Permanent Position on Research and Synthesis of Novel Quantum Materials 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, is currently accepting applications for a **CEA permanent position** for an outstanding early-career researcher **in quantum materials**, with a specific focus on research of new families and the synthesis of these materials.

PHELIQS is a fundamental research laboratory with around 50 permanent researchers working in condensed matter physics, nanophysics, and quantum phenomena. Within PHELIQS, the "Quantum Materials team" (IMAPEC) is known worldwide for its works on quantum materials under extreme conditions of low temperatures, high magnetic fields and high pressures. It also has unique equipment for the synthesis of these materials, notably for the growth of high purity single crystals of intermetallics, including rare earth and uranium-based systems.

This equipment is also key for more applied projects related to energy, spatial cryogenics or nanoelectronics. These are mainly conducted thanks to collaborations with other application-oriented laboratories from CEA.

Position Overview

The position will strengthen the activity on quantum materials at Pheliqs, with a specific impulse on the research and synthesis of new families of materials, displaying emergent properties thanks to (for example) their topological electronic excitations, strong correlations, multipolar magnetic orders, reduced dimensionality… A strong synergy with the part of the team studying such systems at low temperature is instrumental. The available crystal growth equipment is quite complete, including metallic flux, chemical vapor transport, melting zone, Czochralski and Bridgman techniques, with resistive, inductive, arc or optical heating, under controlled atmosphere or (ultra) high vacuum. Technical support for the synthesis, as well as for electronics or mechanics is available in the team.

Key responsibilities include:

- Generating high-level scientific results on quantum materials thanks to the crystals produced.
- Supervising and mentoring students (interns, PhD candidates) and /or postdoctoral researchers.
- Actively contributing to the scientific life, visibility, and strategic development of the team, laboratory, and broader research community.
- Initiating and coordinating new scientific projects, and securing competitive funding or benefits from more applied activities at local, national, or international levels.

Location and Environment

Grenoble, located in the French Alps, offers an exceptional scientific ecosystem headed by the Université Grenoble Alpes, notably for research on quantum materials: state-of-the-art equipment is available in CEA (electronic microscopy, X-ray diffractometers), a large community is gathered in close by laboratories from CNRS (Institut Néel and LNCMI) and major European facilities (ILL, ESRF, EMFL) are hosted in Grenoble, for the most advanced studies using neutrons, synchrotron radiation and high magnetic fields.

CEA is a public research organization at the interface of fundamental and applied research. PHELIQS is one of the ten laboratories of the institute CEA-IRIG, which brings together 1,200 staff in physics, chemistry, biology, health, and cryotechnologies (https://www.cea.fr/drf/irig/english).

Qualifications

Applicants should hold a PhD degree in physics or chemistry, or related field, along with at least 2 to 4 years of postdoctoral experience. International experience in material synthesis, a solid publication record, and the ability to lead an independent research program are required.

How to apply

Candidates should send a cover letter indicating their interest and fit with the position, detailed CV including major achievements and publication list, and a 2-pages research statement to jean-pascal.brison@cea.fr. In addition, 3 letters of recommendation must be sent directly to the same address. To ensure consideration, applications must be received by **June 30th, 2026**.

Selected candidates will be invited to **visit the laboratory in July**, and will be **interviewed** by a committee of experts **end of August-beginning of September 2026.** The position should **start in December 2026**.

For more information, please contact jean-pascal.brison@cea.fr.