

## Researcher in metrology for solid-state quantum computing

### Full-time permanent position

Location : St Quentin-en-Yvelines (Trappes / France)

Reference : AP/PNQ/DMSI

Leader in the development of measurement technics and references, with a strong reputation in France and abroad as National Metrology Institute, the Laboratoire National de Métrologie et d'Essais (LNE) supports industrial innovation and is a key player in making the economy more competitive and society safer through reliable and harmonized measurements.

As the driving force behind French metrology, our research lies at the heart of our public service mission, and is a fundamental factor in supporting the academic world and the competitiveness of companies, through ever more reliable measurements on innovative subjects such as artificial intelligence, nanotechnologies and quantum technologies.

### Missions

As part of the French National Quantum Strategy, LNE coordinates the MetriQs-France program, dedicated to the development, operation and promotion of measurement references for reliable characterization and evaluation of quantum technologies. To support these activities, LNE and its partners in the National network of French Metrology (Réseau National de la Métrologie Française - RNMF) are setting up a quantum metrology platform. In particular, LNE is developing a laboratory dedicated to the metrological characterization of solid-state qubits and associated enabling technologies.

As a research engineer in the fundamental electrical metrology department, your main mission will be to contribute to the development of this laboratory and the associated new metrology activity in support of the development of quantum technologies.

You will be responsible for the development and operation of very low-temperature (~10 mK) experimental systems and low-noise electrical instrumentation (measurement and control), dedicated to the metrological characterization of solid-state qubits (superconductors and spins) and associated enabling technologies (cryogenics, cabling and electronics, mainly in the microwave regime).

You will be involved in setting up, managing and executing national, European and even international projects. In particular, you will be working closely with the national quantum ecosystem (academics, industry - large groups and startups - etc.). You will play a full part in the experimental work:

- develop measurement devices and instrumentation,
- carry out measurements,
- analyze and interpret data.

You will be responsible for promoting the results in scientific communications (publications, conferences, etc). You may also be involved in more specific activities, such as the production of good practice guides, standardization work, measurement services and training.

You should be able to supervise a doctoral student and/or post-doctoral fellow, work closely with the current team and, if necessary, welcome visiting scientists. You will also be able to integrate your work into general research and innovation programs, and to develop collaborations with academic and industrial partners, as well as with foreign national metrology laboratories, using your own network of collaborators and/or that of the team.

## Profile

PhD in physics, preferably with an engineering degree, with some experiences in the field of solid-state qubits (superconductors and/or spin/semiconductors), you have a strong taste for experimental science, measurement, instrumentation, as well as technological and applied research.

You have skills in physics applied to solid-state quantum computing. You also have knowledge of very low-temperature cryogenics, microwave instrumentation and measurement, and software development for the control of measuring instruments. In addition, an interest in innovation and technology transfer would be a real asset.

Autonomous, rigorous, good communicator, you are dynamic and enjoy teamwork in an open and constructive spirit.

Occasional travel for all scientific exchanges required for the mission (Paris and Paris area, France, Europe, International), as part of European research projects, (international conferences, etc) and in France as part of on-site measurement campaigns (Paris area, Grenoble) are to be expected.

Our level of English enables you to make telephone calls, lead meetings and draft documents in this language.

Possibility of teleworking in accordance with the current company agreement (up to 1 day per week).

### Joining LNE means:

- ✓ Joining an international group with nearly 1,000 employees.
- ✓ Participating in the development of a Public Industrial and Commercial Institution (French acronym EPIC) that has been serving society and citizens since 1901.
- ✓ Joining a company that supports local authorities and industry in meeting tomorrow's social and environmental challenges.
- ✓ Join a research organization involved in European and international projects.
- ✓ Join a company that places respect and fairness at the heart of its HR policies.
- ✓ Join a company that is committed to a CSR policy and has set up a sustainable mobility package.
- ✓ Join a company that offers personalized introduction and regular training.
- ✓ A 12-month fixed salary plus an annual end-of-year bonus\*.
- ✓ Executive status with a 205-day fixed salary and numerous benefits.
- ✓ A profit-sharing bonus and an employee savings plan (PEE/PERCO) with matching contributions\*.
- ✓ Possibility of teleworking in accordance with the company agreement in force.
- ✓ Mutual insurance\* and provident scheme\*.
- ✓ Access to the company restaurant directly on our Trappes site.
- ✓ Access to a wide choice of offers through our social and economic committee (CSE).

\* under the conditions set out in the agreements and their amendments.

*To apply, send your CV and covering letter to: [recrut@lne.fr](mailto:recrut@lne.fr), quoting job reference AP/PNQ/DMSI in the subject line.*