



The **ATLAS group at the University of Freiburg (Prof. Karl Jakobs/ Dr. Christian Weiser)** has an opening for a

PhD student.

Our group has long-standing experience in Higgs boson physics, studies of Supersymmetry (SUSY), Standard Model measurements and is also engaged in the operation of the ATLAS Semiconductor Tracker (SCT) and in upgrade projects on silicon strip detectors (ATLAS ITk). The focus of the activities of the successful applicant will be on the analysis of the complete LHC Run-2 data.

A major goal of the research in our group is to measure the couplings of the Higgs boson to other known particles, thereby constraining possible new physics scenarios. One opportunity of research related to this is the precise measurement of the properties of the Higgs boson using its decay into a pair of W bosons. These efforts are strengthened by the fact that the decays of the Higgs boson to two tau leptons or two bottom quarks are also studied within our group. The breaking of the electroweak symmetry is further investigated in the scattering of two W bosons with the same electric charge.

Another opportunity is the search for a supersymmetric partner of the top quark (stop). Searches for stops with a mass of up to about 1 TeV are a key component to probe the existence of so-called natural SUSY. Here the interplay of searches for SUSY with other searches for Dark Matter and precision measurements is becoming increasingly important.

The successful applicant will be integrated into the Freiburg analysis team and supervised by experienced postdocs. Participation in an ATLAS combined performance group (e.g. tau identification, electron reconstruction, flavour tagging) or detector operation (SCT) is expected. Most of the research work will be carried out in Freiburg, with the possibility to spend up to one year at CERN. The PhD candidate will be integrated in the Freiburg Research and Training School on "*Mass and Symmetries after the discovery of the Higgs boson*".

The position is available from **1 July 2018**.

Applications should be sent to christina.skorek@physik.uni-freiburg.de until **3 June 2018**, and should include a curriculum vitae, copies of certificates of degrees, a letter of motivation, a link to the master or diploma thesis, and the names and contact addresses of two persons who could provide letters of reference.

Further information can be obtained from:

Christian Weiser (Christian.Weiser@physik.uni-freiburg.de)
Karsten Köneke (Karsten.Koeneke@physik.uni-freiburg.de)
Frederik Rühr (Frederik.Ruehr@physik.uni-freiburg.de)