The ATLAS group at the University of Chicago has a postdoctoral scholar position open to work with us on physics analysis (~30%), computing support (~40%), and oversight of instrumentation activities for the ATLAS Tile Calorimeter (~30%), with a strong emphasis on and clear support for the freedom and flexibility to pursue physics analyses of your choosing.

The position will require residency at CERN.

For the support of the Tile Calorimeter, you would oversee the work of two UChicago technicians performing calibrations, act as Tile Run Coordinator for one 3-month stint, and possibly study the performance of the HL-LHC demonstrator if that is of interest to you.

For the computing support component, which is part of the US ATLAS Operations Program Physics Support team, you would provide expert support for physicists using the UChicago Shared Tier3/Analysis Facility, https://af.uchicago.edu (UCAF). This would include activities such as:

Responsibilities:

- On-boarding ATLAS physicists with the UCAF including help with job management systems, data access techniques, management of analysis output, analysis tools and new frameworks.
- Support UCAF users by cultivating an online discussion board
- Supporting ATLAS software tutorials on the UCAF including pre-workshop testing and validation.
- Assisting group leads with data management and access requirements to support working group analysis goals overall.
- Testing and performance benchmarking of machine learning algorithms.

Opportunities:

- Replicate and improve major functions of multiple analysis working groups on the UCAF including data reduction and statistical analysis.
- Create and curate analysis container images for use by the ATLAS Collaboration, including specification of software dependencies and runtime environments.
- Contribute to ATLAS analysis model working group activities including testing event data formats.
- Participate in analysis reproducibility exercises with innovative tools intended to capture the data lifecyle process through publication.
- Contribute to ATLAS computing demonstrators designed to inform evolution of software and services towards HL-LHC analysis.

Requirements include:

- Proficiency in Unix, ROOT, Python and the Bash scripting language. Ability to write C++ algorithms a plus.
- Knowledge of HEP analysis frameworks and event data models.
- Experience with statistical fitting and statistical analysis of HEP data.
- Experience with job management systems such as HTCondor.
- Experience with grid, data management, and metadata systems.
- Experience with machine learning algorithms and computing with GPUs a plus.
- Ability to create presentations and tutorial content.
- Ability to lead tutorials, bootcamps and on-boarding events.
- Ability to work with the technical team: DevOps and systems engineers who provide the infrastructure, services and user interfaces for the UCAF.
- Ability to communicate requirements, performance feedback, troubleshooting failures, and contributing to long term planning of the UCAF and the US ATLAS Physics Support program of work.

Interested candidates should email Robert Gardner, rwg-AT-uchicago.edu, with CC to oreglia-AT-uchicago.edu and David.W.Miller-AT-uchicago.edu

with a disability, protected veteran status, genetic information, or other protected classes under the law. For additional information please see the University's Notice of Nondiscrimination.

Job seekers in need of a reasonable accommodation to complete the application process should call 773-834-3988 or email equalopportunity@uchicago.edu with their request.