PhD student position

Multimodal imaging to understand vulnerability for developing schizophrenia

Developmental Imaging and Psychopathology laboratory (DIPLab)

22q11.2 Deletion Syndrome (22q11DS) is neuro-genetic disorder that predisposes individuals to increased risk for of multiple form of psychopathology and schizophrenia in particular. Indeed, up to 40% of individuals with 22q11DS will develop schizophrenia by adulthood. Since 2001 the DIPLab has performed longitudinal follow-up in one of the largest cohorts of children and adolescents with 22q11DS. Our comprehensive research protocol consists in gold-standard neuroimaging acquisitions, including structural MRI, functional MRI and diffusion-weighted MRI as well as high-density EEG. Moreover, we perform extensive neuro-cognitive and clinical evaluations. Our aim is to understand how atypical maturation of the brain contributes to vulnerability to schizophrenia, to both characterize relevant neurodevelopmental mechanisms and to detect early biomarkers of vulnerability to the disorder.

Methods employed in the lab: Cortical morphometry (thickness, gyrification), voxel-based DTI, tractography, resting-state fMRI, high-density EEG, graph theory, pattern recognition, multivariate pattern analysis.

Tools employed in the lab: Matlab, SPM, FSL, FreeSurfer, connectomemapper.

Place of work: Campus Biotech; Chemin des Mines; 9 - 1202 Geneva

Department: Department of Psychiatry, Faculty of Medicine, University of Geneva

Your responsibilities:

- To work in collaboration with clinical and engineering departments for the development and application of new neuroimaging methodologies.
- To analyze complex multimodal and longitudinal MRI data.
- To participate to neuroimaging data acquisition.
- Manuscript redaction.

Your Profile: We are looking for young, nearly graduated students with a master's degree in medicine, psychology, neurosciences, or an equivalent title. Expertise in programming and neuroimaging data analysis and management is not mandatory but a strong asset.

Application: Please send full application documents (motivation letter, CV, copy of the diploma and graduations, Optional: letter of recommendation) by a single email titled **"DIPLab PhD position application – YOUR NAME"** to the following email addresses:

Farnaz DELAVARI (farnaz.delavari@unige.ch)
Silas FORRER (Silas.Forrer@unige.ch)