PhD Student Position in Computational Modeling of Brain Stimulation

Job description

We look for a talented researcher with a passion for computational modeling and brain stimulation. The goal of this project, funded by the European Research Council (ERC), is the understanding of the working mechanism of deep brain stimulation (DBS).

The successful applicant will join the group Biomedical Signals and Systems at the University of Twente (UT; Netherlands), including a tight collaboration with the University Medical Center Hamburg Eppendorf (UKE; Germany). A further collaboration with the MRC Brain Network Dynamics Unit, University of Oxford (UK), is possible.

About the project

Deep brain stimulation (DBS) is a surgical treatment for Parkinson's disease and some other neurological disorders. Despite its clinical success, it is not entirely clear how DBS acts on the brain and relieves motor symptoms. In the ERC project DECODE (Desynchronizing weak cortical fields during deep brain stimulation), we investigate the effects of weak electric fields remote from the stimulation site on network synchronization. The main focus of this position are finite-element method simulations of electric fields in the brain and optimization methods.

For more information you are welcome to contact Dr. Bettina Schwab (b.c.schwab@utwente.nl).

Your profile

We look for a highly motivated, enthusiastic researcher who is driven by curiosity and has:

- or will shortly acquire, a MSc degree in electrical engineering, biomedical engineering, technical medicine, (applied) physics, (applied) mathematics or a related field.
- programming experience.
- interest in finite-element method modeling and brain stimulation.
- affinity to the clinical application of neurotechnology.
- proficiency in English.

Experience with experimental or clinical studies is not required but can be of advantage.

Our offer

We offer an exciting temporary research position in a dynamic and international environment.

- A fulltime position as a PhD student for 4 years, with a qualifier in the first year.
- Full status as an employee at the UT, including pension and health care benefits.
- Training in different computational methods based on clinical data.
- Working in a committed, interdisciplinary team.
- An increasing degree of responsibility and independence.

Information and application

Are you interested to be part of our team? Please send your application to b.c.schwab@utwente.nl, including:

- a letter of motivation, emphasizing your specific interest, qualifications and motivation to apply for this position,
- a detailed CV,
- an academic transcript of BSc and MSc education,
- contact information of two referees.

The optimal start date is January 2024. We will continuously review applications.