Interested candidates should submit a cover letter, CV, statement of technical and research experience, and contact information for at least three references through the CU hiring portal here: https://cu.taleo.net/careersection/2/jobdetail.ftl?job=11796