# ----------- JOB ANNOUNCEMENT -----------

| POSITION TITLE |
| --- |
| **Assistant/Associate Professor in the Theory of Quantum Information and Computation** |

## TELECOM PARIS

Télécom Paris is one of the top four engineering schools in France for training general engineers. Recognized for its close ties with businesses, this public graduate school ensures excellent employment prospects in all industries and is considered the number-one engineering school for digital technology. With its top-level innovative teaching, 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, as well as for its great contribution to teaching.
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.

## SCIENTIFIC CONTEXT

The position will be located at Telecom Paris, a CS/EE school of Institut Polytechnique de Paris. Télécom Paris is one of the best French schools for digital sciences and technologies. More precisely, the recruited assistant or associate professor will join the IQA ("Information Quantique et Applications) research group, within the "Computer Science and Networks" department and the LTCI laboratory.
Note that the definitive job title (Assistant or Associate professor) will depend on the candidate's experience.

**Research**
The targeted research area is the theory of quantum information processing. It will complement and extend the ongoing research activity of IQA on quantum communications and quantum computing, at the interface between computer science and physics. The candidate will integrate and contribute to animate a very dense and rich research environment. IQA is an active member of the newly founded QUANTUM center in which Institut Polytechnique de Paris and Université Paris-Saclay are joining their forces in order to build a leading international ecosystem on quantum technologies. IQA is moreover well positioned at National and European levels, currently taking part in two projects from the European Quantum Technology Flagship (CIVIQ and OpenQKD) and actively contributing to define and implement the French "Plan Quantique", with will provide an unprecedent support for quantum technologies in France over the next 5 years.

**Teaching**
The successful candidate will contribute to teaching activities at Telecom Paris, at bachelor and master level, including in computer science and quantum information science. He or she will also be able to teach in joint graduate programs with IP Paris or partner universities. Among the existing and relevant programs, IQA has developed a Quantum Engineering graduate option within Télécom Paris. Moreover, IP Paris has launched a PhD Track program in Quantum Information Science, attracting top-level international students at master level, providing great opportunities to supervise talented students. Moreover, IQA is also involved in the recently created ARTeQ master program in quantum technologies, in partnership with Université Paris-Saclay, that notably aims to develop interdisciplinarity between Quantum CS and Physics.
Note that it is not required to teach in French.

## PREFERRED SCIENTIFIC EXPERTISE

We are looking for candidates who have a strong research record and a commitment to undergraduate and graduate education and training, and who have demonstrated their ability to carry out and develop a research activity combining computer science and quantum technologies. Areas of expertise may include, but are not limited to, quantum algorithms and complexity, quantum control, quantum communications and cryptography, and quantum information processing.

# ------------ JOB ANNOUNCEMENT ------------

## 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, specialized masters, etc.;
- Contribute to the analysis of training needs;
- Design and organize 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 publication;
- Lead presentations and seminars;
- Take an active role in scholarly and professional organizations;
- 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 his or her responsibility or supervision;
- Report on the activities and results of the tasks for which he or she is responsible.

| SKILLS |
|---|

**Required skills, experience, and knowledge:**
- In-depth knowledge in theoretical Quantum Information and Computation
- - Solid knowledge in Computer Science
- - An excellent command of spoken and written English.
- - If the candidate does not speak French, at the moment of hire he or she 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;

# ------------ JOB ANNOUNCEMENT ------------

- Superb written and interpersonal communication skills.

## REQUIRED QUALIFICIATIONS

**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;
- Holds a post-graduate degree from an engineering, business, or management school and has ≥ 5 years of professional experience;
- Holds a post-graduate degree and has ≥ 5 years of professional experience;
- Is a high-level business executive with ≥ 8 years of professional experience.

## APPLICATION INSTRUCTIONS

Applicants should submit at URL RECRUITEE a single PDF file that includes:
- cover letter,
- curriculum vitae,
- a statement of research and teaching interests (4 to 6 pages in total)
- three publications
- contact information for two references to: romain.alleaume@telecom-paris.fr

For full consideration, applications should be received no later than August 27th 2021.

Contact: Romain Alléaume, romain.alleaume@telecom-paris.fr