DAQ system physicist/engineer (silicon detectors R&D)

University of Birmingham - Physics and Astronomy

Location: Birmingham

Salary: Grade 7, Full time starting salary is normally in the range £31,406 to £40,927, with potential progression once in post to £43,434 a year.

Hours: Full time

Contract type: Fixed-Term/Contract

Placed on: 27 January 2022

Closes: 24 February 2022

Job Ref: 98930

The post is available with immediate effect until 31 March 2024.

This post will be based in the School of Physics and Astronomy of the University of Birmingham. The successful candidate will create and contribute to the creation of knowledge by developing Data Acquisition (DAQ) systems for the characterisation of novel silicon sensors. This activity is in support of the particle and nuclear physics groups' commitments to the R&D for a vertex and tracking detector for the Electron-Ion Collider and future experiments.

The postholder will specifically develop DAQ systems for the characterisation of novel Monolithic Active Pixel Sensor (MAPS) prototypes in 65 nm CMOS technology in laboratory, test beam and irradiation facilities. Main duties include the definition of the DAQ systems requirements and design architecture in coordination with colleagues in the group and (inter)nationally, and the commissioning of the systems through testing of MAPS prototypes.

Work will be carried out in the Birmingham Instrumentation Laboratory for Particle physics and Applications (BILPA), in collaboration with scientific partners at UK Universities and research labs, and within the EIC collaboration, ALICE ITS3 project, and CERN Experimental Physics department R&D programme.

The University of Birmingham is an equal opportunity employer. The School of Physics and Astronomy is an Athena SWAN Silver Award holder and JUNO Champion, welcomes people from all backgrounds and is committed to fostering an inclusive environment where diversity is at the heart of who we are. We encourage applications from all qualified applicants; those from minority groups who are under-represented in this discipline are particularly welcome.

Informal enquiries to Dr Laura Gonella, l.gonella@bham.ac.uk, Professor Peter Jones, p.g.jones@bham.ac.uk, Professor Paul Newman, p.r.newman@bham.ac.uk.

Skills and Experience Required:

- A higher degree (PhD) in High Energy Physics, engineering or related discipline

- Experience developing DAQ systems for High Energy Physics instrumentation

- Extensive programming experience in C++ and/or Python

- Experience with hardware (i.e. FPGA) programming languages, i.e. Verilog or VHDL

- Experience in PCB design is highly desirable

- Experience in characterisation of silicon detectors is a bonus

- High level analytical capability

- Ability to communicate complex information clearly

- Fluency in relevant models, techniques or methods and ability to contribute to developing new ones

- Ability to assess resource requirements and use resources effectively

- Co-ordinate own work with others to avoid conflict or duplication of effort

- Knowledge of the protected characteristics of the Equality Act 2010, and how to actively ensure in day to day activity in own area that those with protected characteristics are treated equally and fairly

To download the full job description and details of this position and submit an electronic application online please click on the Apply Online button above or visit our careers website;

https://bham.taleo.net/careersection/external/jobdetail.ftl?job=210002K5&tz=GMT%2B00%3A00&tzname=Europe%2FLondon

Please quote Job Ref **98930** in all enquiries.