Université de Strasbourg

Research Engineer HPC/Quantum - Maison du quantique Grand Est
European Center for Quantum Sciences (CESQ)

1. Context Maison du quantique Grand Est – MaQuEst

Environment:

Based within the University of Strasbourg and the CNRS, the **European Center for Quantum Sciences (CESQ)** is a transnational center for education and research in quantum sciences, affiliated with the Institute for Supramolecular Science and Engineering (ISIS – UMR 7006). CESQ builds on Strasbourg's exceptional tradition of interdisciplinary research in physics, chemistry, materials science, photonics, and computer science, with the aim of developing new themes in fundamental and applied research, as well as use cases for the emerging quantum industry.

It is within this environment of excellence that the **MaQuEst project – Maison du Quantique Grand Est** – is anchored. Led by the University of Strasbourg in collaboration with academic partners (UTT, URCA, and Inria-UL) and industrial players (Euro-Information, QPerfect, and Damavan Imaging), MaQuEst is part of France's National Quantum Strategy and contributes to the nationwide network of Maisons du Quantique. MaQuEst aims to position the Grand Est Region as a major hub for high-performance computing (HPC) and quantum computing at national and European levels. With three physical sites in Strasbourg, Reims, and Troyes, and three satellite hubs to cover the region, MaQuEst brings together a dynamic and growing ecosystem combining cutting-edge research, cross-border collaboration, and industrial innovation. The project fosters collaboration between academia and industry to develop concrete use cases in key sectors such as biotechnology, artificial intelligence, finance, and operations research. It benefits from platforms like the aQCess quantum computing infrastructure in Strasbourg, the ROMEO supercomputer in Reims, and the strong involvement of industrial partners and regional innovation stakeholders.

Its objectives include accelerating the adoption of quantum and hybrid technologies, disseminating research-driven innovations, training economic players in quantum challenges, supporting startup creation, and strengthening national and cross-border collaborations. MaQuEst thus plays a key role in the national network of Maisons du Quantique and in building a robust, sustainable, and locally rooted quantum ecosystem.

2. Position Overview

Status : Contractual	**Category :** A	**Rank :** Research Engineer
Position title : Research Engineer "MaQuEst" – Maison du Quantique Grand Est		
Job type: Research Engineer – High-Performance Computing and Quantum Integration		
BAP : BAP C		

Department / Unit: University of Strasbourg – Institute for Supramolecular Science and Engineering (ISIS) – European Center for Quantum Sciences (CESQ)

Contact for information:
Imane Barbara-Bokeloh (Project Manager) – ibarbara@unistra.fr
Prof. Shannon Whitlock – whitlock@unistra.fr

3. Mission

The research engineer will contribute to the development of activities of the Maison du Quantique Grand Est (MaQuEst), hosted by the European Center for Quantum Sciences (CESQ) at the University of Strasbourg. They will bring scientific and technical expertise aligned with the needs of academic and industrial partners in the region, taking into account local specificities. The engineer will play a key role in software integration between the aQCess and Eviden/GENCI/ROMEO platforms in the strategic field of hybrid quantum computing.

4. Activities

- Develop a software interface between the aQCess quantum computing platform based on neutral atoms and the regional and national High Performance Computing infrastructure.
- Develop and implement software solutions for hybrid quantum computing based on the needs identified by MaQuEst partners.
- Act as a technical interface with academic and industrial partners to ensure interoperability between platforms (aQCess, Eviden, GENCI, ROMEO).
- Conduct technological and scientific monitoring in the fields of quantum computing, high-performance programming, and hybrid architectures.

5. Required Skills and Profile

Knowledge:
- PhD or equivalent research experience in computer science, physics, or applied mathematics.
- Understanding of quantum technologies and hybrid (quantum/HPC) computing.
- Proficiency in software development tools, quantum simulators, and relevant programming languages (e.g., Python, Qiskit).
- Good command of technical English, both spoken and written.

Operational skills:
- Experience in research project management, software development, or programming (quantum or high-performance computing) is a plus.
- Experience with IT services and system integration, including configuration, maintenance, security, and troubleshooting of network connections.
- Ability to identify and formalize use cases with industrial and academic partners.
- Familiarity with hybrid computing platforms (e.g., GENCI, aQCess, ROMEO).
- Ability to conduct technological and scientific watch and share knowledge within a network.
- Ability to contribute to educational and outreach activities.
- Participation in scientific events (conferences, seminars, hackathons).

Soft skills:
- Autonomy and ability to organize work according to project priorities.
- Strong interpersonal skills, ability to work in a team and interact with diverse profiles (academic,

industrial, institutional).
- Rigor, organizational skills, and ability to document and report on activities.
- Scientific curiosity and strong interest in technology transfer and innovation.

6. Working Environment

Department overview:
- Name: European Center for Quantum Sciences (CESQ)
- Staff: 50
- Workplace: CESQ, Cronenbourg Campus, 23 rue du Loess, Strasbourg

Hierarchical supervision:
- CESQ Director

Functional relationships:
- aQCess Coordinator
- CESQ Director
- MaQuEst Team
- MaQuEst Partners

Special conditions:
- 12-month renewable fixed-term contract

To apply, please send your CV and cover letter to:

Prof. Shannon Whitlock – whitlock@unistra.fr

Imane Barbara-Bokeloh (Project Manager) – ibarbara@unistra.fr