Zürcher Hochschule
für Angewandte Wissenschaften

**University of Zurich**UZH

**Life Sciences and
Facility Management**

IAS Institute of
Applied Simulation

# PhD Position in Applied Computational Life Sciences

The Biomedical Simulation Group at the Institute of Applied Simulation at the ZHAW Wädenswil offers a PhD position in Applied Computer Science. In a thrilling interdisciplinary research setting, the candidate is to conduct a PhD study in the field of medical data science.

## Project description

The architecture of the supplying brain blood vessels impacts the occurrence and severity of common cerebrovascular diseases such as ischemic strokes or intracranial aneurysms.

In this project, the PhD candidate will study methods to efficiently quantify the variability in human cerebral vasculature and how this variability is linked to cerebrovascular pathologies. The candidate will employ geometric and graph-based models of the vasculature to analyze and profile the cerebral angioarchitecture in large patient cohorts. The range of methods to use includes medical image analysis, machine learning, medical statistics and quantitative morphology.

This PhD project is shared between the Biomedical Simulation Group at ZHAW (Prof. Dr. Sven Hirsch) and the Department of Quantitative Biomedicine (Prof. Dr. Björn Menze) at the University of Zurich. We have a strong competence in biomedical image processing and machine learning. The clinical partners at the University Hospitals Geneva and Zurich will provide data and clinical expertise. Upon successful completion of the PhD program, the doctoral degree will be awarded by the University of Zurich.

## Your profile

- Enthusiasm for translating cutting edge research into clinical practice
- Positive mindset, eagerness to learn, creativity in problem-solving
- Master's degree in computer science, physics or an engineering discipline
- Profound expertise in software development and an interest in medical image processing, machine learning and data science
- Ability to work both independently and as part of an interdisciplinary team
- Excellent university track record
- Profound knowledge of English (written and oral)

We plan to fill this position by October 1st, 2021.

## Contact

Please send your application (including a cover letter, CV, transcript of records, references) to Prof. Dr. Sven Hirsch (sven.hirsch@zhaw.ch). We are looking forward to receiving your application! For further information about our lab, please visit our website.