# POST-DOC IAXO/DALPS at IRFU/DEDIP

**Duration:** Two years from starting date.
**Starting date:** Spring 2020.

**Research environment:**
IRFU, *Laboratory of research into the fundamental laws of the Universe*, is one of the institutes of the Direction de la Recherche Fondamentale of CEA. Located in Saclay close to Paris, IRFU is a leading basic research laboratory in France. Its fundamental research activities focus on astrophysics, nuclear physics, particle physics and their mutual boundaries. IRFU know-how is characterized by high level expertise and powerful equipments in areas such as detector or accelerator technologies, cryomagnetism, space technologies, engineering, electronics and data processing. Thanks to its implementation into CEA, a major actor in research, in development and in innovation, IRFU takes advantage of an environment allowing flow of new ideas for technological research.

**Job description:**
In the context of the International AXion Observatory (IAXO), DALPS is a new consortium gathering Micromegas, Transition edge sensors, Metallic Magnetic Calorimeters and Silicon Drift Detectors that will improve the sensitivity of X-ray detectors. IAXO's main goal is to look for new hypothetical fundamental particles called axions coming from the Sun. The detectors developed in DALPS, financed by the French *Agence Nationale de la Recherche* (ANR), will be installed in BabyIAXO, an intermediate experimental stage of IAXO, with already relevant physics reach and with potential for discovery.
Our group is involved in the preparation of the BabyIAXO experiment, focused in the development, preparation and characterization of a new low-background Micromegas-based x-ray detector for the focal point of BabyIAXO**.** The candidate will contribute to the Micromegas activities in particular in the commissioning and optimisation of the detector demonstrator. The candidate will have an important role in the data analysis for background evaluation and in the evaluation of the performance of the detector with focusing optics.
The work will be done in close connection with the rest of members of the IAXO international collaboration, at the moment composed by 17 institutions, including CERN and DESY.

**Required experience:**
Recent PhD in particle physics, astroparticle physics or related field. Experience in instrumentation, detector development, GEANT4 and data analysis will be considered assets. Candidates should be able to work independently, as well as integrate into the framework of a large collaboration.

**Application:**
Interested candidates should send their CV and a letter of motivation to: esther.ferrer-ribas@cea.fr
In addition they should arrange for two letters of recommendation to be sent to the same address before the 9th of December 2019.

**For more information:**
https://iaxo.web.cern.ch/content/home-international-axion-observatory ; http://irfu.cea.fr/
http://irfu.cea.fr/Phocea/Vie_des_labos/Ast/ast_sstheme.php?id_ast=4218