Fellow R8: Optical risk stratification in carotid artery stenosis by multispectral optoacoustic tomography
Closed position

Supervisor: Prof. Daniel Razansky
Host institution: Universität Zürich (**UZH**), Zurich, Switzerland
Duration: 36 months
PhD program: Biomedical Engineering
Research group: Functional and Molecular Imaging
Secondments (short visits) at: Max-Planck-Institut für Dynamik und Selbstorganisation (**MPI**, Germany), and company **iThera Medical GmbH** (Germany).
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Objectives

To develop deep learning (DL) based methods for quantified image acquisition and analysis in clinical multispectral optoacoustic (MSOT) imaging and apply those methods to identify carotid artery stenosis at risk in atherosclerotic patients. We will devise DL techniques to automatically segment the human carotid artery and surrounding tissues and develop algorithms for artifact removal, image quality enhancement and accurate spectral unmixing, thus facilitating extraction of quantitative disease biomarkers from readings of tissue oxygenation and lipid content.

What is offered

To work within an interdisciplinary environment, receiving training from leading experts in biomedical imaging in a full-time Ph.D. position for 36 months, in which living and mobility costs will be fully covered with a gross salary of 48,686.00 CHF per year.

Required skills

We are seeking an enthusiastic candidate that has **a strong foundation in Biomedical/Electrical Engineering**, **Medical Physics** or related fields. The applicant should have experience in one or more of the following: **biomedical imaging (optical/ultrasound)**, **parallel programming**, **image reconstruction** and **learning-based algorithms** and **light-tissue interactions.**

Additional skills

- Ability to work in an interdisciplinary environment.

- Effective communication skills.
- Adaptability and problem-solving skills.
- Strong scientific motivation and willingness to pursue an academic career.