

"Investigating gut microbial communities in response to abiotic stress"

Master Project



Did you know that trillions of microorganisms call your gut their home? Our tiny inhabitants, known as the gut microbiome, provide us with many functions. From aiding digestion to preventing pathogen invasion, the gut microbiome plays a crucial role in maintaining overall health and well-being. However, when things go wrong and the microbiome is disturbed, beneficial functionalities are lost. Studies have linked an imbalanced microbiome to a variety of diseases including colorectal cancer, IBD, diabetes and depression. Why and how the healthy microbiome changes, leaves us with many open questions.

In this project we investigate the behavior of complex gut microbial communities upon abiotic stresses, using the *in-vitro* fermentation system PolyFermS. We are looking for a motivated master student with laboratory experience.

Start of the thesis: Spring 2023 (end of April/ beginning of May).

What to expect:

- Learn how to handle and work with a bioreactor system
- Analyze samples using different molecular methods
- Option to include bioinformatic analysis
- Contribute to a multi-disciplinary, highly dynamic, and exciting research field

If you are interested to know more, please contact: aline.schneider@hest.ethz.ch