



Master's Thesis Project

Domcke Lab, Department of Molecular Life Sciences



**Universität
Zürich**^{UZH}

The Domcke lab studies how genes and cell fates are regulated, with the aim of controlling cell state transitions in development and disease. For this we use a combination of mammalian cell culture models, high through-put CRISPR screens, single cell genomics assays and computational approaches. See our website for more information on the lab and our research (<https://domcke.github.io/domcke-lab.html>).

What you'll be working on

The aim of the Master's project is the development of a novel single-cell genomics method to better study gene regulation. This method will combine both chromatin accessibility (scATAC-seq) and transcriptomics technologies (scRNA-seq) and will be based on the BD Rhapsody single-cell platform. Method development will span the full single-cell genomics workflow, from isolation of single nuclei to library preparation, sequencing and data analysis.

What you'll gain

- Hands-on experience on development of a novel single-cell genomics method
- Practical training in a diverse set of skills, including the following techniques: cell culture; isolation of single nuclei; basic RNA and DNA techniques such as qRT-PCR and PCR; FACS analysis; single cell genomics methods; analysis of high-throughput sequencing data
- Interdisciplinary training in both wet lab and computational approaches, preparing you for diverse career paths

What we offer

- The opportunity to contribute to a novel method with real-world scientific impact
- A highly international and collaborative environment that fosters scientific discussions and independent thinking
- Support in developing your own research ideas and working with state-of-the-art technologies
- Mentorship to help you grow as a scientist and advance to the next stage of your career

What you should bring

- Basic skills in cell culture techniques and molecular biology methods, such as PCR and qRT-PCR
- Basic experience in coding in R and Python
- Strong interest and motivation, good communication skills and enthusiasm for teamwork

Project period: Flexible, but an early start date is preferred.

Interested? Please submit your CV and a brief statement of interest to Prof. Silvia Domcke, silvia.domcke@mls.uzh.ch.