



PhD position at the University of Freiburg (ATLAS experiment)

We are seeking a **highly motivated and enthusiastic PhD candidate** to conduct research at the interface between particle physics and cosmology in the ATLAS experiment at the Large Hadron Collider at CERN.

The main topic of the thesis will be the search for heavy Higgs bosons decaying to final states with b -jets or τ -leptons, which will shed light on the **connection between the Higgs sector and the matter-antimatter asymmetry in the Universe**. The thesis will also involve the development of new algorithms for the improvement of the identification of b -jets or τ leptons. Participation in the operation of the ATLAS detector with frequent travels to CERN is expected. The position will be based at Freiburg.

Applicants should hold a Master's degree with excellent grades in particle physics and be highly motivated to work in an international research environment. Familiarity with computer programming (especially C++ and/or Python) and analysis software frameworks like ROOT is expected.

The position is **available from 1 October 2020**. Applications which are complete and will be received until **31 August 2020** will receive full consideration.

Documents to submit with your application

- your curriculum vitae
- a cover letter stating your interests and motivation to become part of the programme
- two letters of recommendation to be sent directly to spyridon.argyropoulos@cern.ch
- copy of Master's and Bachelor diplomas
- official grade transcripts of Master's and Bachelor diplomas with a description of the grading scheme

The successful candidate will be integrated in the Emmy-Noether independent research group led by Dr. Spyridon Argyropoulos, which aims to exploit the recently discovered Higgs boson in order to investigate the major open problems of the dark universe: baryogenesis, dark matter and dark energy. The research group is hosted by the group of Prof. Dr. Karl Jakobs/Dr. Christian Weiser, which has held leading roles in the ATLAS experiment. The successful candidate will furthermore be part of the Research and Training Group "Mass and Symmetries after the Discovery of the Higgs Particle at the LHC", which brings together experts from direct dark matter detection experiments, high-energy physics experiments and theorists, providing further training opportunities via regular seminar series and workshops.

For further inquiries please contact Dr. Spyridon Argyropoulos spyridon.argyropoulos@cern.ch