Professor of Brain-signal Analytics

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

We are now looking for:

Professor of Brain-signal Analytics
to build his/her research program for making fundamental advances in science as an integral part of the vibrant scientific community of Aalto University.

The position will be filled primarily at the Assistant or Associate Professor level. However, we also welcome applications by outstanding scientists for Full Professor level appointment.

Your working environment

Health and wellbeing is one of the seven key research areas of Aalto University, and neuroscience and neurotechnology is a strategic focus area of the School of Science. The continued development of this field is vital for reaching Aalto’s strategic objectives in scientific excellence and societal impact. The tenure-track position will be placed in the Department of Neuroscience and Biomedical Engineering (NBE, http://nbe.aalto.fi/en/) where research methods range from cellular patch-clamp techniques to human neuroimaging using, e.g., magnetoencephalography (MEG), electroencephalography (EEG), functional magnetic resonance imaging (fMRI), near-infrared spectroscopy (NIRS), and navigated transcranial magnetic stimulation (nTMS) combined with EEG.

NBE and its predecessors are world-renowned for their development of many of these technologies and their use in systems and cognitive neuroscience. The most advanced MEG (Elekta/MEGIN Ltd) and TMS (Nexstim Plc) devices are manufactured by spinoff companies of laboratories that now constitute NBE (Brain Research Unit of Low Temperature Laboratory and Laboratory of Biomedical Engineering). Current technology development (funded by ERC, FET Open, NIH, Academy of Finland and Erkko Foundation) at NBE includes the development of hybrid MEG–MRI systems, high-resolution MEG based on optically pumped magnetometers (OPMs), high-definition NIRS, and multi-locus TMS combined with EEG and fMRI.

NBE hosts and develops a national open-access research infrastructure, Aalto NeuroImaging (ANI, http://ani.aalto.fi/en/) with 306-channel MEG, 3-tesla f/MRI, nTMS, and a behavioral laboratory. MEG and nTMS equipment are also available at the hospital campus’s BioMag Laboratory (jointly owned by Aalto, University of Helsinki and Helsinki University Hospital).

NBE’s experimental research focuses on human sensory and motor functions, cognition, social interaction, emotional responses, and language processing. Experimental designs vary from tightly controlled to naturalistic stimulus designs. Neuroscience at NBE is intimately tied with the development and application of novel data-analysis methods, including machine-learning and complex-network analysis approaches that together with the advanced neuroimaging and -stimulation techniques enable major advances in the depth and range of neuroscience questions that can be addressed. NBE has close contacts and collaboration with the University of Helsinki, Helsinki University Hospital and the MEG and TMS manufacturers, as well as active collaboration with other departments of Aalto University and other Finnish universities.

Your experience and skills

You have strong motivation and skills to develop and apply advanced signal-processing and estimation-theoretical methods to analyze data obtained from the brain by MEG, EEG, fMRI, or NIRS, ideally across
You will strengthen the faculty of NBE with an expertise gained from your previous innovative brain-signal-analysis studies. You are expected to act as a teacher in Aalto Master’s Programme in Life Science Technologies. Good knowledge and experience in neuroscience, neurotechnology, neurology, or related fields are considered essential for the job. You have excellent skills in mathematics and modern data-processing methodology and are able to develop practical and reliable methods that help solve the most urgent needs in experimental human neuroscience where signals from the brain must be interpreted for the benefit of science and the patient.

As a professor at Aalto, you are expected to exercise and guide scientific research, to provide related higher academic education, to follow the advances of your field, to serve the Aalto University community, and to take part in societal interaction and international collaboration in your field. As an applicant, you will be reviewed on the basis of your research, teaching and academic leadership and activity in scientific community.

**Ready to apply?**

If you want to join our community of game changers please submit your application through our recruitment system by June 13, 2018. Please include in your application (pdfs in English)

- Curriculum Vitae
- List of publications (with max 10 most significant publications for this call highlighted)
- Research statement describing past research and plans for future research (max two pages)
- Teaching portfolio
- Contacts for References


*If you wish to hear more about the position, you can contact*

Head of Department, Professor Risto Ilmoniemi, tel. +358 50 5562 964 or, in recruitment process-related questions, HR-coordinator Mari Kaarni, tel. +358 50 316 0961. E-mails: firstname.lastname@aalto.fi.

In Espoo / Helsinki, 16 May 2018

***************

Tenure track in Aalto University

The tenure track is open to talented individuals who have excellent potential for a scientific career. Individuals on the Aalto University professorial tenure track have the possibility to advance in their career through regular performance reviews, which take into account their merits in all areas of their scope of duty. Launched in 2010, the tenure track has attracted a wide range of international applicants, giving Aalto University the possibility of recruiting top experts and young research talent to join the Aalto University community. Read more about the Aalto University tenure track system at [www.aalto.fi/en/tenuretrack](http://www.aalto.fi/en/tenuretrack).

***************

[Apply for this job](http://www.aalto.fi/en/tenuretrack/for_applicant)