

# Open postdoctoral position

## Project

Understanding cellular changes associated with spinal cord injury using histology-magnetic resonance imaging

## Short description

A postdoctoral position will become available in the framework of the ERA-NET NEURON, financed by the EU. The project aims to develop histology-magnetic resonance imaging to map and quantify changes in tissue structure and composition in the brain and spinal cord that occur after spinal cord injury. Moreover, we will test if the new techniques will be more specific neuroimaging read-outs of spinal cord injury-associated changes than conventional (DTI, VBM; MPM) imaging markers. A particular focus will be the validation of the approaches in ex vivo samples from a rat spinal cord injury model by comparison with gold standard histology and immunohistochemistry.

## Environment

The position will be embedded in a stimulating interdisciplinary environment at the Institute of Biomedical Engineering (University of Zurich and ETH Zurich, Switzerland) and will be supervised by Dr. Aileen Schröter and Prof. Jan Klohs. The project is part of an EU consortium formed by the University of Zurich/Spinal cord injury Centre Balgrist (Switzerland), the Medical Centre Hamburg-Eppendorf (Germany), the Wellcome Trust Centre for Neuroimaging, University College London (UK), the Max Planck Institute for Human Cognitive and Brain Sciences in Leipzig (Germany) and the Wroclaw Medical University (Poland). A strong collaboration between all project partners is envisioned to achieve the overall goal of the project. For the applicant this will provide the attractive ability for interaction and knowledge transfer with top sites in neuroimaging. Moreover, the successful candidate will have the opportunity to participate in the activities of the Zurich Neuroscience Center (ZNZ) and the Zurich Center for Experimental and Clinical Imaging Technologies (EXCITE).

## Requirements

We are looking for a highly motivated postdoctoral candidate with a doctorate in imaging science, neuroscience or related fields. The candidate should have experience and a solid knowledge in MRI. Strong analytical/mathematical skills and a proven ability in medial image processing (SPM, Matlab) are a requirement. Programming skills are not a prerequisite, but a clear advantage. Previous experience with histology and immunohistochemistry techniques

would also be a plus. We expect good communication skills and a good command of English. Moreover, the candidate should have a strong work ethic, with the ability to work in international teams and a motivation to thrive in science.

### **Duties and responsibilities**

- Implement imaging protocols and acquire data
- Process and analyze acquired images and perform statistical testing
- Learn histological and immunohistological techniques and perform microscopy
- Participate in seminars and progress reports of the Institutes
- Prepare presentations and reports
- Prepare manuscripts for submission to peer-reviewed journals
- Travel for training, collaboration and other meetings and conferences
- Contribute to the overall activity of the research team

### **Duration of the position**

The anticipated start date is 1<sup>st</sup> June 2017. The position is funded for 2 years.

### **For further questions please contact**

Jan Klohs (email: [klohs@biomed.ee.ethz.ch](mailto:klohs@biomed.ee.ethz.ch))

### **Application procedures**

Please send your CV with at least 2 references and a cover letter describing your motivation and future career plans per email to [klohs@biomed.ee.ethz.ch](mailto:klohs@biomed.ee.ethz.ch).