Postdoctoral position in experimental nuclear physics

The FALSTAFF collaboration is inviting applicants for a postdoctoral position at the LEARN laboratory in the DPhN department of Irfu/CEA in Saclay (FRANCE). The contract is for one year, renewable once by common agreement.

The laboratory is conducting worldwide-recognized research on nucleon-induced reactions, fission and reactor neutrino physics, using the most intense sources of neutrons and neutrinos in Europe, and aiming to answer both fundamental questions in nuclear physics and particle physics but also to provide accurate data and models for societal benefits. It has launched some years ago the development of the FALSTAFF fission fragment spectrometer to study the neutron-induced fission of actinides in the rapid domain. The first part of the spectrometer is built and is under final test. The setup has to be finalized rapidly in order to benefit of the upcoming neutron facility NFS at GANIL, that will open a neutron energy window poorly studied so far.

FALSTAFF is designed and developed to study the characteristics of the fission fragments detected in coincidence. Their energy and their masses before and after evaporation will be determined in order to extract the correlation between the average neutron multiplicity and the mass before evaporation. This correlation is a relevant piece of information to understand the excitation energy sharing and to improve of fission and evaporation models.

The dynamic candidate is expected to take a significant part in the FALSTAFF detector tests, the setup mounting, the experiment achievement, and all relevant analyzes including GEANT4 simulations. Participation to other experiments proposed by the team will be possible and encouraged.

The successful candidate must have a Ph.D. in nuclear physics and should have demonstrated expertise in instrumentation, simulation and data analysis. Programming skills in C++ is mandatory. As the candidate will have to work in close collaboration with technicians, engineers and scientists, good communication skills and a proactive behavior are required.

Candidates should send a cover letter describing their research activities and a Curriculum Vitae including a list of publications and two letters of recommendations. All application materials should be submitted to Diane Doré (diane.dore@cea.fr) by 15 June 2020 for a taking office by the beginning of October 2020.