

Postdoctoral Researchers in Electromechanical Quantum Systems

Wed, 2017-09-06 13:11 - [Minna Günes](#) [1] **At:** Aalto University, Finland

Deadline: 30 September, 2017

Location

Aalto University, Finland Puumiehenkuja 2
Espoo (Helsinki) 02150 Finland
60° 11' 13.0488" N, 24° 49' 46.7364" E

The [Quantum Nanomechanics group](#) [2] of the Aalto University's Department of Applied Physics (Helsinki, Finland) is looking for outstanding individuals; to work on electromechanical quantum systems under the EU Horizon 2020 FET Proactive project Hybrid Optomechanical Technologies (HOT), running from Jan 2017 until Dec 2020. The positions are filled and the work can start as soon as a suitable candidates are found, ideally late fall 2017.

The HOT consortium is European-wide, joining the leading experimental and theoretical research groups and industrial partners working on optical and superconducting realizations of the interaction of light with mechanical motion. The consortium will lay the foundation for a new generation of devices, which connect, or contain, several platforms at the nanoscale in a single hybrid system. The consortium will aim on realistic applications in the existing application domains of medical (e.g. MRI imaging), security (e.g. Radar and THz monitoring), positioning, timing and navigations (Oscillators) and for future quantum technology.

At Aalto, we will focus on the quantum technology aspect, with the goals of using and generating squeezed and entangled states of mechanical oscillators, cavities, and propagating EM fields at cryogenic temperatures. Besides the future quantum technology, our studies will shed light on the quantum behavior of nearly macroscopic objects.

Main tasks and requirements

The postdoctoral scientists will be responsible for the development and measurement of microwave optomechanical quantum chips based on superconducting microwave cavities and micromechanical resonators made with aluminum or silicon nitride membranes. For this challenging experimental research, we are looking for outstanding candidates who are motivated in experimental, low-temperature solid state physics. We require the candidates to have a proven track record in quantum nanophysics, clean room techniques, and strong interest in micromechanical systems. In addition, the candidates should have experience in running measurements in modern cryogenic systems.

For details, see the announcement on Aalto University website: <http://www.aalto.fi/en/about/careers/jobs/view/1393/> [3]

For further information of the position, contact Prof. Mika Sillanpää ([firstname \[dot\] lastname \[at\] aalto \[dot\] fi](mailto:firstname [dot] lastname [at] aalto [dot] fi)) [4].

- [Postdoc](#) [5]

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