

BSc/MSc-project

Title: Targeting cortical beta oscillations with EEG-guided brain stimulation

Description:

The project targets cortical oscillations in the beta range. The goal is to stimulate the motor cortex with transcranial magnetic stimulation (TMS) in a specific phase and to assess whether this results in a different brain response. The challenge is to precisely time the stimulation and to compare the responsiveness of the brain at different phases using electrophysiological recordings. This project is a milestone towards brain-state dependent brain stimulation which might open up novel possibilities for TMS as a scientific and therapeutic tool.

Required qualifications:

Matlab skills, basic understanding of electrophysiological techniques, eagerness to optimize a pre-existing set-up for non-invasive brain stimulation

Responsible institution:

Danish Research Centre for Magnetic Resonance (DRCMR)

Contact information:

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Danish Research Centre for Magnetic Resonance (DRCMR)

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Allowed no of students per report: 2

KU supervisor: Professor Hartwig R. Siebner

DTU supervisor: Associate Professor Kristoffer H. Madsen