PhD-position in
Host-Microbiota Interaction in Over- and Undernutrition

Research Focus:

Obesity and diabetes, both rapidly increasing in prevalence worldwide, have a tremendous medical and socio-economic impact. Both are multifactorial in their etiology, influenced by genetic and environmental factors. Obesity and Diabetes also share the characteristic of a chronic low-grade inflammatory state, that indicates that altered metabolism may alter the immune system. The gut microbiota, and microbial metabolites in particular, have been described to play an important role in disease development. However, the underlying mechanisms are still ill-defined.

In our lab we apply innovative gnotobiotic, metagenomic and metabolomic approaches to advance our mechanistic understanding of the complex pathophysiologic **interplay between gut microbiota, metabolism and inflammation driving obesity and diabetes**, with the ultimate goal to inspire novel and innovative strategies for prevention and therapy of these important diseases.

PhD-Project available:

Within-host bacterial evolution in over- and undernutrition

Recent evidence has demonstrated that the gut microbiota may play an important role in the development of obesity and its complications as well as malnutrition. How exactly the microbiota and bacteria-derived metabolites contribute to host-metabolism is still unclear. In this project we will assess how gut bacteria evolve within its host and if and how this evolution contributes mechanistically to the development metabolic diseases. We work with gnotobiotic mouse models and human samples.

The work will predominantly be based at the University of Bern but will be in close collaboration with the Vonaesch Laboratory at the University of Lausanne (https://wp.unil.ch/vonaeschlab/).

Your qualifications:

- An excellent MSc in science, preferentially in microbiology, infection biology or computational biology
- Reliable, motivated, team-oriented personality
- Excellent organizational skills and detail-oriented working style
- Training and experience with laboratory animals (LTK1 or equivalent)
- Strong interest in host-microbiota interactions

Job information:

Expected start date: 01.7.2024 or upon mutual agreement.

Contract length: 1 year renewable twice; Activity rate: 100%

Workplace: University of Bern but with occasional work trips to Lausanne

We offer:

- work in a world-wide unique gnotobiotic animal facility
- work in a multidisciplinary field, connecting microbiology, immunology and metabolism
- collaborate with experts in metabolism, immunology and microbiology
- beeing close to entrepreneurship within sitem-insel
- work in a diverse, motivated, enthusiastic team

Our commitment:

Our labs wish to create best possible conditions for young talents to network, be creative and develop their own ideas. Our lab strives to having members with a diversity of backgrounds and identities. We strongly believe that diversity and interdisciplinarity fosters creativity and excellence and it is our priority to make all group members feel welcome, respected and supported.

How to apply:

Please send your full application consisting of a motivation letter, CV and grades from your bachelor/master by email to: maria.balmer@unibe.ch

More information:

https://pubmed.ncbi.nlm.nih.gov/?term=balmer%20ml
https://www.dcberne.com
https://twitter.com/MariaLBalmer