



## Call for candidates at CEA Saclay Postdoctoral fellowship in nuclear physics

The Nuclear Physics Department (DRF/IRFU/DPhN) of the French Atomic Energy and Alternative Energies Commission (CEA) at Saclay invites applications **for a post-doctoral position in experimental low-energy nuclear structure physics**.

Research at DPhN is conducted in four areas: nucleon and hadron structure, quark-gluon plasma, nuclear reactions and their applications and nuclear structure. Concerning the latter, The Laboratoire d'Études du Noyau Atomique (LENA, Laboratory for nuclear structure study) has three research axes: the study of the shapes of nuclei, of the exotic nuclei, and of heavy and super-heavy nuclei (SHN). The candidate will work on this last topic.

Understanding the shell structure of nuclei, and the location of next shell gap beyond lead 208, is one of the key objectives of nuclear physics. Nevertheless, the structure in this extreme region of the nuclear chart is largely unknown. The predictions vary considerably between different models and precise data are mandatory. For that purpose, our group studies the structure of transfermiums via spectroscopic methods in order to gain insight into their properties and develop the required instrumentation. In this context, our group is involved in experimental programs at GANIL (VAMOS spectrometer in “gas filled mode” and SPIRAL2/S<sup>3</sup>), JYFL (Finland) and GSI (Germany).

The primary activity of the candidate will be the preparation of the commissioning of the S<sup>3</sup> spectrometer: he/she will work on the physics simulations of the key experiments and be involved in the tests and commissioning of S<sup>3</sup> equipment (notably the SIRIUS decay station and the Low Energy Branch). The candidate will also take part in the experiments of the group and the subsequent analysis. This will give the postdoctoral fellow access to a wide variety of data with opportunities to publish scientific articles.

Applicants are required to have a PhD in experimental nuclear physics and be familiar with data analysis. Experience with optics calculations and spectrometer physics is a plus.

The position is for one year, renewable upon mutual agreement to a second year. The project is funded by the local financing agency P2IO (Physique des deux infinis et des origines) grant. Consequently, the candidate should not have worked recently in a P2IO laboratory. The contract could start as soon as November 2017.

Interested candidates should contact Antoine Drouart at [antoine.drouart@cea.fr](mailto:antoine.drouart@cea.fr) with a CV, a motivation letter and references for recommendation, **before the 18<sup>th</sup> of September**.