

For the LHCb group at the Institute of Physics we seek to appoint

A Research Associate (f/m/d) (100% E13 TV-L)

Would you like to be part of detector development and construction activities, working with a highly skilled team and within an ambitious international research environment? Then let us work together towards the next generation of the LHCb experiment.

The newly established LHCb group at the University of Freiburg will cover a broad range of activities from flavour physics analyses, including CP violation studies in charm and beauty hadrons, over operational aspects of the recently upgraded LHCb detector to the development and construction of detector components for the LHCb Upgrade II. The LHCb experiment has established itself over the past decade as the world's foremost flavour factory with its unique access to all types of heavy flavour hadrons and the ability to perform precision measurements on their decay products. The recently upgraded experiment pushes the boundary both in terms of detector technology and analysis capability with the first major collider experiment exploiting a full software trigger and real-time analysis system. The ultimate flavour frontier is targeted with LHCb Upgrade II, which is being developed to accumulate a total dataset corresponding to an integrated luminosity of 300 fb^{-1} , thus ensuring the full exploitation of the HL-LHC also in the flavour sector.

Prof. Dr. Gersabeck is a leading member of the LHCb collaboration and is establishing a new group at the University of Freiburg. The group will continue his involvement in both analysis and detector development work. You will find well equipped lab space dedicated to the group and be supported by experienced engineers and technicians with access to a large workshop that is part of the Institute of Physics.

The group's main hardware involvement will be the design and construction of the Mighty Tracker, a two-component large-area tracking system comprising an inner region instrumented with HV-MAPS detectors (Mighty Pixel) surrounded by scintillating fibre modules. Prof. Dr. Gersabeck has been involved in the Mighty Pixel development since the inception of the project. The group's work on the Mighty Tracker will cover a range of activities. This includes the integration of the HV-MAPS chips, the module mechanics and cooling infrastructure integration, and elements of the DAQ chain. For both the silicon and fibre parts of the tracker, the group anticipates playing a major role in the detector construction. In addition, the group will work on R&D towards detectors for future particle physics experiments.

Your role includes that:

- You work on the detector development and construction activities of the group,
- You contribute to the development of essential elements of the LHCb Mighty Tracker,
- You contribute to the development and execution of production processes for components of the LHCb Mighty Tracker,
- You contribute to R&D towards detectors for future particle physics experiments,
- You liaise with colleagues within the University and others at collaborating institutes,
- You contribute to the supervision of undergraduate and postgraduate students,

- You present the group's findings at collaboration meetings, workshops and conferences,
- You document the group's findings in technical notes and journal publications, and that
- You participate in teaching activities as required.

You are expected:

- To have or be about to have a PhD in particle physics or equivalent qualification,
- To have experience in detector development and/or construction for particle physics experiments,
- To have contributed to publications linked to detector development,
- To be able to communicate to a wide range of audiences and have a track record of presentations on detector development,
- To be able to work in a team and to contribute to the supervision of undergraduate and postgraduate students,
- To be able to work on multiple projects in parallel and to document their progress,
- To be willing to travel as required, and
- To be willing to engage in professional development as required.

You can expect:

- Flexible work time models,
- Attractive sports opportunities and after-work activities,
- A group that values equity of access and diversity,
- Reduced-price public transport passes (Jobticket BW or Deutschlandticket), and
- Free professional development opportunities within the University.

The post duration is limited to 3 years. The remuneration is according to E13 TV-L.

Applicants are encouraged to contact Prof. Dr. Marco Gersabeck by email (marco.gersabeck@cern.ch) for further information.

Female applicants and those from an underrepresented background are particularly encouraged to apply.

Your application should include

- A cover letter outlining your suitability to the post,
- A CV including a list of recent talks and up to five most relevant publications (with contribution statements for multi-author papers),
- The names and contact details of two referees, one of which must not be from your current institute (references will be requested for shortlisted candidates).

Please send your application, latest on 7 July 2024, by email to: marco.gersabeck@cern.ch.

Please refer to our [Data Protection for Applicants](#).