

PERMANENT RESEARCHER – CEA\IRAMIS\LIDYL - M/F

Directorate

The Directorate for Fundamental Research (DRF), implemented on all civilian centers of the CEA, has as its main objective to undertake fundamental research in relation to the missions of the CEA in the fields of physics, chemistry and life sciences, in which its excellence is internationally recognized.

Research unit

The Interactions, Dynamics and Lasers Laboratory (LIDYL), which is part of the CEA's Institut Rayonnement Matière de Saclay (IRAMIS) and which hosts the EMR9000 CNRS-CEA research unit, carries out fundamental research on laser-matter interaction in the ultra-short pulse duration and Ultra-High Intensity (UHI) regimes. LIDYL operates the cutting-edge ATTOLab-Orme (dedicated to ultrafast dynamics studies in the gas and solid phases at the femtosecond and attosecond time scales) and UHI100 (devoted to relativistic optics, radiation generation and particle acceleration studies) facilities. The latter is based on a 100TW-class Titanium-Sapphire laser coupled to a new experimental area, the geometry and equipment of which have been optimized in the framework of the fitting out of the entirely new LIDYL laboratories implemented on the Orme des Merisiers site of the CEA Paris-Saclay in 2021. The state-of-the-art facility UHI100 will allow the use of two intense, synchronized laser beams of ultra-high temporal contrast. This configuration will allow in particular the implementation of a broad range of experiments in the field of relativistic optics on plasma mirrors and laser particle acceleration in dense and underdense plasmas.

Job Description

Detailed description

Within, and in connection with the other scientists of the Physics at High Intensity (PHI) group of LIDYL, the incumbent will carry out an original high-level experimental scientific activity, exploiting the characteristics of the LIDYL's UHI100 facility, without excluding the use of other external experimental facilities, and in particular PW-class research infrastructures in France or abroad. This experimental activity will benefit from the strong support of numerical simulation experts from the PHI group for the predictive part of the experimental results and/or their interpretation. The recruited scientist will actively build research projects in response to national and European calls for funding applications in order to ensure the sustainable funding of their scientific activity, as well as contributing to maintaining at the best level and/or the future evolutions of the UHI100 facility. In this perspective, they will be able to develop links with the related national and international scientific communities and with the various industrial leaders in the field. The incumbent will also actively participate in the scientific life of the group, the training of young scientists (trainees, doctoral students and post-doctoral researchers). They will place their work within the framework of the CEA missions.

More specifically, the incumbent will:

- Develop an original, high-level experimental activity in the field of ultra-high intensity laser-matter interaction, which exploits not only the specific characteristics of the in-house UHI100 laser facility but also those of other state-of-the-art laser facilities (Apollon, ELI-ERIC, CoReLS,...).
- Respond to national and international calls for applications in order to ensure the sustainable funding of their scientific activity.
- Develop national and international collaborations.
- Work within the framework of CEA's missions and in cooperation with other research organizations.
- Actively participate in the scientific life of the group and in the supervision and training activities of students and non-permanent researchers.

Required qualifications:

The incumbent must:

- demonstrate good research experience in ultra-high intensity laser-matter interaction research achieved on one or several multi-TW-class or higher peak power laser facilities.
- hold a PhD in the field of laser-matter interaction physics.
- be a motivated, passionate, responsive experimental physicist.
- have an appetite for teamwork, good writing and communication skills in English and ensure the visibility of their activity at the international level.

Application/selection procedure:

Candidates must apply online via the CEA career website via (<https://www.emploi.cea.fr/offre-de-emploi/liste-offres.aspx>) and by additionally emailing a complete file to jobs.lidyl@cea.fr.

The application file will contain:

- a CV;
- a comprehensive record of professional achievements (publications, fellowships, awards, etc...) including a short description of the main personal accomplishments (conceptual, technical, ...);
- a covering letter highlighting the motivations for applying to this position;
- a scientific program (10 pages maximum) over at least 5 years, detailing how the incumbent will reinforce the team and complement the programs already developed by the PHI group;
- contact data of three professional references that might be contacted (for shortlisted candidates).

Application deadline extended : 12/31/2022 - 23:59 CEST.

Contact: jobs.lidyl@cea.fr.