UNIVERSITY OF GENOA
DEPARTMENT OF INFORMATICS, BIOENGINEERING, ROBOTICS AND SYSTEMS ENGINEERING
MASTER'S PROGRAM IN BIOENGINEERING

Thesis Project Form

Title (tentative): Effects of cerebellar tDCS on brain connectivity

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Description

Motivation and application domain

The cerebellum is a brain area traditionally known for its role on motor behaviours. However, in the last two decades, the cerebellumâ€™s relevance in social interactions has been highlighted. The cerebellum, as part of the mentalizing network, is in charge of generating models of future actions, not only a sequence of movements but also social sequences (for example how you interact with a cashier in a store). In this project we aim to learn more about the effects of cerebellar stimulation in mentalizing

General objectives and main activities

The student will learn how to independently conduct a cerebellar tDCS experiment. Their task will include to recruit participants, scheduling the sessions and tDCS application on the participants. The student will also assist with data collection at the MRI scanner and analyze data from a previous fMRI dataset that has already been collected.
The student will receive appropriate training and support for these tasks. In addition, the student is expected to write a report with the results obtained at the end of the internship and to present these results during one of the lab meetings of the Baeker's team.

Training Objectives (technical/analytical tools, experimental methodologies)

- Skills related to recruitment of participants
- Learning how to apply tDCS
- Resting state fMRI analysis & interpretation

Place(s) where the thesis work will be carried out: University of Gent, Belgium

Additional information

Pre-requisite abilities/skills: MATLAB programming skills, signal processing, statistics, image analysis

Maximum number of students: 1

Financial support/scholarship: Erasmus grant