Science & Technology Facilities Council
Particle Physics Department

PhD STUDENTSHIPS IN EXPERIMENTAL PARTICLE PHYSICS

The Particle Physics Department at the Rutherford Appleton Laboratory (RAL) has a number of fully funded PhD studentship places available in 2019.

The Rutherford Appleton Laboratory is the UK's national laboratory for large-scale physics, including particle physics. RAL is part of Harwell's science and technology campus located just south of Oxford. We have a large research group working on numerous projects, ranging from collider experiments at the Large Hadron Collider (LHC at CERN) to neutrino experiments in US and Japan, as well as the search for Dark Matter. Our present activities are on ATLAS, CMS, LHCb, T2K, DUNE, Hyper-Kamiokande, and LZ. Our department consists of around 70 scientific and technical staff members, many of whom have leading roles in these experiments. We contribute to the data analysis and operation of ongoing experiments; work closely together with engineers and technicians at RAL on R&D for future detectors; and develop, build and commission new detectors and their corresponding electronics in close collaboration with the UK community. For example, we built part of the ATLAS tracking detector, the CMS electromagnetic calorimeter and the LHCb RICH detector. At RAL we also host the Tier 1 site as part of the UK contribution to LHC world-wide distributed computing.

Working in a national laboratory will allow students to get a broad overview of the field and be involved in both the physics and hardware activities as well as providing exposure to other areas of science undertaken at RAL. Students will be registered at a partner University for their PhD, and will be co-supervised by RAL and University academics. Frequent travel to the experimental sites will be expected.

PhD studentships are available on CMS and LHCb on

- HL-LHC upgrade of the CMS hardware trigger and searches for new physics
- CMS track trigger development for HL-LHC
- Developing a next generation tracker and studying charm physics in LHCb

Qualifications and personal qualities

Applicants must

- Hold a master's degree (MPhys / MSci / MPhil) or the equivalent in physics (at least a 1st or 2.1), or must be finishing soon
- Be able to work independently and in a structured manner, and demonstrate good collaborative skills
- Be proficient in both written and oral English
- Be a UK or European Union national, if seeking a funded position

Your application must include

- A brief account of your research interests and motivation for applying for the position
- Your CV
- Copies of your academic transcript
- A list of any works of a scientific nature published by yourself
- The names and contact information for two referees. One of these should be your academic tutor or final year project advisor

How to apply

Applicants should send their application to PAPPDDirector@stfc.ac.uk. Please send the information requested above. In addition, they should arrange for two reference letters to be sent to the same address. Applications are welcome until positions are filled.

About

For further information please visit:
https://www.ppd.stfc.ac.uk/Pages/home.aspx

Informal enquiries can be made to Prof Claire Shepherd-Themistocleous (Claire.Shepherd@stfc.ac.uk) and Dr Ian Tomalin (Ian.Tomalin@stfc.ac.uk) for the CMS positions and Dr Fergus Wilson (Fergus.Wilson@stfc.ac.uk) for the LHCb studentship.