# Doctoral Researcher in Quantum Computing
# Aalto University

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| **Job Title** | Doctoral Researcher in Quantum Computing |
| **Department** | T411 Dept. Electronics and Nanoeng |
| **Institution** | Aalto University |
| | , , Finland |
| **Date Posted** | Mar. 13, 2025 |
| **Application Deadline** | Open until filled |
| **Position Start Date** | Available immediately |
| **Job Categories** | Graduate Student |
| **Academic Field(s)** | Electrical and/or Electronics |
| | Computer Science |
| | Computer Engineering |
| **Job Website** | https://aalto.wd3.myworkdayjobs.com/aalto/job/Otaniemi-Espoo-Finland/Doctoral-Researcher-in-Quantum-Computing_R42597 |

**Apply By Email**

**Job Description**

Aalto University is a community of bold thinkers where science and art meet technology and business. We are committed to identifying and solving grand societal challenges and building an innovative future. Aalto has six schools with nearly 11 000 students and a staff of more than 4000, of which 400 are professors. Our campuses are located in Espoo and Helsinki, Finland.

The School of Electrical Engineering is one of the six schools of Aalto University. Our portfolio covers fields from natural sciences to engineering and information sciences. In parallel with basic research, we develop ideas and technologies further into innovations and services. We are experts in systems science; we develop integrated solutions from care of the elderly to space robotics. The School is an international unit with close to 60 professors and 2 000 full-time students, including over 200 doctoral

students.

We are now looking for a talented and highly motivated

Doctoral Researcher in Quantum Computing

In this position you will carry out research in quantum machine learning and quantum information science. Your research will focus on the development and applications of quantum machine learning algorithms, more specifically the optimization of variational quantum circuits, but also other topics can be explored depending on your interests. You will get to conduct high quality research independently, and to work as an active member of the Micro and Quantum Systems research group. Our target is that you will acquire the doctoral degree in three years. Preferable starting time is April 2025, but can be negotiated.

Research group
The position will be supported by the [url=https://www.aalto.fi/department-of-electronics-and-nanoengineering/micro-and-quantum-systems]Micro and Quantum Systems group, which is led by [url=https://www.aalto.fi/people/ilkka-tittonen]Professor Ilkka Tittonen. The group conducts research in quantum computing, quantum optics theory and experiments, the study of various nanofabrication methods and thermoelectrics. The quantum computing research topics in our group span from real-world applications of quantum machine learning to the fundamental properties of quantum information such as contextuality. Our recent research efforts have been in the application of variational quantum algorithms to optimization problems and the optimization of quantum circuits.

The group belongs to the Department of Electronics and Nanoengineering at the School of Electrical Engineering and is located in the [url=http://www.micronova.fi/]Micronova Nanofabrication Center, the largest academic clean room facility in the Northern Europe.

Your experience and skills
Applicants are expected to have excellent study records in theoretical physics (quantum mechanics), mathematics and/or computer science at Master's level. Experience with quantum computing or machine learning is a definite advantage. Good command of written and spoken English is also required.

What we offer
The Doctoral Researcher position will be filled for 3 years. The expected starting salary is approximately 3000 €/month. The contract includes occupational health care services, and Finland has a comprehensive social security system. As an employer, Aalto University provides excellent learning

and development opportunities, and a commuter ticket benefit. Unisport offers versatile sports facilities and exercise services with a staff discount.

How to apply
Please submit your application through our recruiting system Workday, "Apply now". Include the following documents in English * Application letter * CV (with the list of publications if you have) * Course transcripts of Bachelor and Master degree with grades * English language test (if you have) * Reference letters

Applications will be considered until the position is filled. Please apply as soon as possible, at the latest March 27th, 2025.

All applications should be submitted using the online application system of Aalto University. Email applications will not be considered. If you wish to hear more about the position, please contact Professor Ilkka Tittonen, ilkka.tittonen(at)aalto.fi or University Lecturer Matti Raasakka, matti.raasakka(at)aalto.fi. In recruitment process relating questions, please contact HR Advisor Monika Mäkinen at hr-elec(at)aalto.fi.

Please note: Aalto University's employees should apply for the position via internal HR system Workday (Internal Jobs) by using their existing Workday user account (not via the external webpage for open positions). Aalto University's students and visitors should apply as external candidates with personal (not aalto) email.

Aalto University reserves the right for justified reasons to leave the position open, to extend the application period, reopen the application process, and to consider candidates who have not submitted applications during the application period.

**Contact Information**

**Contact**

Finland