

Job Summary

To provide technical support to all aspects of the particle physics group's research, primarily in constructing, testing and installing apparatus for experiments at the CERN laboratory, Geneva.

Main Duties

- To be part of a two person technical team that will provide high level technical support for all aspects of the particle physics group's experiments and outreach activities. This will involve using judgement to break down tasks and devise solutions in the preparation of equipment and following procedures to diagnose faults. Regular contact will be required with senior academic and research staff in the Birmingham group and possibly also at other academic institutes, as well as occasional consultations with external suppliers to devise methods for construction tasks and to diagnose and solve faults with complex equipment. The role may also include responsibility for ensuring that health and safety procedures are followed and making risk assessments.
- The main scientific activities associated with this post are as follows.
 - **ATLAS tracker upgrade:** Assisting in the assembly (gluing and ultrasonic wire bonding) of hybrid silicon detectors and associated electronics for an upgrade of a major detector component of the ATLAS experiment at the CERN Large Hadron Collider.
 - **Testing sensors in a particle beam:** With physicist colleagues, preparing and mounting detector components to be tested in the Birmingham medical physics cyclotron. Maintaining the basic infrastructure for these tests and ensuring efficient operation.
 - **Outreach activities:** Maintaining the particle detectors (cloud and spark chamber and scintillation counters) used by physicist colleagues in school visits and on Open Days

Person Specification

Essential criteria

- HNC or higher qualification in a technical subject, involving mechanical, electrical or electronic techniques.
- Very sound grounding in a wide range of technical skills and the strong motivation to develop these further.
- Ability to foresee technical problems in finely specified equipment and to suggest solutions.
- Basic general computing knowledge.
- Willingness to travel for short periods within the UK and abroad to attend meetings and assist in hardware installation.

Desirable criteria

- General skills in basic mechanical and electrical construction, electrical assembly, electronics design and construction, use of test equipment and provision of design and test documentation.
- Experience in meeting precise specifications to high standards.
- Experience with CAD or PCB layout work.
- Interest in high energy physics research.
- Outgoing nature, able to interact well with a wide range of colleagues from professors to undergraduates, also including external contacts in academia and industry.
- Driving license.