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The LHCb group of IJCLab, the newly founded joined fundamental physics laboratory in Orsay (France), is inviting applications for a 2-year post-doctoral position to participate in the design of the electromagnetic calorimeter for future upgrades of the LHCb detector. The main task of the successful candidate will be to simulate and study various designs, geometries, and reconstruction methods, possibly based on FPGA co-processing, in order to define the best parameters for the Electromagnetic Calorimeter during the Phase II upgrade of the LHCb experiment, where the instantaneous luminosity and occupancy will increase by a large factor. The requirements will be defined with the goal to be also capable of measurements in the challenging environment of central heavy-ion collisions at the LHC and to contribute to analyses for the LHCb heavy-ion activity.

Depending on the candidate's interests and profile, another part-time project is possible within the broad topics of interest of the group, ranging from flavour anomalies in neutral and charged currents, CKM matrix measurements, measurements with fixed-target collisions and pPb collisions as well as in spectroscopy or activities close to instrumentation.

The post-doctoral position is part of a broader local 4-year research programme "Gluodynamics", which aims at the investigation of nucleon and nuclear geometry in view of the investigation of the QCD force and QCD radiation within QCD fluids and the conceptual and practical connections between these two fields of research and future projects for QCD research at the LHC and at the EIC. The programme bundles and puts into (inter)action world-leading expertise not only in LHCb at IJCLab, but with the ALICE groups of IJCLab and Irfu/CEA, the LHCb group and CMS group of Ecole Polytechnique (LLR), the theory groups of Ecole Polytechnique, IJCLab, Irfu/CEA, IPhT/CEA. The successful candidate will work in close collaboration with the current and future LHCb groups. In addition, this environment offers unique opportunities for scientific exchange within the fields as well as at the interfaces of High-Energy, QGP and hadron physics in experiment, phenomenology and theory.

The position is opened for early-career candidates with a PhD in particle or nuclear physics. The candidate is expected to start after the summer 2020, the exact date can be adjusted depending on the candidate's availability.

The application consists of a cover letter and a CV and the names and e-mail addresses of two references. The application or inquiries for further information should be sent to Yasmine Amhis (yasmine.amhis@ijclab.in2p3.fr) and Patrick Robbe (Patrick.robbe@ijclab.in2p3.fr). All qualified applicants will receive equal consideration without regard to appearance, beliefs, sex, sexual orientation, gender identity, national origin, or disability. The deadline for the application is 15th June 2020.