Assistant Professor in Energy Storage Systems

Department of Electrical Engineering and Automation

Aalto University

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.

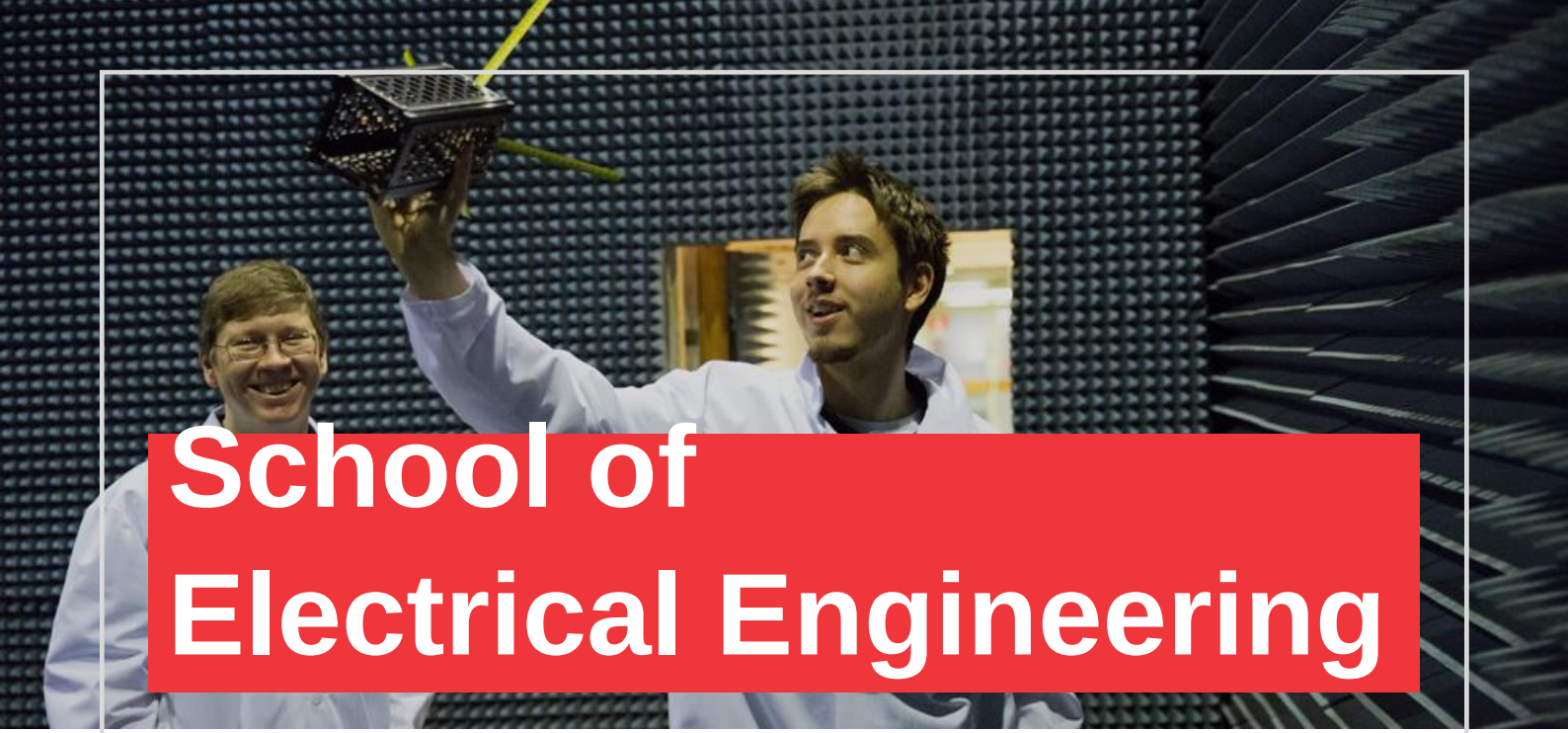
Aalto has nearly 12 000 students and **six schools** with more than 400 professors. We are an international community: more than 40% of our academic personnel have an international background.

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.

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.

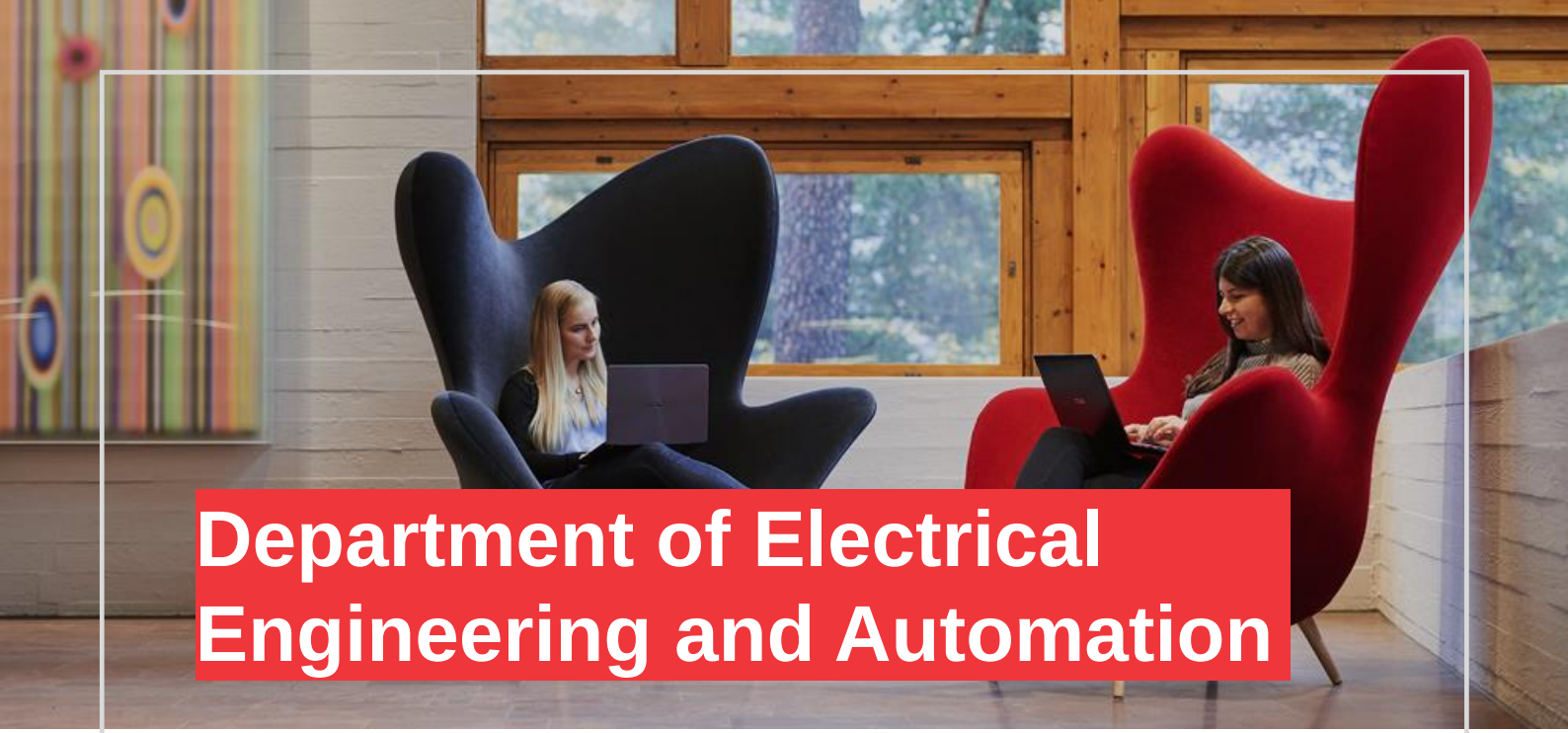
Our school has about **2000 students**, approximately 50 doctor's and about 250 master's degrees are completed annually. There are **600 members of academic staff** at the School, of which 60 are professors.

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 Electrical Engineering and Automation

Research and teaching

The Department of Electrical Engineering and Automation (EEA) of the Aalto University School of Electrical Engineering is an ecosystem where scientists and engineers from different fields interact and work together by crossing over traditional boundaries to solve the most challenging scientific and technological problems, to provide excellent education and to produce wellbeing for the society.

EEA is an academic community of approximately 160 employees and 23 professors. Talented scholars can conduct their own independent research on topics related to our areas of inquiry. The department has over 60 students pursuing Doctor of Science in Technology and 39 senior research and teaching staff members

Research
Research in EEA is organized in four focus areas, Power systems and conversion; Control, robotics and autonomous systems; Well-being and smart living environment; Industrial electronics and informatics. Because of the interdisciplinary nature, the department partner network covers a large share of Finnish and international industries from the energy sector to manufacturing industries, including many machinery production companies, medical sector, cities and public organizations, and service providers. There have been several spin-off companies utilizing the research results.

Teaching
The Department conducts research and provides education in bachelor's, master's, and doctoral programmes. The programs relevant for this professor positions are especially the Master's Programme in Advanced Energy Solutions, the Master's Programme in Automation and Electrical Engineering, and the Doctoral Programme in Electrical Engineering.

The Master's Programme in Advanced Energy Solutions is a two-year programme organized jointly by three Aalto schools: School of Chemical Engineering (CHEM), School of Electrical Engineering (ELEC), and School of Engineering (ENG). The programme offers four different majors. In each of them, students will be provided a solid theoretical background complemented with interdisciplinary studies to broaden and deepen the understanding of energy challenges in our society. The major of the programme organized by ELEC is Sustainable Energy Systems and Markets.

The Master's Programme in Automation and Electrical Engineering is organized solely by ELEC. Its major Electrical Power and Energy Engineering offers a firm theoretical base as well as practical tools and skills needed by engineers working on the field of electrical power and energy engineering. The major covers the key technologies related to power systems, energy conversion, and energy storage.

More information about the master's program.

The Position

Assistant Professor in Energy Storage Systems

Department of Electrical Engineering and Automation

The scope of the position is in the role of energy storage in power systems, considering the impacts of power-to-heat, sector coupling, and developing hydrogen economy. Application areas include electricity distribution systems, power transmission systems and electrical applications related to green transition of energy use.

As a tenure-track faculty member, you are expected to complement the expertise of the current faculty by bringing new ideas and perspectives into our community. You are also expected to teach power engineering and energy conversion, with the typical teaching load of two courses per year.

The position will be filled at the assistant professor level. The position will be located at the Aalto University Campus.

Your experience and ambitions

We are looking for applicants with

- a doctorate in electrical engineering or energy engineering
- a proven ability and passion to carry out high-quality research and publish in top venues of the discipline
- potential to attract research funding and build up your own research group
- an interest to collaborate with industry
- ability to build a high-level international collaboration network
- motivation to teach at undergraduate and/or graduate levels

We offer

- a tenure track position with promotion to tenured position based on merits
- a competitive benefits package including access to health care
- start-up funding and grant writing support to help you establish your own group
- excellent collaboration possibilities within the university
- great future in one of the happiest and safest countries in the world, with comprehensive social security system and free education up to university level

Aalto tenure track

This position belongs to our tenure track system and will be filled to the assistant professor level. The salary is based on Aalto University salary system, but you can also provide your own salary requests.

Getting tenure and advancement on Aalto tenure track is based on an evaluation of your achievements and merits against the Aalto tenure track criteria. Please see the details about the tenure track path at Aalto and evaluation criteria.

More info at **position.aalto.fi**

Applying & scientific environment

Assistant Professor in Energy Storage Systems

Department of Electrical Engineering and Automation

How to apply?

Please submit your application latest on April 17th, 2022 through our recruiting system by using the "Apply" link. Aalto University's employees and visitors please note: you should apply for the position via our internal system Workday -> Career -> find jobs (not external aalto.fi webpage on open positions) by using your existing Workday user account.

Please include the following pdf documents in English (maximum size by each document is 5mb and maximum number of documents is 5).

1) cover letter
2) curriculum vitae (with contact information, the ResearcherID number, list of referees with contact information)
3) list of publications (in which the five most significant publications highlighted and your role in them described)
4) research portfolio describing past research and plans for the future research
5) teaching portfolio describing teaching experience and plans for teaching

From this link you can find general instructions for applicants including language requirements and guidelines for compiling the teaching portfolio, research portfolio and CV.

Apply here!

Scientific environment

The Department of Electrical Engineering and Automation (EEA) focuses on three research areas: **Power Systems and Energy Conversion** (PSEC), **Control Robotics and Autonomous Systems** (CRAS), and **Health Technology** (HTech).

- In **PSEC**, we develop new methods, devices, and systems for substantially increasing the share of renewable energy and improving energy efficiency, focusing on making renewables, energy storage, and digital services the essence of power systems.
- In **CRAS**, we develop generic methodologies and practices focusing on control systems, field robotics, intelligent robotics, robotic instruments, industry automation systems, and automation software for distributed systems.
- In **HTech**, we develop technologies for improved and predictive diagnostic tools and efficient therapeutic methods and offer new analytical techniques for basic medical research focusing on making medical solutions that enable personalized treatments, homecare and data driven clinical decisions. (http://eea.aalto.fi/en/)

The department manages and has access to a substantial amount of research and education infrastructure and is committed to renewal and development of its infrastructure through internal and external funding. Besides its participation in the school-wide doctoral education, the Department offers a Master's degree programme in the above focus areas and is heavily involved in the teaching and education in other cross-disciplinary programmes as well.

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.

Culture that inspires and includes everyone. It's the people that create Aalto, now and in the future. We want to be an open community where equality and inclusion enable curiosity, innovation, collaboration and wellbeing. We constantly keep learning to find the most impactful ways to empower – and invest in – our people.

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.

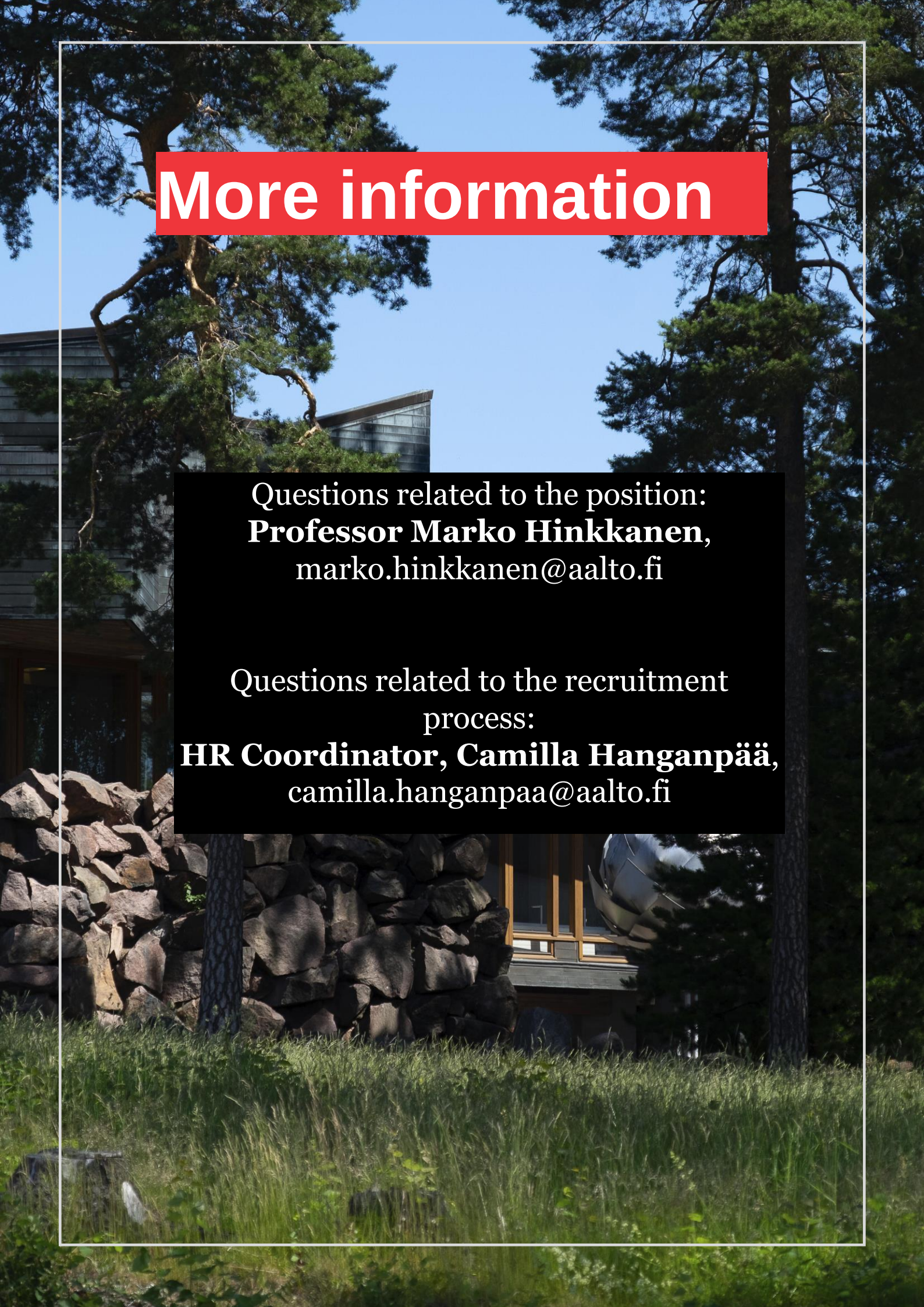
Having four distinct seasons, clean air and thousands of lakes, we are some nature-loving people and take good care of our **unique environment.** We enjoy our midnight sun in the summer and northern lights in the winter.

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



More information

Questions related to the position:
Professor Marko Hinkkanen,
marko.hinkkanen@aalto.fi

Questions related to the recruitment process:
HR Coordinator, Camilla Hanganpää,
camilla.hanganpaa@aalto.fi

Aalto University – a community of game changers

aalto.fi

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