CNRS - U.Chicago PhD fellowship on the search for Light Dark Matter with DAMIC-M

A three-year PhD position, funded by a joint project of CNRS and University of Chicago, is open at the SUBATECH laboratory in Nantes, on dark matter search with the DAMIC-M experiment.

SUBATECH (Subatomic Physics and Associated Technologies) is a research laboratory co-operated by the Institut National de Physique Nucléaire et de Physique des Particules (IN2P3) of CNRS, IMT Atlantique, and University of Nantes.

The laboratory offers a vibrant scientific environment with the participation to several dark matter programs: the XENON experiment in Italy, NEWS in Canada and DAMIC-M in France, thus covering a wide range of dark matter masses, and different detection technologies. Among them, DAMIC-M (Dark Matter in CCD at the Laboratoire Souterrain de Modane - LSM) aims to explore the existence of light (WIMP masses between 1 and 10 GeV) or leptophilic dark matter (sub-GeV masses) with unparalleled sensitivity thanks to an innovative detector using Charge Coupled Devices (CCD). This unconventional use of CCDs has been successfully demonstrated by the DAMIC experiment at SNOLAB laboratory (Canada). DAMIC-M capitalizes on this experience and improves in sensitivity by increasing the detector mass and further innovating the detector technology.

During the PhD, the student will study the radiogenic background, by means of Geant4 simulations and data analysis, will perform calibration measurements and participate to the analysis of the first data from an intermediate-scale detector to be deployed at the LSM. Each year the student will spend a few weeks at the University of Chicago, under the supervision of the American PI. The fellowship includes additional fundings to cover the associated travel costs.

The candidate must have obtained a Master in Physics (or equivalent) by the starting date. Preference will be given to candidates with a knowledge in particle or astroparticle physics. The thesis is expected to start in the fall of 2019.

Candidates should also arrange for at least two letters of reference, and indicate the names and contact details of their referees in their application.

To apply, send your CV, a letter of motivation, and the last three years grade listing to: DAMIC.PhD2019@subatech.in2p3.fr

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Letters of Reference should be sent to: DAMIC.PhD2019@subatech.in2p3.fr