

Sandwich student placements at the Science and Technology Facilities Council

Project title	Development of a distributed optical clock on ALICE
Location	Daresbury Laboratory
Preferred dates	From May 2011 until May 2012
Appropriate Courses of Study	Physics, Laser physics, Photonics, Optics

Overview of Organisation:

The Science and Technology Facilities Council is one of Europe's largest multidisciplinary research organisations supporting scientists and engineers world-wide. We operate world-class, large scale research facilities; provide strategic advice to the UK government on their development, and direct, coordinate and fund research, education and training.

We are a science-driven organisation. We make it possible for a broad range of scientists to do the highest quality research tackling some of the most fundamental scientific questions. We supply highly skilled scientists and engineers and generate ideas and technologies that have a much broader social and economic impact.

Project Description

The ALICE accelerator at Daresbury laboratory is an advanced test facility for the development of novel accelerator and photon science technologies. The student will be able to gain experience in conducting scientific research alongside a team of scientists at a national scale facility. His/her main role will be to assist in the development of a distributed optical clock, in which ultrashort laser pulses are manipulated in optical fibre to aid in the diagnostics and synchronisation of ALICE. For example, the work will involve helping in the development and characterisation of short pulse fibre lasers and amplifiers. Overall, the project will provide opportunity for the student to learn about many aspects of working with ultrashort laser pulses both within optical fibre and in free space, and how they contribute to the future of particle accelerators.

Role and Responsibilities

As his/her major responsibility, the student will contribute in an ongoing research project to distribute an optical clock through stabilised fibre links around the ALICE facility. This will require him/her to assist in the design, build and testing of the clock distribution system and associated diagnostics. As such the candidate will be required to work within a team as well as being able to work independently on related tasks.

To apply for a sandwich student placement at the Science and Technology Facilities Council, please refer to our [website](#) for further information and how to apply.

Closing date for applications for projects based at Daresbury Laboratory is 31 January 2011.