



# PhD position at the University of Sheffield (ATLAS experiment)

A position is open for an **enthusiastic PhD student** to conduct research at the energy frontier at the ATLAS experiment. The main topic is to investigate further **the nature of electroweak symmetry breaking and to search for new physics phenomena using diboson measurements**. Precise measurements of dibosons can also be combined to yield the best constraints on the electroweak Lagrangian describing the interaction between the W,Z and the Higgs bosons, which is directly relating to the nature of the electroweak symmetry breaking. This can yield stringent constraints on general new physics models.

The PhD project will involve heavily **data analysis, statistics, advanced analytical classification methods and possibly machine learning**. The PhD will prepare equally well for a career in industry and academia.

Please send informal enquiries and a notification of your application to: Dr Kristin Lohwasser (k.lohwasser@sheffield.ac.uk, <http://www.hep.shef.ac.uk/lohwasser/>) **You will hold a master (including integrated bachelor+master degrees, i.e. MSc, MPhys etc., or equivalent) in (Particle) Physics or a related discipline (Computer science, Astronomy) and should be open to work in an international environment.**

Applications are open now until the position is filled. The main departmental web page for PhD admissions is: <http://www.sheffield.ac.uk/physics/postgraduate-admissions>

More information on the ATLAS group in Sheffield can be found here: [www.hep.shef.ac.uk/research/atlas/](http://www.hep.shef.ac.uk/research/atlas/)

The University of Sheffield is a founder member of the international ATLAS collaboration working on the CERN Large Hadron Collider. **The University of Sheffield ATLAS group** consists of 5 academics, 8 research associates, 1 engineer and 9 PhD students. Group members have played key roles in the successful construction, commissioning and operation of the ATLAS Semi Conductor Tracker detector. The group is also very active in the R&D and the construction of a new ATLAS inner tracker for the LHC luminosity upgrade. The main focus of the group is now physics analysis of ATLAS data. Prof. Tovey has been Physics Coordinator in 2016-17. The group also provided the ATLAS electron/photon convenor and two convenors of the central ATLAS SUSY working group in recent years.

The ATLAS group is a component of the **University of Sheffield Particle Physics and Particle Astrophysics (PPPA) group**. The PPPA group also pursues an active research programme in neutrino physics (T2K, DUNE and HyperK), accelerator physics (MICE) and particle astrophysics (Advanced LIGO and LUX-ZEPLIN). In the 2014 REF, the **Physics department at Sheffield** had over 90% of its research graded as either world-leading or internationally excellent, putting it among the top 10 in the UK. Further information about the Department of Physics and Astronomy, and the Faculty of Science research facilities is available at <http://www.shef.ac.uk/physics>