



Neuromuscular Systems Research Lab School of Electrical & Electronic Engineering University College Dublin

PhD Opportunity

Speech and EMG in patients with deep brain stimulation for Parkinson's disease

Background

Applications are invited for a fully-funded four year PhD position within the Neuromuscular Systems Research Lab at University College Dublin (UCD) in the area of deep brain stimulation for Parkinson's disease.

Deep brain stimulation (DBS) is an effective therapy for treating the symptoms of Parkinson's disease. In our research group we are working on advanced stimulation protocols to provide more effective control of patient symptoms and side effects. This PhD project will involve examining speech and electromyography (EMG) activity in patients with DBS for Parkinson's disease. The successful candidate will be part of a larger team working on the development of computational and preclinical models of closed-loop DBS.

UCD Neuromuscular Systems Lab

The Neuromuscular Systems Lab is an international multidisciplinary research group in the School of Electrical and Electronic Engineering at UCD and part of the UCD Centre for Biomedical Engineering. Our research involves applying engineering principles, in particular mathematical modelling, signal analysis and experimentation, to understand how the nervous system controls muscle in healthy and diseased states. Through this research we aim to improve our understanding of the neuromuscular system to address fundamental questions in the control of human movement and to develop improved therapeutic and rehabilitation strategies.

We are based at University College Dublin (www.ucd.ie), Ireland's largest university, ranked within the top 1% of higher education institutions worldwide. The university is located on a 330-acre parkland campus just south of Dublin city Centre. Dublin is a lively European capital renowned for its nightlife and bustling technology industry.

Who Should Apply

Applicants should have, or expect to obtain, a first or upper second-class honours Bachelors or Masters degree in Electrical, Electronic or Biomedical Engineering (or a related discipline). Suitable candidates will have a strong interest in biomedical/neural engineering and neuroscience. Excellent analytical, computer and communications skills are essential. Experience in analysis of speech or EMG data would be beneficial.

Funding

This project is funded by the national research funding agency Science Foundation Ireland. Scholarships are funded for four years and cover tuition fees and a tax-free stipend of €22,000 per year. An annual allowance is provided for research consumables and for conference attendance.

How to Apply

Please email a cover letter describing your experience and interest in this project (1 page max), CV, and academic transcripts to madeleine.lowery@ucd.ie. The closing date for applications is 8th December 2024.

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