

Post-Doctoral Position

Quantum Coherent Communications and Cryptographic Applications

Télécom Paris is one of France's top graduate engineering schools and is considered the leading school in the field of information technologies. We are located in Palaiseau, at the heart of the scientific and technological cluster of Paris-Saclay. Within the European Quantum Technology Flagship we participate to the projects CIVIQ (<http://civiqquantum.eu/>) and OPENQKD (<https://openqkd.eu>) where we explore different fundamental and technological challenges related to coherent quantum communications and quantum cryptography, in particular to continuous-variable quantum key distribution (CV-QKD). We work on 3 main axes:

1. The development of CV-QKD systems fit for integration into real-world networks, relying on novel techniques for the joint operation of classical and quantum coherent communications.
2. The implementation security of quantum cryptographic hardware, and the establishment of methods and standards for their security evaluation and certification.
3. Developing and demonstrating alternative approaches to quantum cryptography, with enhanced performance and functionalities, in hybrid (quantum and computational) security models.

The post-doctoral fellow will be expected to actively contribute to axis 1. where the core objective is to design and validate quantum communication systems leveraging DSP techniques and off-the-shelf telecom components to meet the specific requirements of quantum-secured communications.

The successful candidate will moreover have the opportunity, depending on his/her profile and interests, to work on one or both of the other axes, i.e. on quantum hardware security or theoretical quantum cryptography.

An excellent working environment will be provided, with access to a state-of-the-art 40-G coherent optical communication experimental platform as well as regular interactions with the team composed of professors (Romain Alléaume, Yves Jaouën, Cédric Ware), a research engineer and 2 PhD students, with combined expertise both in optical communications and in quantum cryptography.

Eligibility and Conditions:

- Candidates must hold an internationally recognized PhD degree in quantum information science, preferably in relation with quantum communications and/or quantum cryptography.
- Experience in experimental quantum communications and/or in digital communications will be highly appreciated.
- Monthly salary of 2300 € (pre-tax) and up according to professional experience.
- This post-doctoral position offer is for a 24-months contract, with possible extension to 3 years.

Application Deadline and Procedure:

The position is open until filled.

To apply for the position, please send your curriculum vitae, a statement of research interests, and the names of two recommenders to Romain Alléaume (romain.alleaume@telecom-paris.fr).