

Introduction

The group of Fritjof Helmchen (Brain Research Institute, University of Zurich) is offering a PhD position to study neuronal circuits using light-sheet microscopy. In our research group we study circuit function and principles of computation in the mammalian brain, with a particular focus on advancing and applying optical imaging methods for in vivo measurements and anatomical reconstructions. We investigate both the local cellular micro-level with the help of high-resolution microscopes as well as the more global 'mesoscale' brain network using large-scale imaging tools. Recently, we started the mesoSPIM initiative (mesospim.org), an open-source hardware project which provides the imaging community with highly versatile light-sheet microscopes for imaging cleared tissue. The successful PhD student will work on the improvement of the current generation of instruments towards better resolution, usability, and application to ongoing projects in the lab directed at studying the function of long-range projections in the mouse brain.

Requirements

You have an excellent education in physics, biology, mechanical or electrical engineering or related fields and are prepared to work in a fast moving and challenging field. Ideally, you have prior experience with custom-built microscopes and programming and data analysis using Python.

Application

Please send your application including curriculum vitae, a one-page description of scientific interests and motivations, your transcript of records, and two reference letters to Prof. Fritjof Helmchen (helmchen@hifo.uzh.ch). Successful applicants will enroll in the International PhD Program in Neuroscience of the Neuroscience Center Zurich (<http://www.neuroscience.uzh.ch>), embedded in the Life Science Graduate School Zurich (<https://www.lifescience-graduateschool.uzh.ch/en.html>)

The University of Zurich is offering a very stimulating academic environment and competitive salaries. The Neuroscience Center Zurich includes many international renown research groups working on all aspects from fundamental neuroscience to clinical applications.

The PhD position is available starting March 2020.

