Assistant Professor in Semiconductor Sensors

Department of Electronics and Nanoengineering

Aalto University

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Aalto University

Aalto University is a multidisciplinary community of bold thinkers where science and art meet technology and business.

Aalto University is a university where research, art and education are promoted hand in hand. We are committed to **identifying and solving grand societal challenges** and building an innovative future.

With high-quality research we aim at creating significant impact on the international scientific community, industry and business, as well as the society at large. Disciplinary excellence is combined with **multidisciplinary** activities, engaging both students and the local innovation ecosystem.

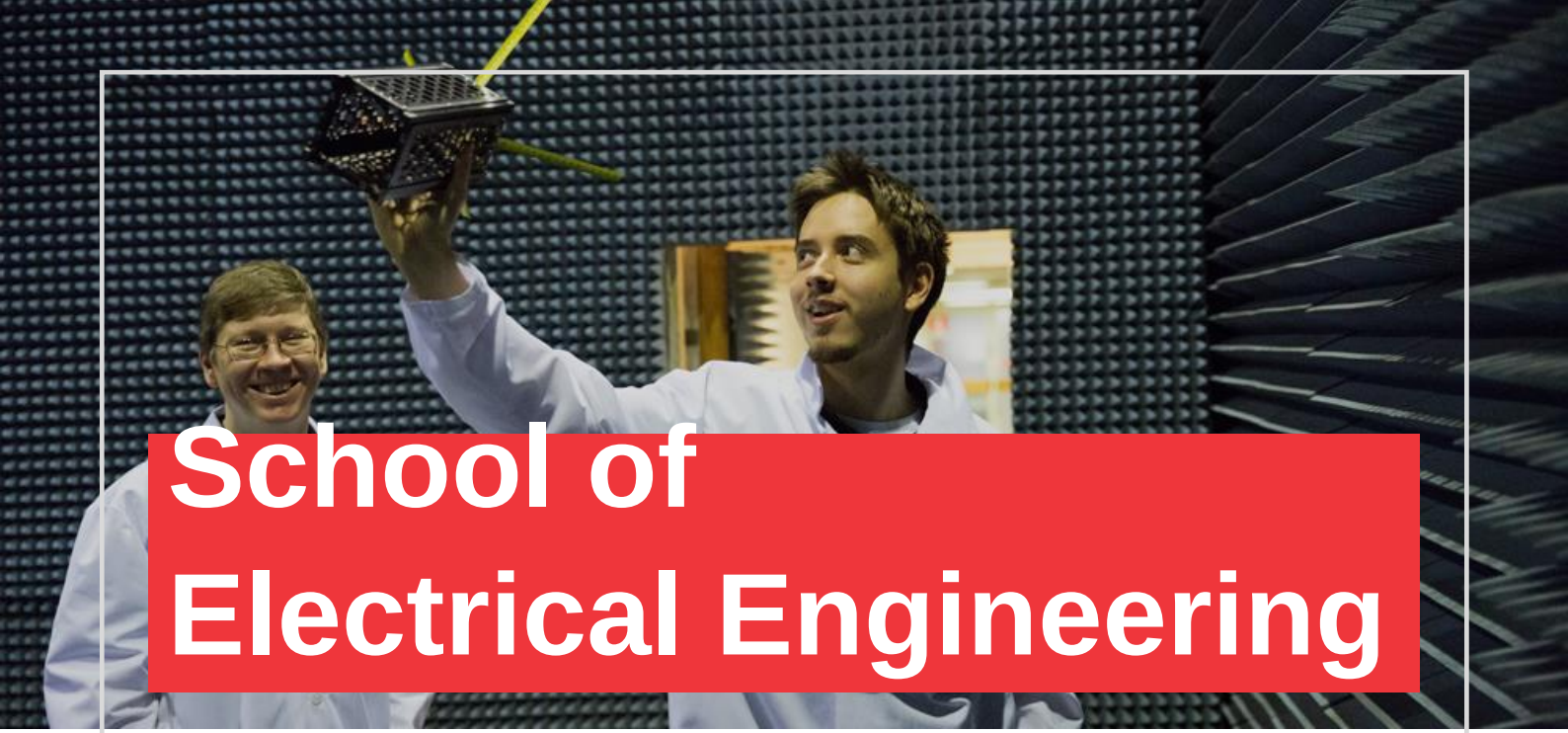
Aalto has nearly 12 000 students and **six schools** with more than 400 professors. We are an international community: more than 40% of our academic personnel have an international background.

Aalto University was **founded in 2010** as three leading Finnish universities, Helsinki University of Technology, the Helsinki School of Economics and the University of Art and Design Helsinki, were merged. Our campuses are located in Espoo and Helsinki, Finland.

The University campus in Espoo is developing into a unique, open innovation hub and a center of collaboration that attracts partners from all around the world. It encourages sharing of ideas, inter-disciplinary encounters, creativity, growth and entrepreneurship. The core of the campus will be a vibrant city with versatile services and attractive places to meet.

Aalto University

More info at
aalto.fi



School of Electrical Engineering

At the School of Electrical Engineering, science and engineering meet society.

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.

Our school has about **2000 students**, approximately 50 doctor's and about 250 master's degrees are completed annually. There are **700 members of academic staff** at the School, of which 60 are professors.

The School's five departments cover the fields of electronics, communications and automation. Special fields include automation and systems technology, electronics and information technology, power engineering, communications engineering and bioinformation technology.

The novel research results and systems solutions require committed researchers, hard-working students, modern research infrastructure, and an excellent support organization. Our international and close-knit community is one of our strengths.

Aalto University
School of Electrical
Engineering

More info at
elec.aalto.fi

Department of Electronics and Nanoengineering

Research and teaching

The Department of Electronics and Nanoengineering conducts research and arranges related courses in the fields of electromagnetics, micro and nanotechnology, radio engineering, and space technology.

The department excels in the research of microelectronic circuit design, microwave engineering and components for optics and electronics. The research in the department covers the frequency spectrum from DC to THz, and the target applications range from sensors and telecommunications to space instruments.

Research Groups in Microelectronics and in Microwave engineering

The department's research groups are dedicated to top leading edge research in microelectronics. The research fields include sensor interface electronics, energy harvesters, RF/MM/analog/DSP ICs for wireless, radars, antennas and related electronics.

The department research groups have active national and international collaboration with several institutes and companies.

Facilities

The department has various state-of-art measurement facilities.

The main research infrastructure related to this tenure track position is Aalto-Electronics-ICT, which offers wide variety of measurement equipment for measurement of complex electronics and wireless devices. The equipment ranges from DSP and DC analyzers to THz network analyzers and anechoic cambers.

The department also has cutting-edge design tools, comprehensively including IC technology design kits, EM simulators and DSP design tools.

Personnel

The Department employs 20 professors, 12 senior research and teaching staff members and over 60 doctoral students.

More info at
ele.aalto.fi

Assistant Professor in Semiconductor Sensors (Tenure Track)

Position Description

We are looking for an Assistant Professor in the area of Semiconductor Sensors, who has experience in research in semiconductor device fabrication and related characterization. You will complement our department´s exiting research efforts by having potential synergies with local research groups and ability to utilize existing facilities.

This position provides you with an excellent opportunity to raise attractiveness of the field of semiconductor sensors, educate future experts to meet the emerging needs, collaborate with current deep-tech industry and create new innovations for the future.

You have expertise, passion and vision e.g. in one or more of the following application areas: ambient sensors, automotive sensors, energy harvesting devices, healthcare devices, industrial process monitoring sensors, quantum sensors and wearables.

Research Environment
You will join an inspiring and supportive work community of experienced professionals and high-quality students. This professorship is supported by the local world-class semiconductor research infrastructure, such as

- Department of Electronics and Nanoengineering
- Otanano national research infrastructure
- Micronova cleanroom
- Nanomicroscopy Center.

Your experience and ambitions
You have

- a Doctorate in electrical engineering or a closely related field;
- Potential to carry out research and attract research funding at the highest level;
- Potential to collaborate in an interdisciplinary environment;
- Potential to take responsibility for education and researcher training in sensor technology;
- Ability to be an effective teacher in the undergraduate and graduate degree programmes of the School of Electrical Engineering.

More information
To learn more of the position or the research environment, please contact
Professor Jussi Ryynänen
jussi.ryynanen(at)aalto.fi, tel. +358- 50 384 1720

Aalto Tenure Track
This position is part of the Aalto tenure track system and offers a well-supported and clear career path for professor-level academics towards a permanent professorship. The University provides a research start-up fund and we actively assist new professors to apply for available scientific research funding.

More info at
https://www.aalto.fi/en/open-positions/professor-semiconductor-sensors

Living in Finland

Finland is among the best countries in the world according to many quality of life indicators, including being the happiest country in the world (UN study 2018).

We are humble people, but dare to say we have **one of the most advanced education systems in the world.**

The Nordic values of **equality and co-operation** are rooted deeply into our society. We are one of the world's top countries in press freedom and consider the many voices in our society a strength.

With high investments in R&D, a strong innovation culture, open data and advanced state of digitalization, we are a nation of **innovation and entrepreneurship.**

Gender equality, flexibility and low hierarchy are at the core of our **Nordic working environment**. Professional ambitions can be combined with a fulfilling personal life.

We are one of the world's most **reliable and stable** nations with low levels of corruption and high level of safety. We are proud to provide exceptionally high standards of social security and healthcare, financed by the state.

Having four distinct seasons, clean air and thousands of lakes, we are some nature-loving people and take good care of our **unique environment.** We enjoy our midnight sun in the summer and northern lights in the winter.

Finnish language is known to be a bit on the complicated side, but don't worry, we Finns are fluent in English, and have an **international mindset.**

We have **wide and reliable transport networks**, with Helsinki airport serving over 100 direct destinations. The comprehensive public transport makes it easy to commute. Our campus is situated within a 12 minute metro ride from the heart of Helsinki.

More about Helsinki
More about Espoo
More about Finland
More about working at Aalto

Aalto University – a community of game changers *aalto.fi*

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