University of Zurich[UZH]

Master of Science Thesis Position in Immunology

Duration: Preferably 6-12 months

Location: Myeloid Cell Immunology lab of **Prof. Dr. Melanie Greter**, Institute of Experimental Immunology, UZH

Supervisor: Dr. Mitchell Bijnen

Research topic: Determining the role of brain macrophages in neurodegenerative disease

Project description:
The central nervous system (CNS) hosts different types of immune cells, with macrophages being the most prominent. Besides microglia, the main macrophages residing in the CNS parenchyma, there are also macrophages present at the borders of the CNS. These border-associated macrophages (BAMs) located at parenchymal blood vessels, the choriod plexus and in the meninges are involved in maintaining CNS homeostasis, but have also been implicated in various pathologies. The Greter lab has developed models to specifically target different macrophage populations and now aims to determine the precise role of various brain macrophages in neurodegenerative disease. This will be done using mouse models of neurodegenerative diseases such as Alzheimer's disease (AD). State of the art flow cytometry, microscopy and omics techniques will be utilised to perform in-depth characterization of these models and compare mice with and without a specific macrophage subset to determine macrophage function.

Project aims:
- Investigate the involvement of brain macrophages in neurodegenerative diseases such as Alzheimer's disease

Techniques: High dimensional flow cytometry, confocal microscopy, image analysis and sequencing data analysis

We offer:
- An exciting research project addressing relevant questions in the field of neuroimmunology by making use of cutting-edge research technologies.
- Supportive environment with regular meetings and the opportunity to gain experience in the lab and learn transferrable skills

If interested, please send your application including a CV with a brief summary of your previous education and research experiences to: bijnen@immunology.uzh.ch and greter@immunology.uzh.ch