



**Open position:
PhD in “multimodal imaging to understand neurodevelopmental
vulnerability for developing schizophrenia”**

**Developmental Imaging and Psychopathology laboratory, University of Geneva
P.I. Prof. Stephan Eliez**

Starting date: September 2019

Deadline for application: June 1st 2019

Working environment: 22q11.2 Deletion Syndrome is neuro-genetic disorder that represents the highest molecular risk factor for developing schizophrenia. Indeed approximately 30% of individuals with 22q11DS with develop schizophrenia by adulthood. In our lab, since 2001, we perform longitudinal follow-up of children and adolescents with 22q11.2 leading to one of the largest longitudinal cohorts worldwide. Our research protocol includes gold-standard neuroimaging acquisitions, including structural MRI, task-based fMRI resting-state fMRI and diffusion-weighted MRI. Moreover, we perform extensive neuro-cognitive and clinical evaluations. Our aim is to understand how atypical trajectories of brain maturation contribute to vulnerability to schizophrenia, in order to both characterize relevant neurodevelopmental mechanisms and to detect early biomarkers of vulnerability to the disorder.

Tasks of the PhD student:

- 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 MRI data acquisition;
- Redaction of manuscripts

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

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

Academic requirements: We are looking for young, nearly graduated students with a master degree in medicine, psychology, biology, or neurosciences. Expertise in brain imaging and/or programming is not mandatory but a strong asset.

Contact: Applications (motivation letter, CV, copy of the diploma and graduations, eventually letter of recommendation) have to be sent preferentially by email to the following addresses:

Corrado SANDINI (corrado.sandini@unige.ch)

Maude SCHNEIDER (maude.schneider@unige.ch)

Campus Biotech
Chemin des Mines 9
1202 Genève
022/379.12.28

<https://www.unige.ch/medecine/psyat/en/research-groups/693eliez/>