

## **CALL: PROBABILISTIC SHAPING TECHNIQUES IN CONTINUOUS VARIABLE-QUANTUM KEY DISTRIBUTION (CV-QKD)**

### **Position and grant**

Scuola Superiore Sant'Anna announces a call to assign one Research Fellowship to perform research activities related to the scientific field ING-INF/03 - Telecommunications at the Institute of Communication, Information and Perception Technologies. The gross amount of the fellowship is 20.000,00 € per year. The present fellowship cannot be cumulated with other fellowships and grants except those aimed at financing a period of stay abroad necessary within the research activity. The duration of the research fellowship is 12 months, renewable in case of positive evaluation of the research activities performed.

### **Research Activity**

- **Research title** “Probabilistic shaping techniques in Continuous Variable-Quantum Key Distribution (CV-QKD).”
- **Research description** “The candidate, starting from an in-depth analysis of the most recent literature relating to the probabilistic constellation shaping (PCS) and continuous variable-quantum key distribution (CV-QKD, must propose innovative solutions for the transmission of a quantum key on optical fiber, develop the models and validate them experimentally. The candidate must also be familiar with project management and have experience of coordination, even partial, of complex projects involving academic and industrial partners. It is preferable that the candidate is familiar with industrial R&D projects. It is also required that the candidate be able to maintain fluent English language relationships.”

### **Admission Requirements**

- Applicants must hold a MSc Degree in Telecommunications engineering (LM-27) or Electronic engineering (LM-29)

### **Application and attachments**

The candidate is requested to apply online at: <https://www.santannapisa.it/it/assegni-di-ricerca-e-selezioni/istituto-di-tecnologie-della-comunicazione-dellinformazione-e-122> by writing his/her email address in the field “Procedi alla selezione”; the candidate will be redirected to the registration page and have the possibility to apply following an English form after selecting “Read this page in English”.

In case of difficulties, please contact the Administration Office (Tel. +39-050-883.254/258, e-mail [assegniricerca@santannapisa.it](mailto:assegniricerca@santannapisa.it)).

Attachments (pdf format):

- copy of a valid identity document (Passport)
- copy of the scientific-professional Curriculum Vitae, signed and dated (please use the EU format)
- copy of all academic titles (MSc/MA Degree, PhD ...) and copy of the MSc and or PhD thesis and of all publications and other elements which can be useful for the evaluation (these documents must be saved in a zip folder);
- Substitute declarations (attachment B and C) to be downloaded during online application, filled, signed and uploaded
- a list of all the attached documents, signed and dated

The candidate must indicate his/her status, personal information and qualities in the curriculum vitae. Particularly, he/she must also analytically indicate studies completed, qualifications earned, publications and/or patents, services provided, functions performed, the positions held and any other scientific, professional and educational activities that may have been performed, listing exact references for each qualification indicated.

Academic and professional qualifications must be self-certified by the form at Attachment B or submitted in copy accompanied by a declaration of conformity to the original, pursuant to Presidential Decree no. 445 of 28 December 2000, using the form at Attachment C. Other qualifications, theses and/or publications may be submitted in their original form or in copy accompanied by the declaration in lieu of notarized affidavit using the form at Attachment C.

### **Selection method and ranking list**

The selection is based on the assessment of qualifications and an interview for a total of 100 points, of which **50** points are for the assessment of qualifications and **50** points are for the interview.

#### **Assessment of qualifications:**

- 1) Academic qualifications: **15** points
- 2) Scientific publications: **15** points
- 3) Research activity related to the topic of this Call in public or private organizations: **20** points

The candidate will be admitted to the interview if he/she obtains at least **40** points in the evaluation of the titles and will pass the interview by obtaining at least **40** points.

A ranking list of eligible candidates will be drawn up by the examination committee at the end of the selection.

Deadline for applications: **08/06/2020**

Interview: **18/06/2020**

Resident abroad applicants may also ask to hold their interview in their country of residence via conference call. In this case the candidate is asked to contact Italian Embassies or his/her local University, arranging the interview for the date scheduled and considering that he/she will be previously identified by an employee or a Professor.

### **Formalization of the fellowship and contract termination**

Scuola Superiore Sant'Anna will contact the winner at the email address provided for the selection, offering him/her the fellowship and asking to reply before the beginning of the fellowship.

In case you need information or help in submitting your application, please contact the Personnel Office, +39.050.883.254/258, email [assegniricerca@santannapisa.it](mailto:assegniricerca@santannapisa.it).

**The official version of this Call is available only on the Italian page.**