

Research Fellow / Software Engineer to be based at CERN, Geneva – The ALICE Experiment at the CERN LHC

The University of Birmingham – School of Physics and Astronomy

Salary: Grade 7 - £33,966 to £44,263 depending on experience. (Costs towards rent in Geneva will also be paid).

Hours: Full Time

Contract: Fixed term – 3 years (with the possibility of extension)

Starting date: flexible from 1st October 2024

Background

The Birmingham ALICE group were a founding member of ALICE and have been involved in ultra-relativistic heavy-ion physics since the first heavy-ion beams at the CERN SPS in the 1980s. We have overall responsibility for the ALICE Central Trigger Processor (CTP) and are represented on the ALICE Management Board and many other ALICE Boards and working groups.

Role Summary

We are seeking a bright, enthusiastic person with experience in writing software for high energy physics experiments. The successful candidate will be based permanently at CERN and will be responsible for the software development and upkeep of the ALICE Central Trigger Processor (CTP). The successful candidate will also be expected to be on call for any CTP related problems while the ALICE experiment is taking data. In addition, the post holder would play a leading role in software development required for future projects, e.g. ALICE3. We would prefer the successful candidate to start on 1st October 2024, if possible, so they may receive training from the retiring CTP software engineer.

Main Duties

The responsibilities will include:

- Being based permanently at CERN.
- Extensive on call coverage
- Emergency hardware interventions in LHC Point 2.
- Online software development and maintenance including
 - Hardware control (trigger hardware) and monitoring
 - GRPC communication with between the CTP and ECS (Experiment Control System)
 - ZMQ communication with Grafana monitoring
 - LHC machine interface control and clock related software
 - Interfaces to other ALICE subsystems
- Work closely with other members of the team and colleagues within the ALICE collaboration.
- Play a leading role in software development for future projects e.g. ALICE3.

Candidate Requirements

- An excellent track record of physics software development within high-energy particle or nuclear physics experiments.

- A PhD in a relevant subject is preferred but not essential.
- Proficient in C++ and Python programming skills in a Linux environment
- Ability to work well within a team.
- Good knowledge of spoken and written English
- Ability to take on responsibility.

Please contact Professor David Evans (D.Evans@bham.ac.uk) or Dr Roman Lietava (roman.lietava@cern.ch) for more information and/or informal discussions.