



# Professor of Neuroimaging and Neural modelling in the School of Science



Aalto University



## Professor of Neuroimaging and Neural modelling in the School of Science

Are you an outstanding individual who holds a doctorate and is interested in an excellent opportunity to pursue a successful scientific career? We, at The Department of Neuroscience and Biomedical Engineering (NBE) (<http://nbe.aalto.fi/en/>), have opened a tenure-track position in neuroimaging and neural modelling and we aim at filling this position at the Assistant Professor level. Yet, we can also consider more advanced, exceptional candidates at either Associate or Full Professor levels.

The research methods at NBE range from cellular patch-clamp techniques to human neuroimaging using, e.g., magnetoencephalography (MEG), magnetic resonance imaging (MRI), hybrid MEG–MRI, near-infrared spectroscopy (NIRS), functional MRI (fMRI), and navigated transcranial magnetic stimulation (nTMS) combined with electroencephalography (EEG). NBE is world-renowned for its long-term top-level research on human systems neuroscience and pioneering development and applications of MEG and TMS technologies and signal analysis in basic and clinical research. Spinoff companies of the department are world-leading developers and manufacturers of MEG and nTMS devices. NBE hosts and develops a national-level open-access research infrastructure with state-of-the-art 306-channel MEG, 3T f/MRI, nTMS, and a behavioral laboratory.

The experimental research currently focuses on human sensory and motor functions, perception, cognition, emotions social cognition and interaction, and language processing. NBE has close contacts with the University of Helsinki, Helsinki University Hospital and the MEG and TMS manufacturers, as well as active collaboration with other departments of the Aalto University.

The recruited person will be an active and dedicated teacher in this curriculum and she/he is expected to contribute to teaching at all levels, from bachelor to graduate courses, and to supervision of BSc, MSc and PhD students.

The candidate should have a strong motivation and proven skills for innovative experimental human neuroimaging research, advanced data analysis methods, and experiment-linked computational modeling, ideally across multiple scales of the nervous system.

The successful candidate is expected to form a research group, conduct experimental research in human neuroscience, develop research methodology and modeling, raise funding from national and international sources, and become an academic leader. The applicants should have a good command of English.

**Ready to apply?**

[http://rekry.saima.fi/aaltohome/open\\_job\\_view.html?did=5900&lang=en&id=00002496&jc=1](http://rekry.saima.fi/aaltohome/open_job_view.html?did=5900&lang=en&id=00002496&jc=1)



# Department of Neuroscience and Biomedical Engineering

**The Department of Neuroscience and Biomedical Engineering (NBE)**, formed in 2015, combines the former Department of Biomedical Engineering and Computational Science and the Brain Research Unit of the O.V. Lounasmaa Laboratory.

The Department aims at understanding of system-level dynamic functions of the human brain, mind and body. The research, enabled by state-of-the-art technology and computational methods, leads to discoveries and technological breakthroughs that contribute to health and wellbeing.

NBE brings together systems and cognitive neuroscience, biophysics, and biomedical engineering. The levels of description range from molecular and cellular measures to noninvasive neuroimaging and behaviour. New generations of multidisciplinary scientists and engineers are educated by engaging them with cutting-edge science and technology.

## **Research**

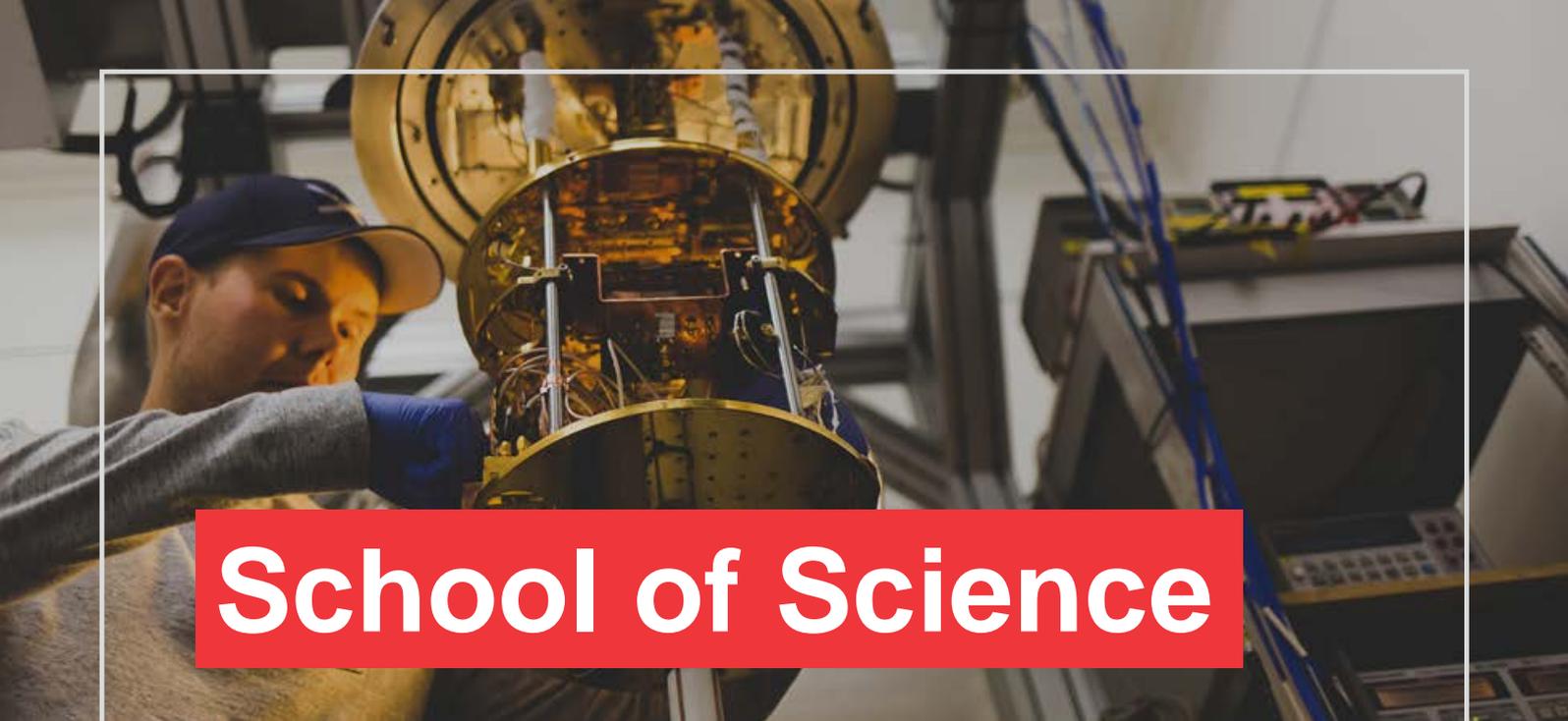
The department focuses on biomedical engineering, biophysics, and brain research. We combine experimental and computational methods and develop algorithms as well as new technologies to tackle major problems in human well-being and medical diagnostics. The grand challenges in brain research are in better understanding the function of the human brain in health and disease, as studied in well-controlled and increasingly complex experimental settings, including during social interaction.

## **Teaching**

The Department of Neuroscience and Biomedical Engineering provides courses on Bachelor's, Master's and Doctoral levels. At the Bachelor's level education, NBE contributes to the majors Engineering Physics and Bioinformation Technology. We also supervise Bachelor theses.

At the Master's level education, NBE produces two majors for the Master's Degree Programme in Life Science Technologies: Biomedical Engineering and Human neuroscience and –technology.

More info at  
[nbe.aalto.fi](http://nbe.aalto.fi)



# School of Science

**We aim to change the world for the better through internationally-acclaimed and high-level research and by making a significant impact on society.**

**The School of Science** offers a pioneering and applied approach to multidisciplinary research, which it closely connects to its inspirational teaching. The research conducted at the school meets all the world-class requirements across a range of subject areas. We see it as our mission to boldly and responsibly expand the realms of scientific knowledge and understanding. Hence, our research aims at responding to a variety of sustainable development challenges.

The school strives to educate high-quality experts who have the ability to solve society's increasingly complex problems relating to energy, the environment, wellbeing, and decision-making. Many of our M.Sc. and Ph.D. graduates in technology graduates go on to work in leadership and expert positions in Finnish and international companies. In recent years many graduates have started their own research based businesses and companies.

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Aalto University  
School of Science

More info at  
[sci.aalto.fi](https://sci.aalto.fi)



# Aalto University

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

**Aalto University** has six schools with nearly 11 000 students and more than 400 professors. Our campuses are located in Espoo and Helsinki, Finland.

**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.

**A''**

Aalto University

**Aalto** is an international community: more than 30% of our academic personnel have an international background. Disciplinary excellence is combined with multidisciplinary activities, engaging both students and the local innovation ecosystem.

**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. The University campus in Espoo 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, interdisciplinary encounters, creativity, growth and entrepreneurship. The core of the campus will be a vibrant city with versatile services and attractive places to meet

More info at  
[aalto.fi](https://aalto.fi)



# 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 multidisciplinary** 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 35 % of our faculty comes from outside of Finland. Our working environment is multicultural, widely English-speaking and its easy to settle in, 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 \(UN study 2019\)](#).

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 cooperation** 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***



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