

Research Engineer platform aQCess European Center for Quantum Science

1. Context of the platform aQCess

Environment :

The “European Center for Quantum Sciences – CESQ” of the University of Strasbourg and CNRS is a transnational quantum research and educational hub. CESQ builds upon the exceptional tradition of interdisciplinary research in Strasbourg, focusing on quantum physics and its interfaces with chemistry, materials science, photonics and computing, towards new applications in basic science and for the emerging quantum industry.

Description of the platform aQCess, and of its structural environment:

The activity concerns the establishment of a new public research and user platform for quantum computing: “aQCess - Atomic quantum computing as a service” which brings together a large number of French and International academic and industrial partners and is supported by the “Plan d’Investissement d’Avenir” of the “Agence National de la Recherche” and the “Programme et Equipements Prioritaire de Recherche Quantique” (PEPR) within the national quantum strategy.

In this context, the research engineer of the platform will work closely with the coordination and scientific teams within an international consortium to realize a large-scale research infrastructure and sustainable quantum computing platform, leading to the establishment of a quantum computing center and ecosystem in the east of France.

2. Position identification

Status : Fixed-term contract

Category : A

Corps : Research Engineer

Position : Project leader / Technical manager « aQCess » Atomic Quantum Computing as a service.

Job-type : Engineer in experimental physics

BAP : BAP C

Composante, Direction, Service : Université de Strasbourg, Institut de Science et d’Ingénierie Supramoléculaires (I.S.I.S), Centre Européen de Sciences Quantiques (CESQ)

Contact(s) for more information :

Prof. Shannon Whitlock (whitlock@unistra.fr).

We encourage interested candidates to contact Professor Shannon Whitlock regarding the position and the long-term prospects of the project.

3. Mission

He/she will perform the technical development of the platform aQcess at the new European Center for Quantum Sciences of the University of Strasbourg.

4. Activities

➤ **Principal activities**

- Help in the planning and execution of the technical installation of a full stack quantum computer Based on atomic qubits
- lead the technical development of the platform
- Daily operation and maintenance of the equipment

➤ **Associated activities**

- Help users to access to the platform

5. Skills

➤ **Professional environment skills :**

- PhD in experimental physics
- Experience working with laser cooling and trapping, lasers, electronics, computer control, vacuum systems
- Computer programming experience and control of complex instruments
- A good knowledge of technical English

➤ **Operational skills :**

- Implement technical solutions to difficult problems
- Ensure the proper functioning of the platform
- Team working

➤ **Behavioral skills :**

- Sense of organisation
- Time management skills
- Know how to be autonomous
- Show initiative
- Know how to report on your work

6. Environment and work context

➤ **Description of the department:**

- Name of the department: European Center for Quantum Science
- Number of staff: 40
- Number of staff to supervise: 1-2 trainees
- Place of work: Campus Cronenbourg, Université de Strasbourg

➤ **Hierarchical relationship :**

- Coordinator of the platform aQCess and the director of the CESQ

➤ **Functional relationships :**

- Director CESQ
- Coordinator of the platform aQCess
- Director of the platform aQCess
- Project leader of the platform aQCess
- Technicians of the platform aQCess
- Administrative and financial assistant of the CESQ
- Responsible of health and security of the CESQ
- Partners of the platform aQCess

➤ **Special working conditions :**

- Significant hourly amplitude
- Availability depending on the activity
- Possible variability of working hours
- Specific constraints
- Deadline constraints to be respected
- Frequent interruptions
- Standing job
- Noise exposure
- Some exposure to electric and magnetic fields
- Carrying of loads (e.g. electrical equipment)
- Wearing protective equipment (including laser safety goggles)
- Mobility in tight spaces
- Prolonged screen work
- Use of ladders
- Use of hands for precision work (e.g. aligning optics)
- Essential interactions with many interlocutors
- Treatment of confidential information
- Specific organization linked to the different structures