Laboratoire de Physique Corpusculaire
CNRS – IN2P3 – ENSICAEN – UCBN
UMR6534

The GRIFON group (Groupe Interactions FOndamentales et nature du Neutrino) studying weak interaction and $\nu$ nature at LPC Caen invites applications for a Postdoctoral Research Associate (PRA) position starting in April 2018. The PRA will participate in the MORA project (Matter's Origin from the RadioActivity of trapped and laser oriented ions) led by Pr Etienne Liénard, Dr Xavier Fléchard and Dr Gilles Quéméner, in close collaboration with the spokesperson of the project Dr Pierre Delahaye from GANIL. The MORA project is a European collaboration between researchers from France (GANIL, LPC Caen, IPN Lyon), Finland (JYFL), Belgium (IKS-Leuven), England (U. Manchester) and Switzerland (CERN/ISOLDE).

The final goal of MORA is the search for new sources of CP violation via the measurement of the triple correlation *D* parameter in the $\beta$ decay of oriented radioactive nuclei. To perform properly such an experiment, the radioactive source will be confined in a transparent Paul trap, similar to the LPCTrap device, with a polarization of the cloud inside the trap using the optical pumping method. Such a system has never been implemented until now and constitutes the technical originality of the project. The first step will consist in the design of the whole system, mainly based on simulations, its complete integration and the first experimental tests performed at the JYFL facility in Finland.

The PRA will be involved in all aspects of the first phase of the MORA project, especially in the basic simulations of the setup and its tuning, comprising also the test of the detection system. Silicon detectors and phoswich scintillators will be used for $\beta$ particles while recoiling ions will be detected by MCPs with position readout. The PRA is expected to conduct a large part of this work, also including seminar and conference presentations, technical paper writing and supervision of Master degree students.

Applicants with PhD will be considered from all areas of experimental nuclear physics. An important background in nuclear instrumentation is required, with preferential skills in ions or atoms trapping. Knowledge of Monte Carlo simulations, like GEANT4, will also be an asset.

The post is a 2 years fixed contract. It is based at the Laboratoire de Physique Corpusculaire (LPC) in Caen, Normandy.

Interested candidates should send a motivation letter with a CV including a list of publications and 2 contact references to Pr. E. Liénard (lienard@lpccaen.in2p3.fr).

LPC - ENSICAEN, 6 Boulevard Maréchal Juin 14050 CAEN CEDEX ● E-Mail : lienard@lpccaen.in2p3.fr
Tél: (+33)2 31 45 24 20 ● Fax : (+33)2 31 45 25 49 ● http://www.lpc-caen.in2p3.fr/