PhD Student position

Location: University of Geneva, Switzerland
Start Date: Immediately
Duration: Four Years

EEG Microstate Neurofeedback for adult ADHD treatment

Background

The main research interest of our lab is the organization and dynamics of the large-scale neuronal networks of the human brain, and the understanding of disturbances of these networks in patients with brain dysfunctions. Using electromagnetic imaging based on high-resolution EEG, our group is working on the development of real-time signal analysis techniques of neuroelectric activity in time and space for both research and therapeutic applications.

Description

Previous research in our lab has successfully demonstrated EEG neurofeedback can be beneficial in patients with psychiatric disorders. The current research project will attempt to validate microstate-based neurofeedback, advancing a much-needed non-pharmacological alternative to ADHD treatment. It will focus on creating multi-channel neurofeedback training for adult ADHD and running a randomized controlled trial (RCT) to validate its clinical impact.

Activities

- Contribute to the development of a real-time EEG data analysis platform for the creation of multi-channel neurofeedback protocols
- Collaborate with interdisciplinary teams, including researchers, data scientists and healthcare professionals
- Advance research on Neurofeedback and microstates
- Disseminate research results through publications in reference journals and presentations at international conferences
- Contribute to the supervision of bachelor and master students

Supervisor

- **Main Supervisor:** Tomas Ros, CIBM, tomas.ros@unige.ch
- **Co-Supervisor:** Abele Michela, CIBM, abele.michela@unige.ch
- **Collaborators:** Victor Férat, University of Geneva, victor.ferat@unige.ch

Skills

- Master in Neuroscience or other title deemed equivalent
- Good understanding of cognitive neuroscience, experience in EEG is a plus
- Solid programming skills (Matlab/Python)
- Advanced skills in signal processing and/or computer modeling

- Good organizational skills
- Experience with clinical populations
- Good language skills in French and English

How to apply: If you match the description above, we would be very happy to receive your application file (Cover letter, CV, certificates, diplomas) which must be submitted online by clicking on the button below “Apply now”. Additional information can be obtained from Tomas Ros - tomas.ros@unige.ch

---

About CIBM

The CIBM Center for Biomedical Imaging was founded in 2004 and is the result of a major research and teaching initiative of the partners in the Science-Vie-Société (SVS) project between the Ecole Polytechnique Fédérale de Lausanne (EPFL), the Université de Lausanne (UNIL), Université de Genève (UNIGE), the Hôpitaux Universitaires de Genève (HUG) and the Centre Hospitalier Universitaire Vaudois (CHUV), with the generous support from the Fondation Leenaards and Fondation Louis-Jeantet.
CIBM brings together highly qualified, diverse, complementary and multidisciplinary groups of people with common interest in biomedical imaging.

We welcome you in joining the CIBM Community.

cibm.ch