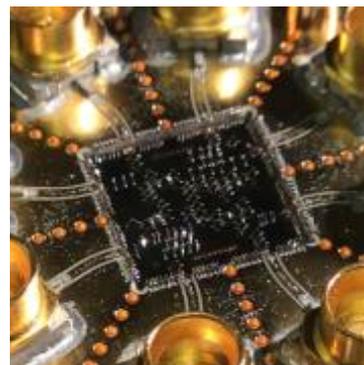


# Postdoctoral Researchers and Doctoral Candidates in Quantum Phenomena and Devices

August 2017

[PICO group](#) of the Aalto University's Department of Applied Physics (Helsinki, Finland) is looking for highly motivated PhD students and post docs to work on projects on **quantum thermodynamics in electronic circuits**, and on developing **single-electron current sources and detectors on them**. Common tasks in the group include working with a dilution refrigerator and other cryogenic tools, nanofabrication in the state-of-the-art clean room facilities of [OtaNano](#), theoretical and numerical analysis, and measurement automation. Previous experience in some of these topics is beneficial, but strong candidates from other fields of physics are encouraged to apply as well.

Two of the available full-time doctoral candidate/early stage researcher positions are in the EU-funded Marie Curie European Training Network (ETN) in **Quantum Electronics Science and Technology training – QuESTech\***, that is a network of experts from 7 leading European laboratories and high-tech companies. It is designed to boost scientific excellence, and enhance researchers' career prospects through developing their skills in entrepreneurship, creativity and innovation. In addition, positions are open to join the ERC-funded project "Superconducting quantum heat engines and refrigerators". All of the recruited candidates will participate in the Finnish Centre of Excellence in Quantum Technology – QTF, that is a national quantum technology flagship involving approximately 100 researchers investigating and harnessing quantum phenomena in the solid-state devices. Applications can be taken into account also in the future recruitments.



For further information of the available positions, contact the group leader Prof. [Jukka Pekola](#) ([jukka.pekola@aalto.fi](mailto:jukka.pekola@aalto.fi)).

## Requirements

Depending on the applied position, either a master's degree or doctorate in condensed matter physics or equivalent on a topic of relevance is expected from the candidate. Alternatively, a certificate showing that the applicant will have his/her master's diploma or doctoral thesis evaluated before the start of the contract has to be presented. Good command of English and a demonstrated ability to disseminate scientific results is a mandatory requirement for the positions. Experience related to the above-described project is highly appreciated. All applicants must have motivation to conduct research at the highest international level, and the doctoral candidates aim at completing the doctoral degree within the target time (4 years for full-time students).

Special conditions for an ETN doctoral candidate (does not apply for other positions) are listed in [1].

## Salary

The contracts will be made initially for two years. After an approved mid-term review, the doctoral candidate employment will be extended for another two years, while the postdoctoral position may have possible extension for 1-2 years. The salary level for starting doctoral candidates is EUR 2400/month and for postdoctoral researchers between EUR 3500 and EUR 3800/month. For starting QuESTech doctoral candidates, the salary level is EUR 2 800/month as defined according to the ETN regulations for a maximum of 36 months. When the contract extends beyond that, the salary level is determined according

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to the department's salary policies. The QuESTech doctoral candidates are also entitled to a monthly mobility allowance and, if moving with family, to an additional family allowance. Preferred starting date depending on the position is either October 2017 or January 2018 (negotiable). The annual total workload of research and teaching staff at Aalto University is 1600 hours. The position will be located at the Aalto University Otaniemi Campus.

## How to apply

Doctoral Candidate Positions:

Please apply through the link: <http://www.aalto.fi/en/about/careers/jobs/view/1501/>

Postdoctoral Researcher Positions:

Please apply through the link: <http://www.aalto.fi/en/about/careers/jobs/view/1502/>

Application material should include (all documents in English):

- Letter of motivation (max. one page)
- CV
- Educational certificates
- Two letters of recommendation (or contact details of two possible referees)

Please, send your application as a single PDF file at your earliest convenience by the **30<sup>th</sup> of September 2017** through the recruitment system. Evaluation of the applications will start immediately.

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[1] **Special conditions for an ETN doctoral candidate (does not apply for other positions):**

- Maximum 4 years of full-time research experience after the completion of the master's degree.
- No earlier PhD.
- The applicant must not have **resided** or **carried out** his/her main activity (work, studies, etc.) in Finland for more than 12 months in the 3 years immediately prior to the recruitment.