



Call for selection for the temporary recruitment of research personnel for the execution of the research project 'QUANTUM SECURE COMMUNICATION BASED ON ENERGY-TIME/TIME-BIN (QUANTERA2019), PCI2019-111885-2'.

In case of the contracting is financed by a research project, the contract will be formalised once the final resolution of the project has been published (the expenditure for the contracting being eligible) and the university has the amount to cover it. The University of Sevilla shall not be held responsible for those contracts that do not materialise due to failure to meet the requirements.

Call for proposals March 2021

REFERENCE: INV-3-2021-I-030

NUMBER OF CONTRACT OFFERED: 1

ANNEX

Remuneration

The total cost of the contract, gross amount of the contract plus the total amount of the employer's contributions and the amount of the contract termination indemnity will be 50.876,34 Euros. The gross monthly salary that the contracted person will receive, will amount to 1.560 Euros*. This remuneration includes the proration of the extra payments.

The working day duration shall be 37.5 hours per week.

If, during the term of the contract, any regulatory change should occur that entails an increase in its cost, this increase must be covered by the project or grant from which the contract derives or will give rise, where appropriate, to a proportional reduction in its duration in order to assume it.

Duration

The contract duration will be 2 YEARS from the start of it, subject to the duration of the project and the existence of budget availability**.

With the possibility of extension/s provided that the duration of the project has not been exceeded and there is budget availability charged to the same, subject, in any cases, to the provisions of the labour regulations on the maximum duration of contracts for a specific work or service, and with a favourable previous report on the activity carried out by the contracted person, given by the responsible researcher of the project and the Vice Rector for Research.

*Salary calculated on the basis of the start date of the contract, and the contract duration may not exceed the end date of the project. This shall apply both to the contract and its possible extensions.

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**The duration of the contract may vary or be affected based on the date on which the contract is signed, but it may not exceed the end date of the project. This shall apply both to the contract and its possible extensions.

Assessment of merits

The Evaluation Committee will be responsible for assessing the merits and ordering interviews if deemed necessary. In general, they will assess the following documented merits related to the tasks and activities to be carried out, in accordance with the following scores:

1. Official qualifications directly related to the tasks to be carried out, up to a maximum of 3 points. If a specific qualification or qualifications are required as a prerequisite for participation in the call for applications, only those equal to or higher than the required will be assessed, with the following maximum limits:

- Doctorate (Up to a maximum of 3 points)
- Official Master's Degree or Diploma of Advanced Studies with a previous Bachelor's Degree (Up to a maximum of 2.7 points)
- Master's Degree with previous Bachelor's Degree (Up to a maximum of 2.5 points)
- Master's Degree with Diploma (Up to a maximum of 2.3 points)
- Bachelor's Degree (Up to a maximum of 2.1 points)
- Degree (Up to a maximum of 1.9 points)
- University Diploma (Up to a maximum of 1.7 points)
- Higher Vocational Training Technician (Up to a maximum of 1.5 points)

2. Training related to the tasks to be performed (Up to a maximum of 2 points).

3. Professional experience related to the tasks to be performed (Up to a maximum of 2.5 points).

4. Interview to assess suitability for the position (up to a maximum of 2.5 points).


The assessment committees shall be empowered to establish whether it is necessary, depending on the number of participants, to carry out the interview and the minimum score required in the previous sections for its performance, with those applicants who do not achieve it being eliminated from the selection process.

The call for attendance at interviews will be published on the website of the *Vicerrectorado de Investigación* <http://investigacion.us.es/investigacion/contratos-personal%20> at least 48 hours in advance. Along with the call for attendance at the interviews, the generic criteria for the assessment of the interviews will be published, such as: previous experience, knowledge of the tasks to be carried out, problem-solving skills, etc.

The evaluation committee will establish the minimum score threshold to be selected for the contract.

Deadline for applications

5 working days from the day after the publication of this call for applications on the website of the *Vicerrectorado de Investigación* <http://investigacion.us.es/investigacion/contratos-personal%20>

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Contract offered

REFERENCE: INV-3-2021-I-030

RESPONSIBLE RESEARCHER: ADÁN CABELLO QUINTERO

SPECIFIC REQUIREMENTS:

PhD in Physics or equivalent qualification.

With experience in quantum cryptography, in particular in device-independent quantum cryptography.

Previous experience in quantum optics would be an asset.

PhD degree in Physics with a solid experience in quantum cryptography, particularly device-independent quantum cryptography. Knowledge of quantum optics will also be appreciated.

EVALUATION COMMITTEE:

Adán Cabello Quintero

Sheila López Rosa

Antonio José López Tarrida

DESTINATION: DEPARTMENT OF APPLIED PHYSICS II (E.T.S. BUILDING ENGINEERING)

EMPLOYMENT CATEGORY: GRADUATE

TASKS TO BE PERFORMED:


Reference and title of the project: PCI2019-111885-2, ENERGY-TIME/TIME-BIN ENERGY-BASED QUANTUM COMMUNICATION BASED ON ENERGY-TIME/TIME-BIN (QUANTERA2019)

1. Design of protocols for quantum key distribution (QKD) using genuine time-bin/energy-time entanglement in fibers and in photonic circuits.
2. Design of protocols for device-independent quantum key distribution, with emphasis in those using high-dimensional entanglement.
3. Supervision and evaluation of the data generated in the QKD, entanglement swapping and teleportation experiments with genuine time-bin/energy-time entanglement that will be performed in the other two nodes of the consortium: Linköping (Sweden) and Padua (Italy).
4. Design of protocols for the quantum internet.

Responsible researcher for the contract

Signed: Adán Cabello Quintero

Sevilla, on the date of signature, the Vice Rector for Research.

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