

The Johannes Gutenberg-Universität Mainz (Germany) has an opening for a

Postdoctoral Research Associate (Physicist)
(TV-L EG 13)

to work on the ATLAS experiment, to be filled immediately.

The Mainz ATLAS group shares major responsibility for the construction, operation and upgrade of the first level trigger and is involved in the liquid Argon calorimetry of ATLAS as well as the upgrade of the ATLAS muon system and the new high-granularity timing detector. Physics analysis activities include precision standard model physics, a broad range of searches for new physics, Higgs boson physics, as well as top quark physics. The ATLAS group is part of the Cluster of Excellence PRISMA+ "Precision Physics, Fundamental Interactions and Structure of Matter", which focuses on key questions concerning the fundamental constituents of matter and their implications for the physics of the Universe. Current activities beyond ATLAS include in particular research and development for the SHiP experiment, for future electron-positron colliders within the CALICE collaboration and for the DUNE Near Detector.

The successful applicant is expected to contribute significantly to the **development of a new first level (calorimeter) trigger module for the high-luminosity upgrade of the ATLAS experiment**. The electronic board design, involving high-speed optical data transmission as well as state-of-the-art FPGAs, shall be advanced towards production readiness, in close collaboration with electronic engineers in the group. A special focus will be put on the design of efficient **trigger algorithms** (for electrons and jets) and their actual implementation in firmware. Thorough testing of prototypes will play an important role as well. This activity can be complemented with analysis of data from the ATLAS experiment. Mainz University with its Cluster of Excellence PRISMA+, on-campus accelerators and excellent infrastructure within the detector laboratory provides a vibrant and unique place for R&D activities at and beyond the LHC.

Applicants are required to have a Ph.D. (or an equivalent degree) in physics and should have research experience in high-energy experimental particle physics. Prior experience with high-speed optical data transmission and/or firmware development is desirable (but not required).

The Johannes Gutenberg-Universität Mainz aims at increasing the percentage of women in academic positions and strongly encourages women scientists to apply.

The University is an equal opportunity employer and particularly welcomes applications from persons with disabilities.

The appointment will be initially for a period of two years, with the possibility of an extension. Qualified candidates are requested to submit their application, including a curriculum vitae, a brief description of their research experience and interests, and a list of the most relevant publications to Prof. Dr. Stefan Tapprogge, Institut für Physik, 55099 Mainz, Germany (or via email to tapprogg@uni-mainz.de) and to arrange for at least two letters of recommendation to be sent directly to the same address.

Applications will be considered as they arrive and will be accepted until **March 31st, 2021**.

Contact: Prof. Dr. Stefan Tapprogge (tapprogg@uni-mainz.de)