



## Permanent Researcher in Ultra-Wide-Bandgap Semiconductors at CEA-IRIG, Grenoble

The Laboratory for Quantum Photonics, Electronics, and Engineering (PHELIQS, <https://www.pheliqs.fr/en>), a joint research unit of the French Commission for Atomic Energies and Alternative Energies (CEA), Université Grenoble Alpes and Grenoble INP Institut d'ingénierie et de management, is currently accepting applications for a **CEA permanent position** aimed at an outstanding early-career researcher **in the field of ultra-wide-bandgap semiconductors**, with a specific focus on nitride and oxide compounds.

PHELIQS is a fundamental research laboratory comprising approximately 50 permanent researchers engaged in activities related to condensed matter physics, nanophysics, and quantum phenomena. Within PHELIQS, the "NanoPhysics and SemiConductors" (NPSC) team has a recognized expertise in the development of optoelectronic materials, nanostructures, and semiconductor devices. The research extends into diverse areas including quantum photonics, quantum transport, innovative approaches for UV, visible, and infrared optoelectronics, and power electronics. Studies cover the epitaxial growth of a variety of materials, including III-nitrides, arsenides, selenides, and tellurides. In addition to the growth systems, NPSC maintains a large set of electrical and optical characterization setups. They also have access to platforms for advanced material characterization at the atomic scale and fully equipped cleanroom facilities (<https://pta-grenoble.com>).

### Position Overview

PHELIQS is eager to strengthen its activities in the field of ultra-wide-bandgap semiconductors. This position is closely associated with a recently assembled molecular beam epitaxy (MBE) cluster that connects two MBEs for the growth of III-nitride semiconductors and oxide compounds, such as gallium/aluminum/nickel oxides, e.g. for applications in power electronics, photodetection or functional materials. The applicant is expected to propose and lead a new research program in strong synergy with the laboratory's equipment, platforms, and expertise, reinforcing the bridge between material synthesis and applications.

The appointed researcher will develop an original research project within the NPSC team. The expectation is for the researcher to contribute to a collaborative and supportive work environment, as along with managing collaborations with academic, industrial partners, and other teams within CEA. The successful candidate will supervise the research activities of students and post-doctoral researchers. A strong team spirit is therefore required.

### Location and Environment

Located in the French Alps and surrounded by a stunning natural environment, the international city of Grenoble hosts a rich scientific ecosystem in the domain of semiconductors, with key research organizations (CEA, CNRS), Université Grenoble Alpes, Large Scale European Infrastructures (ESRF, ILL), and high-tech companies such as Lynred, Aledia, Soitec, or STMicroelectronics.

CEA is a public research organization that stands at the crossroad between fundamental and applied research. PHELIQS is one of the 10 laboratories of the Interdisciplinary Research Institute of Grenoble (CEA-IRIG), which gathers 1200 employees working in the fields of physics, chemistry, biology, health, and cryotechnologies (<https://www.cea.fr/drf/irig/english>).

### Qualifications

Candidates should hold a PhD degree in physics, electrical engineering, materials engineering, or a related discipline, along with a minimum of 2 years of post-doctoral research experience. International experience in the field of semiconductor physics (ideally in semiconductor epitaxy), a strong track-record of high-quality international publications, and a demonstrated ability to independently manage a research project are essential qualifications.

### How to apply

Applicants shall send a cover letter indicating their interest and fit with the position, detailed curriculum vitae including a description of their major achievements, list of publications, and research statement (2 pages max explaining current and future research interests) to [pheliqs.UWBG@cea.fr](mailto:pheliqs.UWBG@cea.fr). In addition, they must arrange for three letters of recommendation to be sent directly to the same address. To ensure consideration, applications must be received by **May 3<sup>rd</sup>, 2024**.

Selected candidates will be interviewed by a committee of experts in June 2024.

For more information about the position and the organization, please contact [edith.bellet-amalric@cea.fr](mailto:edith.bellet-amalric@cea.fr) and [eva.monroy@cea.fr](mailto:eva.monroy@cea.fr).