FOUNDATION CAMPUS BIOTECH GENEVA

JOB SPECIFICATION

JOB TITLE: DATA ANALYSIS MANAGER IN STATISTICAL METHODS & MODELING FOR BRAIN IMAGING

PLATFORM / TEAM: Human Neuroscience Platform
FACILITY: Methods & Data Facility

Position Description

Campus Biotech is a new hub for cognitive and neuroscience research that hosts laboratories from EPFL, UNIGE and HUG working in preclinical and clinical research, as well as in neuroengineering technology research and development. Five major neuroscience and engineering platforms containing expert staff and advanced technology support these efforts.

The MRI facility of the Human Neuroscience Platform (HNP) is built around a new 3T scanner providing state-of-the-art imaging for the Campus. As the field matures, there are pressing needs for multimodal data fusion, combining imaging with brain stimulation, neurofeedback, virtual reality, robotics, and electrophysiology. Therefore, the Methods & Data Facility plays a central role in the success of the Human Neuroscience Platform.

The data analysis manager will provide expertise on advanced MRI data analysis, including on design, estimation, assessment and implementation of models for structural, functional and diffusion data, as well as multimodal imaging. The data analysis manager will report to the Methods & Data Facility (Faculty Advisors: Prof. Dimitri Van De Ville & Prof. David Rudrauf) of the HNP (coordinator: Dr Anne-Dominique Lodeho), and will work closely with the MRI facility, facility users, as well as with the other facilities of the HNP in a perspective of integration within Campus Biotech research ecosystem.

KEY RESPONSIBILITIES

- Adapt and deploy implementations of cutting-edge MRI data analysis methods.
- Organize and provide (hands-on) tutorials on various aspects of MRI data acquisition and analysis.
- Provide, teach, and share basic and advanced methods for MRI and multimodal imaging (e.g., Wiki, Methods Meetings, online repository)
- Interact with national & international research laboratories that are active in developing new methodological approaches in MRI data analysis to stay at the frontier of the field.
- Provide solutions of standardization, interoperability and data quality control

for analysis pipelines.

COMPETENCES

Education / Skills

- PhD degree in (biomedical) engineering, physics or equivalent with experience in state-of-the-art MRI data science.
- Significant theoretical knowledge in signal processing and applied statistics.
- At least two years relevant post-doctoral experience.
- Team player with strong organizational, managerial and communication skills.
- Good time management and ability to deal with multiple and diverse projects.
- Experience in multidisciplinary international groups.
- Autonomous, creative and solution-oriented.
- Proficiency in English, both written and spoken. French is an advantage.

Technical skills and experience

- MRI data analysis for structural, functional and diffusion data imaging: regression models (e.g., single-subject designs, multi-subject factorial designs, FFX/MFX/RFX hypothesis testing), connectivity & network models (e.g., PPI, DCM, seed- and graph-based approaches), structural models (e.g., VBM, TBSS, tractography), multivariate and machine-learning methods (e.g., ICA, PLS, RSA), computational modeling of neural signals and behavior.
- Solid experience with using common MRI analysis software (e.g., SPM, FSL, AFNI) as well as with programming in scripting languages (e.g., Matlab, Python, Bash), relevant libraries and pipelines (BIDS).
- Teaching and communication skills.

Application

- Permanent contract
- Start date: early/mid 2018
- Applications should include a CV, a cover letter and reference letters, and should be send by email to: administration@fcbg.ch, before December, 22th 2017.