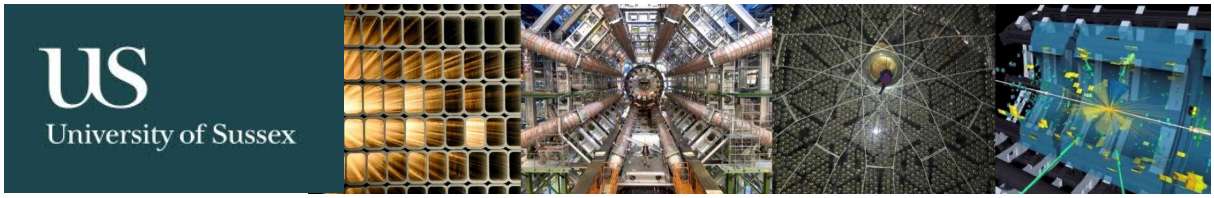

PhD Studentship on ATLAS (Heavy Neutral Leptons with Tau Final States)

http://www.sussex.ac.uk/epp/

A funded STFC studentship is available to work under the supervision of Prof Fabrizio Salvatore on searches for Beyond the Standard Model physics the ATLAS experiment. The main topic of the studentship is to extend the work that is currently ongoing in searching for Heavy Neutral Leptons, HNLs, in final states containing tau leptons. The existence of right-handed neutrinos with Majorana masses below the electroweak scale could provide a way to solve the problem of neutrino masses, matter-anti-matter asymmetry and dark matter. Final states with tau leptons have not been explored so far in ATLAS, and are known to have a significant impact in improving the sensitivity of the ATLAS searches in the discovery of these new particles. The ATLAS-Sussex group has over the years made world-leading contributions to BSM physics at the Large Hadron Collider (LHC), and the candidate will profit from the vast BSM experience within the group to make a leading impact in this crucial area of LHC physics.

In addition to the analysis project, the candidate will contribute to the technical work of the ATLAS-Sussex group in the area of the ATLAS Trigger. Over the years the ATLAS-Sussex group has made leading contributions to several areas of the ATLAS Trigger (e.g. Inner Detector tracking trigger, tracking trigger for the future upgrade of the ATLAS experiment), with several people holding convenorship positions in the ATLAS Trigger. The candidate will be spending a fraction of their time in one of the areas of the trigger with Sussex leadership, and have the opportunity to take shift on the experiment during data taking.

There will be opportunities to travel to CERN to work with international partners who are based in the Geneva area. In addition, there will be an opportunity to spend a maximum of 12 months on ‘Long Term Attachment’ at CERN in the second year of the studentship.

Funding is available for a September 2024 start which includes a tax-free bursary (£18,662 per annum in 2023/24) and fully paid tuition fees for 3.5 years at the home-student level (£4,712 per annum in 2023). Additional financial support is provided to cover short-term and long-term travel. Interviews of shortlisted candidates will be held in February and March initially and will continue until positions are filled. Applications from self-funded students interested in available projects are also welcome at any time of the year.

For more details about the project, please contact Prof Fabrizio Salvatore: P.F.Salvatore@sussex.ac.uk.

For practical questions about applications and/or eligibility for funding, please contact

mps-pgrsupport@sussex.ac.uk.

For academic questions please contact the coordinator of EPP PhD admissions, Dr Elisabeth Falk: E.Falk@sussex.ac.uk.

Applications: https://www.sussex.ac.uk/study/phd/apply

Please state in the Finance section of the online form that you are applying for STFC EPP studentships.