PHD CANDIDATES & POSTDOCTORAL RESEARCH FELLOWS
STRUCTURAL & FUNCTIONAL MRI

LREN - Laboratory for Research in Neuroimaging
Centre for Research in Neuroscience
CHUV University Hospital Lausanne
SWITZERLAND

Ph.D. candidate and post-doctoral research positions in quantitative and diffusion MRI are available at LREN, Centre for Research in Neuroscience, CHUV University Hospital Lausanne, Switzerland (www.unil.ch/lren). The successful candidates will be working under the supervision of Prof Bogdan Draganski on Swiss National Science Foundation and InnoSuisse funded research combining longitudinal relaxometry-based quantitative MRI, multi-shell diffusion-weighted MRI, functional MRI, a vast array of lifestyle and behavioural data to track human brain health across the lifespan. The aim is to understand the neurobiology of processes that drive vulnerability and resilience against cognitive decline and mental health issues in the context of urban environment, lifestyle, and genetic factors. We carry out proof-of-concept studies in "at risk" populations – chronic traumatic brain injury and family members of individuals with major depression.
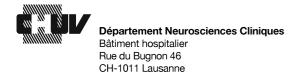
Depending on the candidate's scientific background and interests, they will implement established and develop new methods for feature extraction and statistical analysis of existing large-scale mono-centric longitudinal MRI data (n~1000) from a community-dwelling cohort with 20 years of deep phenotyping for cardio-vascular and mental health factors (www.colaus-psycolaus.ch). The projects use a state-of-the-art infrastructure including a research-dedicated 3T Siemens Prisma MRI scanner in collaboration with LRENs MR Physics (Dr Antoine Lutti), FemiLab (Dr Ann-Marie De Lange) and Methods Groups (Dr Ferath Kherif).

A Master or Ph.D. in Neuroscience, Computer Science, Biomedical Engineering, Applied Statistics, or a related field is required for these positions. The ideal candidate would have experience in the pre-processing and analysis of anatomical or functional MRI data, additionally to strong skills in computational methods and programming. Background in ML and/or DL is considered a plus. Beyond strong motivation, the candidates should demonstrate adequate oral and written English communication skills, can work independently and as a part of a multi-facetted scientific environment.

APPLICATION

Interested applicants should send a letter of motivation describing their research interests and experience, a CV, and contacts of three references to Bogdan Draganski via email (bogdan.draganski@chuv.ch). Questions and informal inquiries should be also directed to this email address.

The positions are full-time and available immediately. A two-year (for postdocs) time commitment is expected with a possibility for extension based on performance. The Ph.D. positions will follow the Lemanic Neuroscience Doctoral School curriculum (wp.unil.ch/lemanicneuroscience). CHUV is an equal opportunity/affirmative action employer with a strong commitment to diversity and inclusion. Applications by members of all underrepresented groups are particularly encouraged for these positions.

POSTDOCTORAL RESEARCH FELLOW
BRAIN PLASTICITY

LREN - Laboratory for Research in Neuroimaging
Centre for Research in Neuroscience
CHUV University Hospital Lausanne
SWITZERLAND

LREN invites applications for a Postdoctoral Research Fellow position at the Centre for Research in Neuroscience, CHUV University Hospital Lausanne, Switzerland (www.unil.ch/lren). The successful candidate will be working under the supervision of Prof Bogdan Draganski on an EU funded research combining relaxometry-based quantitative MRI, multi-shell diffusion-weighted MRI and functional MRI to investigate the visual system in visually impaired and sighted individuals. The aim is to understand the neurobiology of processes related to vision loss and estimate the individual propensity for function restoration using "visual prosthesis".
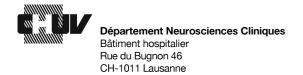
We are seeking a highly motivated, curious postdoctoral fellow to contribute to an ongoing interdisciplinary ERA-NET research programme (Germany, Canada, Switzerland) in vision science combining computational modelling, psychophysics, and *in vivo* brain imaging. The project uses a state-of-the-art infrastructure including a research-dedicated 3T Siemens Prisma MRI scanner in collaboration with LRENs MR Physics (Dr Antoine Lutti), FemiLab (Dr Ann-Marie De Lange) and Methods Groups (Dr Ferath Kherif).

A Ph.D. in Neuroscience, Computer Science, Biomedical Engineering, or a related field is required for this position. The ideal candidate would have experience in the pre-processing and analysis of functional MRI data, additionally to strong skills in computational methods and programming. Beyond strong motivation, the candidates should demonstrate adequate oral and written English communication skills, can work independently and as a part of a multi-facetted scientific environment.

APPLICATION
Interested applicants should send a letter of motivation describing their research interests and experience, a CV, and contacts of three references to Bogdan Draganski via email (bogdan.draganski@chuv.ch). Questions and informal inquiries should be also directed to this email address.

The positions are full-time and available immediately. A two-year time commitment is expected with a possibility for extension based on performance. CHUV is an equal opportunity/affirmative action employer with a strong commitment to diversity and inclusion. Applications by members of all underrepresented groups are particularly encouraged for these positions.

RESEARCH ASSISTANT POSITION
BRAIN IMAGING

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SWITZERLAND

LREN at the Centre for Research in Neuroscience, CHUV University Hospital Lausanne, Switzerland (www.unil.ch/lren) has an open Research Assistant position in quantitative and diffusion MRI. The Research Assistant will be working under the supervision of Prof Bogdan Draganski on data acquisition and processing of relaxometry-based quantitative MRI and multi-shell diffusion-weighted MRI.

The successful candidate will participate in data acquisition of MRI data in clinical and community-dwelling cohorts. The job tasks include also monitoring LRENs automated data processing framework and implementing novel methods that will help understanding the neurobiology of ageing-related brain changes. LREN is responsible for state-of-the-art infrastructure including a research-dedicated 3T Siemens Prisma MRI scanner in collaboration with LRENs MR Physics (Dr Antoine Lutti), FemiLab (Dr Ann-Marie De Lange) and Methods Groups (Dr Ferath Kherif).

The candidate is required to have:

- ☑ a Master in Neuroscience, Computer Science, Biomedical Engineering, Applied Statistics, or a related field by the start date.
- ☑ experience in pre-processing and analysis of anatomical MRI data
- ☑ strong programming skills in MATLAB, Python or a similar environment
- ☑ adequate oral and written French and English communication skills

APPLICATION
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