Master Thesis Position

Developing an Intracellular DNA-Encoded Library Platform for Challenging Drug Targets

We are seeking a highly motivated Master's student to join our research team (Prof. Jörg Scheuermann) for an exciting thesis project at the interface of **chemical biology, drug discovery, and cell biology**.

Project Overview

DNA-Encoded Library (DEL) technology has emerged as a powerful platform for small-molecule discovery. However, most DEL approaches are performed outside living cells and therefore do not fully capture the complexity of intracellular target engagement.

This Master's thesis project aims to develop an **intracellular DNA-Encoded Library (DEL) platform** that enables the identification of small-molecule ligands directly in living cells. By integrating chemical biology, molecular biology, and drug discovery technologies, the project seeks to expand the scope of DEL-based screening toward therapeutically relevant targets that are difficult to address using conventional in vitro approaches.

The project is conducted in close collaboration with **Roche** and **Genentech**, providing exposure to both academic and industrial perspectives on modern drug discovery.

The student will contribute to the development of innovative methodologies for intracellular ligand discovery and target engagement, helping establish new capabilities for next-generation DEL technologies.

What You Will Learn

During this project, you will gain hands-on experience in:

- DNA-Encoded Library (DEL) technology and chemical biology
- Mammalian cell culture and cell-based assay development
- Molecular biology techniques and cellular engineering
- Intracellular delivery and target engagement strategies

Candidate Profile

We are looking for a motivated student with a background in Pharmaceutical Sciences, Biology, Biochemistry, Biotechnology, or a related discipline.

Start Date

September 2026

Application

Interested students are invited to submit CV,academic transcript, brief statement of research interests to Email: **junyu.cai@pharma.ethz.ch**