PhD Position on Neuromechanics of Human movement and Rehabilitation Robotics

Background

Robot-assisted gait training is a promising and sought-after therapy for regaining mobility and independence after a neurological impairment. Several systems and training paradigms have been developed in the past decade, but the results obtained in the clinical setting are still not completely satisfactory. There is a need for the design of more patient-specific interventions that would leverage on the possibilities that robotic technology allows for. In order to do so, it is necessary to fully understand the neuromechanical mechanisms that govern voluntary lower limb movement planning, execution, adaptation and learning. This is accomplished through the design of novel experimental paradigms for identifying how the different components of motor control interact and adapt to different scenarios during assisted and un-assisted lower limb movements. Research within our group aims to improve our understanding of the neuromechanics of human movement, with a particular interest on lower limbs and locomotion. Our research aims at getting a better understanding of the mechanisms controlling lower limb movements in healthy and impaired individuals as a mean to design new kind of robotic-based assessment and intervention procedures. Applications are invited for a full time PhD position focusing on the study of the mechanisms of motor control, motor learning and rehabilitation.

The start date for this position will be September 2016.

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 engineering and neuroscience. Excellent analytical, computer programming (Matlab, Labview, C/C++...) and communications skills are essential. Previous experience in experimental setting and movement analysis is a plus.

Funding

This position is Funded by the School of Electrical and Electronic Engineering at UCD. Studentship cover tuition fees for EU applicants and a tax free stipend of €18,000 per year.

How to Apply

Please send a cover letter describing your experience and interest in this project (2 pages max), CV, and academic transcripts to:
Dr. Giacomo Severini
UCD School of Electrical & Electronic Engineering
University College Dublin
Belfield,
Dublin 4
Ireland
E-mail: giacomo.severini@ucd.ie
Tel. +353 (1) 716 1805