

Masters Project Offered in Ribosomal RNA Operon Capture for Pathogen Identification

The institute: The IMM is part of the UZH and combines microbiology diagnostics with applied research.

The group: The Enriching Microbiology Research Group (<https://enrichingmicrobiology.net/>) focuses mainly on genomics of difficult-to-culture pathogens. Through target enrichment and custom analysis we get the best stories from our genomes.

The project: Developing Ribosomal RNA Operon Capture and Sequencing for Bacterial Identification

Description: In some clinical cases it can be very hard to identify the pathogen causing an infection. Perhaps the load of bacteria is very low, or the sample was not optimally stored, or the bacterium is complicated to identify. We plan to use target enrichment / sequence capture to analyse complete rRNA operons of bacteria (at the DNA / RNA level) for high resolution identification of bacteria from (otherwise) sterile clinical samples.

Requirements: Interest in microbial genomics bioinformatics; command line and HPC knowledge; prepared for half laboratory based, half computer based project. Specific bioinformatic methods will be researched / taught.

We offer: A friendly and ambitious group with firm projects and high likelihood of projects leading to publication. Cutting edge diagnostic, computations and genomes sequencing facilities. Enrollment on high quality training courses and conferences will be provided where relevant. The IMM has an active student population and access to multi-disciplinary seminars.

Please Note: There is no funding associated with this project. Ideally you will already be enrolled at the UZH (<https://www.uzh.ch/en/studies/programs/master.html>) or a local University / Fachhochschule. In terms of living costs, the university recommends that students have around 3000 CHF per month to live in Zurich.

Application: Please contact PD Dr Helena Seth-Smith (hsethsmith@imm.uzh.ch) with your CV if interested.