Permanent researcher position

Quantum properties of materials or systems studied by local probe techniques at very low temperature

Laboratory for Quantum Photonics, Electronics and Engineering (PHELIQS), IRIG-CEA Grenoble

ENVIRONMENT

Located in the French Alps and surrounded by a stunning natural environment, the international city of Grenoble hosts a rich scientific ecosystem formed by public research organizations (CEA, CNRS), Université Grenoble Alpes (UGA), Large Scale European Infrastructures (ESRF, ILL), and high-tech companies. Université Grenoble Alpes attracts a large number of students in a broad range of disciplines, including quantum technologies and quantum matter through its Federation QuantAlps.

The French Alternative Energies and Atomic Energy Commission (CEA) is a public research organization. As a major actor in research, development and innovation, the CEA is involved in four missions: Defence and security, nuclear energy (fission and fusion), technological research for industry, and fundamental research (both in material sciences and life sciences). With its 16,000 employees - technicians, engineers, researchers, and research support staff - the CEA participates in numerous collaborative projects alongside its academic and industrial partners.

Within the Direction of Fundamental Research (DRF) of CEA, the Grenoble Institute for Interdisciplinary Research (IRIG) conducts research in biology, health, nanosciences, cryo-technologies and new technologies for energy and the environment. Physicists, chemists, biologists, doctors, computer scientists and mathematicians jointly participate in this fundamental research and the applications that result from it, giving the institute a remarkable capacity to respond to major societal challenges.

The Laboratory for Quantum Photonics, Electronics and Engineering (PHELIQS, https://www.pheliqs.fr) is a Joint Research Unit of Université Grenoble Alpes, the CEA (within which it is attached to the IRIG) and Grenoble INP. With 53 permanent and 47 non-permanent staff spread between 5 teams, PHELIQS conducts fundamental research activities in the fields of nanophysics and condensed matter physics, with potential mid- and long-term applications for information and communication technologies. In particular, the research performed at PHELIQS aims to understand and master the unique physical effects that appear in nanoscale systems and quantum materials, both experimentally and theoretically.

JOB DESCRIPTION

The Laboratory for Quantum Photonics, Electronics and Engineering Laboratory is hiring a permanent researcher to study **quantum properties of materials or systems by local probe techniques at very low temperature**.

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Interdisciplinary Research Institute of Grenoble
Quantum Photonics, Electronics and Engineering Laboratory
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PHELIQS addresses the main open challenges in nanoelectronics and photonics, focusing on the fundamental properties of devices operating in the quantum regime. Within PHELIQS, the LaTEQS team offers an exceptional scientific and technological environment for research on nanoelectronic devices in the quantum regime, including the access to an academic clean-room (PTA), as well as on the local properties of quantum conductors studied by scanning tunneling microscopy.

Candidates will have to propose an ambitious research project that complements the scanning tunneling microscopy activities currently carried out at LaTEQS (https://www.lateqs.fr) and opens new axes of research. The theme may focus on two-dimensional materials, superconductivity, magnetic impurities, manipulation of quantum states or any other quantum phenomenon probed at local scale.

QUALIFICATION

Candidates must hold a PhD in physics and have postdoctoral research experience. The position requires proven experimental skills in surface science, scanning probe microscopies and quantum transport at very low temperature. Candidates will be evaluated on the quality of their research work and scientific achievements, as well as the relevance of their project.

The successful candidate will supervise the research activities of PhD and postdoc researchers. They will develop their own project in close synergy with partners. A strong team spirit is therefore required.

In accordance with the commitments made by the CEA to the integration of people with disabilities, this position is open to all.

HOW TO APPLY

Candidates must submit a cover letter indicating their interest and fitness for the position, a detailed curriculum vitae including a description of their main achievements and contributions, a list of publications and a research project (3 pages maximum) detailing the originality of the subject as well as its integration into the team's activities. The file will be sent to francois.lefloch@cea.fr. In addition, they must arrange for three letters of recommendation to be sent to the same address. Candidates are encouraged to contact vincent.renard@cea.fr and clemens.winkelmann@cea.fr before submitting their application.

To be considered, applications must be received no later than 5 September 2025. Shortlisted candidates will be invited to visit the laboratory in September 2025. Auditions by a committee of experts will take place in October 2025.

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