-------- JOB ANNOUNCEMENT --------

Associate Professor in Quantum information processing with photons

TELECOM PARIS

Télécom Paris is one of the top four engineering schools in France and the top engineering school for digital technologies. Recognised for its close ties with businesses, this public graduate school ensures excellent employment prospects in all industries. Télécom Paris is at the center of a unique innovation ecosystem, drawing on the interaction and cross-disciplinary nature of the school’s academic programs, interdisciplinary research, two business incubators and its campuses (Paris and Sophia Antipolis – EURECOM). Its LTCI laboratory has been accredited by HCERES as an outstanding unit in the field of digital sciences for its international reputation and exceptional number of initiatives supporting the socio-economic world and industry.

A founding member of Institut Polytechnique de Paris and an IMT (Institut Mines-Télécom) school, Télécom Paris is positioned as the college for digital innovation on the Paris-Saclay Campus. INFRES (computer science and networks) is one of the four teaching and research departments of Télécom Paris.

SCIENTIFIC CONTEXT

The Quantum Information and Applications (IQA) group of Télécom Paris is conducting a research activity centered on quantum communications and quantum computing combining theoretical work with experimental demonstrations of quantum communication protocols based on nonlinear and quantum optics. It is positioned at the interface between physics of quantum information, which is very much developed in the Paris-Saclay cluster, and computer science aspects of quantum information such as quantum cryptography, quantum machine learning and quantum error correction. The IQA group has created a master level option in Quantum Engineering within Télécom Paris and is also involved in master courses in Quantum Communications in Paris-Saclay, as well as a specialised master program on quantum information and post-quantum cryptography.

The hired person will contribute to strengthen the experimental activities, start new teaching courses in quantum information for students who can have a background either in physics or in computer science, build new collaborations and explore the possible synergies with the other members of Institut Polytechnique de Paris and also with the Paris-Saclay University.

The national and international context exhibit a very strong development of the domain: the European Quantum Technology flagship was launched in 2018 for ten years and the IQA group is involved in two projects (CIVIQ and OPENQKD). A new call will start in 2021. The IQA group is moreover part of the regional cluster SIRTEQ that is funded by « Région Île-de-France ». Finally a 5-year « French Quantum Plan », i.e a national strategy to support the development of Quantum Technologies has been announced on January 9. All these elements, to which the IQA group is directly connected, provide a dynamic context for scientific exchange and collaborations together with opportunities for financial support.

PREFERRED SCIENTIFIC EXPERTISE

- Quantum information
- Quantum and/or nonlinear optics : theory and experiments
- Computer science, programming
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**JOB DESCRIPTION**

**MAIN RESPONSIBILITIES AND DUTIES**

1. Applicants should participate in the design and implementation of courses in their scientific field.
2. They should conduct research.
3. They should participate in the development of partnerships, collaborations, and contractual agreements in their scientific field.

**POSITION RESPONSIBILITIES**

**Teaching:**
In collaboration with the other faculty members of the department:
- Provide courses consistent with areas of knowledge, skills-set, and departmental needs;
- Teach labs and tutorials for undergraduate and graduate students;
- Serve on juries for prospective students who are applying for engineering courses, specialised masters, etc.;
- Contribute to the analysis of training needs;
- Design and organise teaching activities for undergraduate and graduate students;
- Design and implement project-based teaching;
- Supervise student projects;
- Develop courses and teaching tools in the above-mentioned field.

**Research:**
- Engage in research activities in the scientific field concerned;
- Write proposals and participate in projects with partners from the Institut Polytechnique de Paris, the Institut Mines-Télécom or other institutions from the academic and/or corporate world, in particular in the framework of fundamental, national, or European projects;
- Carry out industrial research contracts;
- Explore and develop partnerships within the industry and establish contractual agreements.

**Coordination:**
- Participate in and contribute to the scientific activities of the Group (seminars, presentations, juries, etc.).

**Fostering the recognition of Telecom Paris and the Institut Polytechnique de Paris:**
- Disseminate research findings via scholarly writing and publications;
- Lead presentations and seminars;
- Take an active role in scholarly and professional organisations;
- Maintain close relations with academic institutions, research centers, and companies.

**Other responsibilities:**
- Participate in the scientific, pedagogical, and management activities of the department and/or institution;
- Where appropriate, direct and manage the staff placed under their responsibility or supervision;
- Report on the activities and results of the tasks for which they are responsible.
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**SKILLS**

**Required skills, experience, and knowledge:**
- In-depth theoretical or applied knowledge in their field of expertise;
- An excellent command of spoken and written English.
- If the candidate is does not speak French, at the moment of hire they must commit to obtaining a professional proficiency of French as quickly as possible while under contract.

**Preferred skills, experience, and knowledge:**
- Post-doctoral or international experience in an academic or industrial laboratory is appreciated;
- Teaching experience.

**Other abilities and skills:**
- The ability to be an active team member in a diverse faculty, staff, and student environment;
- Strong teaching, pedagogical, and mentoring capabilities;
- Superb written and interpersonal communication skills.

**REQUIRED QUALIFICATIONS**

**Candidates with one or more of the following required qualifications may apply:**
- Doctorate or equivalent;
- Civil servant recruited through the École Polytechnique or ENA or former student of the École Normale Supérieure and ≥ 3 years of professional experience;
- Post-graduate degree from an engineering, business, or management school and ≥ 5 years of professional experience;
- Post-graduate degree and ≥ 5 years of professional experience;
- High-level business executive with ≥ 8 years of professional experience.

**APPLICATION INSTRUCTIONS**

Applicants should send to recrutement@telecom-paris.fr, a single PDF file including:
- curriculum vitae
- cover letter,
- description of past achievements in terms of research (including 10 best publications) and teaching at university level or continuing education (max: 4 pages)
- a copy of the three main publications
- statements of research and teaching interests (max: 4 pages)
- contact information for two references

For full consideration, applications should be received no later than April 15th 2020.
Contact : Isabelle.zaquine@telecom-paris.fr

*All our positions are open to individuals with disabilities.*