

PhD student position in neuroimaging

Combined MRI-EEG study of brain structure and function

Laboratory for Neuroimaging Research

Lausanne University Hospital – Lausanne University

A PhD position is available within the [Laboratory for Neuroimaging Research \(LREN\)](#), Lausanne University Hospital (CHUV), Switzerland. We are seeking a highly motivated individual to join the Physics Group under the direction of [Prof Antoine Lutti](#). The group specializes in the development of MRI acquisition methods including functional, structural and diffusion imaging.

Project: Quantitative Magnetic Resonance Imaging (MRI) provides markers of brain tissue microstructure, allowing the in-vivo study of microscopic brain changes due to disease. This project will involve the parallel study of qMRI indices of brain microstructure and brain function. In particular, we will examine the ability of MRI markers of brain myelination to predict features of the electroencephalographic (EEG) signal. This project will bring together expertise in MRI and EEG methodologies and will give the post-holder the opportunity to develop a versatile set of skills for neuroscience research.

Environment: The LREN neuroimaging laboratory hosts state-of-the-art facilities including a 3T MRI scanner (Siemens 3T Prisma), an EEG system and an optical system for prospective correction of subject motion (Kineticor). The objective of LREN is the improved understanding of brain disease, with access to the clinical populations of CHUV. The post-holder will be closely integrated with the other members of the lab, whose expertise range from MRI data acquisition to multivariate data analysis and applications to fundamental and clinical neuroscience. This project will be co-directed by [Dr Marzia De Lucia](#) from the EEG laboratory at LREN, and will be conducted in collaboration with research laboratories at EPFL, fostering a stimulating inter-disciplinary environment for scientific exchange.

Funding: This project is funded by the Faculty of Biology and Medicine, University of Lausanne for a total duration of 48 months. The advertised position is funded for a duration of 3 years. Salary is according to Swiss Public service regulations.

Entry requirements: Applicants must have completed a Masters degree in physics, mathematics, biomedical engineering, or a comparable subject. Strong programming skills (e.g. C++, Matlab) are required. Previous training in signal processing and/or images analysis and experience with MRI and/or EEG are a plus. Candidates should be fluent in spoken and written english, french a plus. Candidates short-listed for an interview may be required to give a presentation about their academic training or previous research experience.

Application procedures: Application is by CV and motivation letter, including two referees' contact details, emailed to: antoine.lutti@chuv.ch (contact for informal enquiries). The position will remain open until a suitable candidate is found. For more information: <https://sites.google.com/view/antoinelutti/home>