Postdoc / Research Fellow with Small Satellite and Cubesat Technology Expertise

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.

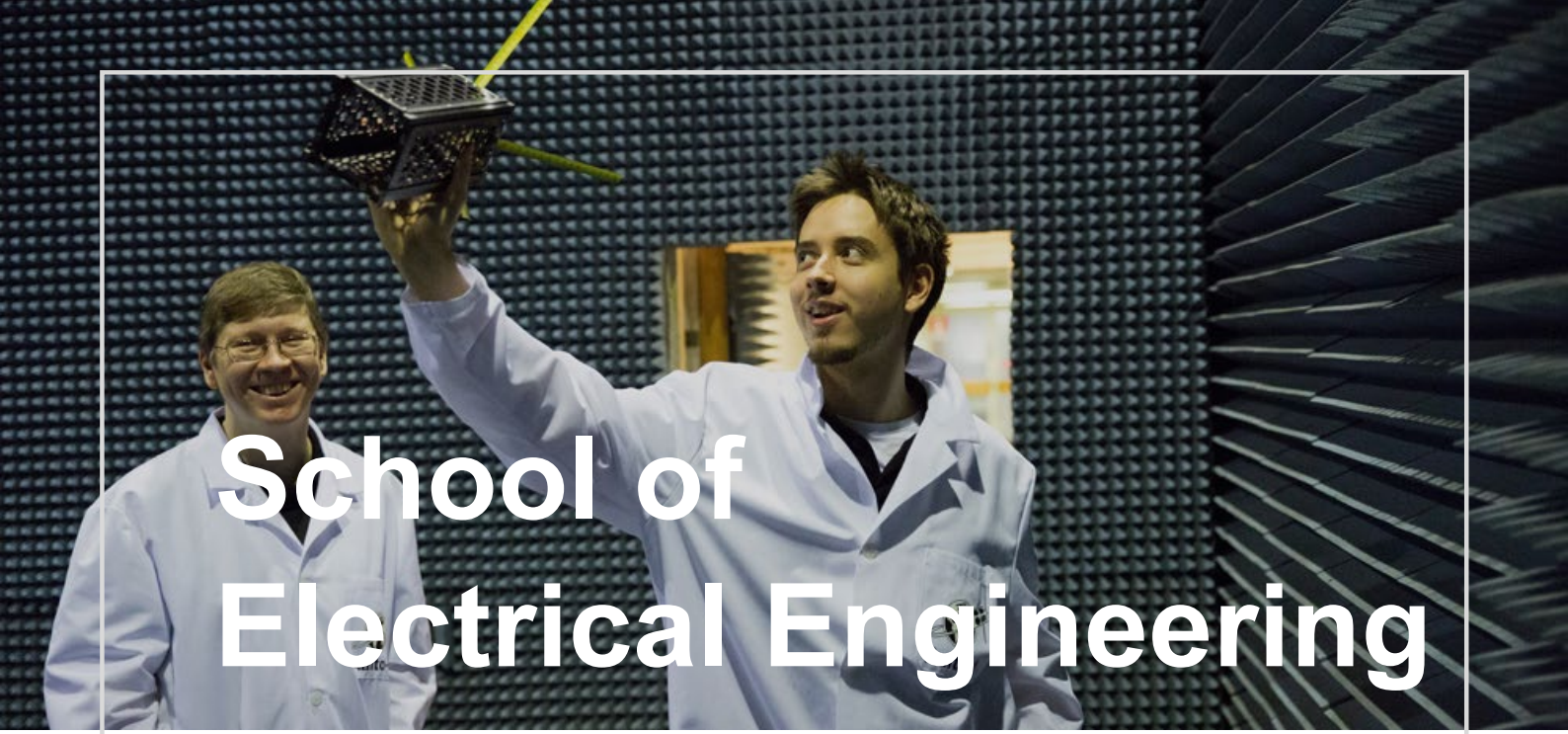
Aalto has six schools with nearly 11 000 students and more than 400 professors. We are an international community: more than 30% of our academic personnel are international.

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 is developing into a unique, open innovation hub and a centre 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.

The School is an international unit with close to 60 professors and 2 000 full-time students, including over 200 doctoral students.

Our research focuses on major societal issues, such as energy and environment, information and communication technologies as well as health and wellbeing.

The research focus areas are:

- Energy and environment
- ICT
- Micro and nanotechnology
- Health and wellbeing

We have deep industry-academia relationships both in research and teaching.

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.

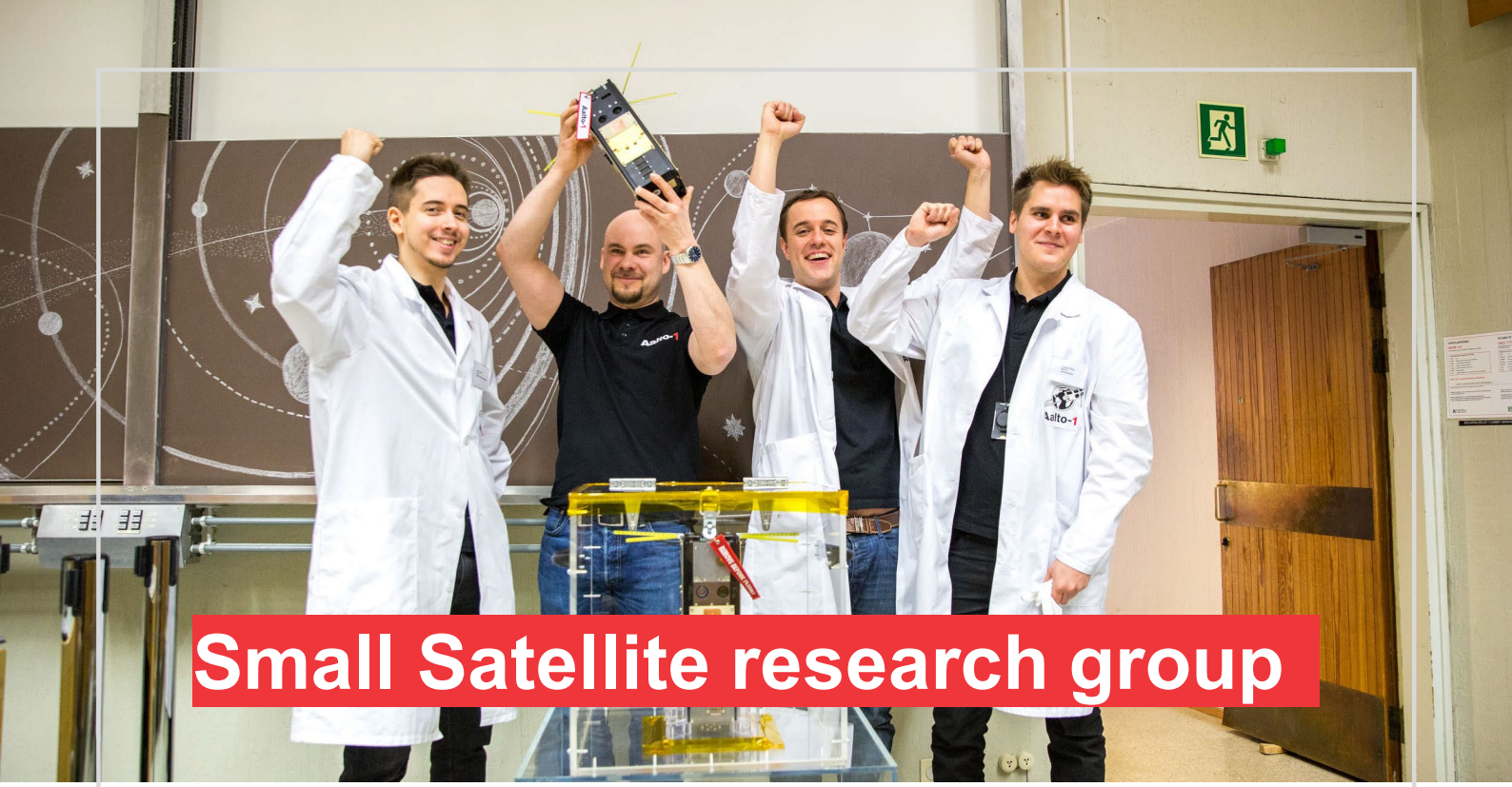
The main research infrastructure related to this tenure track position is Aalto-Electronics-ICT, which offers wide variety of measurement equipment for measurement of complex electronics and wireless devices. The equipment ranges from DSP and DC analyzers to THz network analyzers and anechoic cambers.

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

Personnel

The Department employs 19 professors, 12 senior research and teaching staff members and over 60 doctoral students.

More info at
ele.aalto.fi



Small Satellite research group

Small Satellite research team in Finland has launched the first Finnish satellites and spun off new companies, including the world leading miniature SAR satellite technology company ICEYE.

Currently, we build the first Finnish Foresail science missions in the framework of Finnish Centre of Excellence in Research of Sustainable Space. We operate in close collaboration with a fleet of partners in our dynamic innovation ecosystem and keep pushing the boundaries of what is possible with small satellites and microwave remote sensing.

We develop and build entire CubeSat platforms for LEO and high radiation environment in GTO. The spacecraft are developed to characterize the near-Earth and deep-space plasma and radiation environment, as well as to test new propulsion technologies – the electric solar wind sail and plasma brake, We also work with ESA missions, such as Daedalus and Comet Interceptor (OPIC and EnVisS instruments).

The work is carried out in the Small Satellites Group, lead by Professor Jaan Praks. The group has already launched two satellite missions and currently working on four new CubeSat missions (FORESAIL-1, FORESAIL-2, KvarkenSat) and two ESA missions (Daedlus and Comet Interceptor).

The group has a strong heritage in CubeSat platform development, platform reliability and satellite mission operations. The active and open minded multinational team is composed of over 15 researchers and engineers. It is well connected and well secured with funding.

More info at
aalto.fi/spacetech

Postdoc / Research Fellow with Small Satellite and Cubesat Technology Expertise

Position Description

You are going to participate and take leadership in space technology development projects related to scientific CubeSat missions, small satellite platforms and payloads, mission feasibility studies, as well as building and testing flight hardware and software.

The work is carried out in close collaboration with various companies and institutes in Finland and abroad (e.g., Finnish Meteorological Institute and UCL's Mullard Space Science Laboratory).

You will write scientific papers jointly with the other members in the group and publish actively in conferences and journals.

In this position, you have excellent opportunities to extend your professional network and to improve your pedagogical skills by participating in teaching and by supervising of masters and doctoral students. Self initiatives are highly appreciated in our versatile team.

As part of the team, you will participate in

· The development, testing and integration of satellite subsystems, platforms and payloads;

· Building hardware prototypes, flight hardware and software for small spacecrafts;

· Research and development of novel spacecraft design concepts and instruments;

· Collaboration with various national and international organizations on ongoing and future space research projects;

· Technical documentation and research publications;

· Teaching and supervision of masters and doctoral candidates.

More information

For additional information, please contact Professor Jaan Praks, jaan.praks(at)aalto.fi, or in recruitment process related questions HR Coordinator Annika Salmelin, annika.salmelin(at)aalto.fi.

More info at
aalto.fi/careers

Working at Aalto University

Why join us?

Established in 2010 as a merger of three leading Finnish Universities, we are both **challenger of the old, and traditional with strong history** and legacy.

Our unique combination of fields in **art and design, technology and business enable multi-disciplinarity** and finding clever solutions for the world's most wicked problems in the interfaces of these fields.

We aim for **societal impact**, educating game changers to drive sustainability.

We enjoy working at our evolving **collaborative campus close to the heart of Helsinki**, with good connections, great architecture and amazing nature.

We are **international and diverse**: more than 40 % of our faculty comes from outside of Finland. Our working environment is multi-cultural, widely English-speaking and its easy to settle in, despite of wherever you come from.

We have strong academic standing and reputation in our key fields – Aalto University is among top 10 of New Universities in the world (QS ranking).

Our **well-functioning and fair Tenure Track career system** enables building a successful academic career, providing support for fulfilling your professional ambitions.

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 10 minute metro ride from the heart of Helsinki.

Want to live in the best country in the world?

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

Aalto University – a community of game changers

aalto.fi

Aalto University