PhD position – QuantEdu-France & QMat

Centre Européen des Sciences Quantiques

1. Context

Quantum technologies are one of the most dynamic fields of advanced technology, and of major strategic importance for France and Europe. As a result, the University of Strasbourg and CESQ is offering a PhD position funded by the QuantEdu-France programme managed by the National Research Agency under the France 2030 program and the Interdisciplinary Thematic Institute QMat of the University of Strasbourg.

The project will develop new detector technology to enable time-, space- and photon-resolved readout of atomic arrays for quantum science and quantum computing. We will apply this to investigate new protocols for real-time monitoring and feedback of interacting quantum systems for studying non-equilibrium dynamics, qubit engineering and efficient atom-photon interfaces.

2. Position identification

Type of contract: Doctoral contract **Category (A, B or C):** A

Title of post: PhD researcher
Contract/project period: 01.02.2026 - 31.01.2029
Expected date of employment: 01.02.2026
Proportion of work : Full time
Workplace : Institut de Science et d'Ingénierie Supramoléculaires (ISIS) – Centre Européen de Sciences Quantiques (CESQ)
Desired level of education: Masters in Physics or equivalent
Experience required: Experience in experimental atomic, molecular and atomic physics
Contact(s) for information on the position (identity, position, e-mail address, telephone):
WHITLOCK, Shannon, whitlock@unistra.fr

Date of publication:
Closing date for the receipt of applications: 19.01.2025

3. Activities

As part of the PhD project, the recruited researcher will be expected to engage in a range of scientific and collaborative activities

- Develop novel protocols for reading out neutral atom quantum systems
- Perform experimental studies on atom-light interactions in Rydberg-interacting atomic systems
- Cross-border collaboration and mobility, with the opportunity to engage in collaborative meetings with partner institutions and to present your work at national and international conferences

4. Skills

- **Qualifications/knowledge:**
- Master in physics with a background in experimental atomic physics
- Experience working in a quantum science laboratory
- A good knowledge of technical English
- **Operational skills/expertise :**
- Ability to conduct research collaboratively and independently.
- Implement technical solutions to challenging problems.
- Good communication skills.
- Experience in working in a team considered favourably.

- **Personal qualities:** curiosity, strong motivation for research, great organisational skills, ability to learn new subjects. Ability to work in group. Skills for written and oral presentation of research results.

5. Working environment and context

The European Centre for Quantum Sciences (CESQ), attached to ISIS (Institut de Science et d'Ingénierie Supramoléculaires), develops new lines of research and technology exploiting quantum principles, at the frontiers to chemistry, physics, materials science, and computing.

- **Service description:**
  - Department name: Centre Européen de Sciences Quantiques, ISIS (UMR7006)
  - Number of staff in department: 50
  - Number of supervisors (if any): 2
  - Location: Centre Européen de Sciences Quantiques, Campus Cronenbourg, 23 rue du Loess, Strasbourg.

  The PhD researcher will be a member of the CESQ, directed by Guido Pupillo.

- **Special conditions of practice (notice attached): None**

For further information, please contact Shannon WHITLOCK whitlock@unistra.fr

Applications (CV, cover letter and any references) to be sent by email before 19.01.2025 to whitlock@unistra.fr with the Ref: QuantEdu PhD 2026

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