

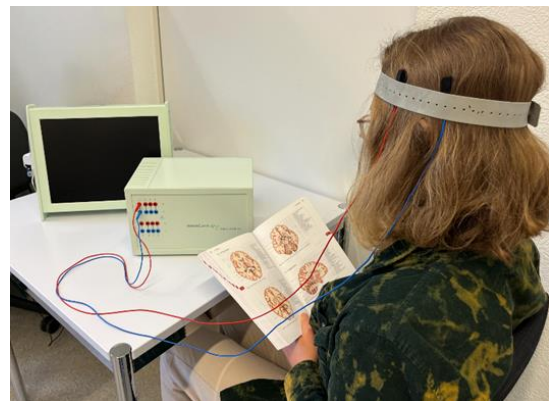
## Master thesis

- **Project title:** Neuromodulation of the reading network using transcranial direct current stimulation (tDCS)
- **Open to:** Master students in Neurosciences, Biomedicine, Health Sciences or related fields
- **Research group:** Developmental Cognitive Neuroscience group at the Department of Child and Adolescent Psychiatry and Psychotherapy:  
<https://www.kjpd.uzh.ch/en/transl-forschung/kog-neuro.html>
- **Principal Investigator:** Prof. Dr. Silvia Brem
- **Start Date:** Flexible, between September and December 2025

### Project description

This project explores the potential of transcranial direct current stimulation (tDCS) as an intervention for dyslexia. Even though dyslexia is a common developmental reading disorder with lasting effects on education, career, and mental health, effective interventions on a neural level are still missing. tDCS is a non-invasive brain stimulation technique that applies a weak electrical current to the brain and has shown promise in enhancing cognitive functions.

We will apply tDCS during an fMRI task that simulates reading acquisition in healthy adults. In this paradigm, participants learn a new artificial orthography. Before and after the stimulation, they will perform a range of behavioral and fMRI tasks, allowing us to assess the effects of the intervention. Our aim is to improve letter-speech sound learning and other cognitive skills related to reading, and boost activation in the brain's reading network.



### What you will gain

As a master's student, you will:

- Assist in data collection (fMRI, tDCS, behavioral tasks)
- Analyze fMRI and/or behavioral data
- Develop and answer your own research question within the project
- Stay current with the latest research in this field

This is a great opportunity if you're curious about cognitive neuroscience, interested in developmental disorders, and motivated to gain practical experience with various research methods such as tDCS and fMRI.

### How to apply

To learn more or apply, write an email to [rahelalexandra.wombacher@uzh.ch](mailto:rahelalexandra.wombacher@uzh.ch) with your CV. We'd love to hear from you!