PhD student position in neuroimaging

MRI biomarkers of brain microstructure

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 MRI (qMRI) provides markers of brain tissue microstructure, allowing the in-vivo study of microscopic brain changes due to disease. This project involves the development of novel qMRI biomarkers that allow a more specific description of brain tissue. Novel acquisition strategies will be devised to mitigate the effect of physiology on the data and improve the accuracy of the biomarkers. This project will be co-directed by Dr Ruud van Heeswijk from the Cardiovascular MR Research Center (CVMR) at CHUV. This collaboration between the brain and cardiac imaging groups will foster the emergence of novel ideas, to the benefit of the project and the post-holder.

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 conducted in close collaboration with the cardiovascular imaging group (CVMR, led by Prof. Matthias Stuber), fostering a stimulating inter-disciplinary environment for scientific exchange.

Funding: This project is funded by the Swiss National Science Foundation (SNSF 320030_184784) 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 experience with MRI is 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