

We are offering a position, available immediately, as a

## Postdoctoral Researcher (m/f/d) in Microbiome Research

### About us

The **Schirmer lab** is part of the **ZIEL - Institute for Food & Health** at the Technical University of Munich and located in Freising-Weihenstephan. The research of our lab focuses on the human microbiome, especially gut microbes, and investigates potential mechanisms of host-microbial interactions in health and disease. We are particularly interested in the role of the microbiome in inflammatory and auto-immune diseases and how hormone-microbiome interactions impact female health. To address these questions, we use integrated multi-omics analyses (metagenomics, metatranscriptomics and metabolomics) combined with the subsequent isolation of the strains in the lab to study these mechanisms.

### Candidate profile

We are looking for an outstanding highly-motivated postdoctoral researcher with the ambition and commitment to achieve excellence in a highly productive environment. The activities surrounding this position will be focused on experimental work for the validation of predicted host-microbial interactions based on human cohort data and represent an exciting opportunity to **discover the underlying mechanisms of hormone-microbiome interactions in female health (ERC Starting Grant: HEROINE)**. Bacterial strains and predicted host-microbial interactions will be prioritized based on computational analyses of multi-omics data from large population studies. The candidate for this project will be responsible for DNA/RNA extractions from human samples and the isolation, cultivation and characterization of bacterial strains from these samples (including stool, saliva and vaginal swabs).

### Tasks

- Isolation and cultivation of disease-related bacterial strains
- Functional characterization of bacterial strains (gene expression and metabolic capabilities)
- Characterizing the immunomodulatory potential of bacteria (including human cell assays) and investigating hormone-microbe interactions
- Sample handling (e.g., DNA/RNA extractions)
- Lead and contribute to the generation of publications, grant applications and protocols
- Network with our national and international collaborators and present our work at conferences and scientific meetings

### Requirements

- PhD in microbiology or a relevant field
- Experience in classical and molecular microbiology techniques
- Experience with culturing bacteria (in particular anaerobes) and isolating bacterial strains from human samples
- Additional qualifications:
  - Experience with immunological assays and human cell lines is an advantage
- Experience or strong interest in human microbiome research
- Strong publication record, excellent communication skills, and high proficiency in English (presentation and writing skills)
- Self-motivated and enthusiastic to work in an interactive, international research environment, ability to work independently and as part of a team
- Excellent organization and time management skills required

### *Our offer*

We offer you a cutting-edge, interdisciplinary research project and a fruitful, collaborative research environment. Specific research topics of the successful candidate will include the investigation of predicted strain-specific host-microbial interactions, how bacterial strains adapt to different environments and how these environments change bacterial metabolism and functions. The project is part of the ERC funded Starting Grant HEROINE. The work could also include some bioinformatic analyses of data related to the bacterial strains depending on the candidate's interests. New research lines will also be considered and scientific curiosity towards related research areas will be welcome.

The position is available immediately and the initial appointment will be for two years. Salary will be determined in accordance with the German collective wage agreement in public services (TV-L 13). Individuals with severe disabilities are given preference if they have the same aptitude and qualifications. The TUM seeks to increase the proportion of women in those areas where they are underrepresented, therefore applications from women are explicitly encouraged.

### *Contact*

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### *Application*

Please send your full application as a PDF by **April 16<sup>th</sup>, 2023** to **[melanie.schirmer@tum.de](mailto:melanie.schirmer@tum.de)** or by mail to the address above. The application should include a cover letter, detailed CV, a description of research experience and interests (1-2 pages) and contact details for three references. Please also indicate a preferred starting date and why you are interested in joining our group. Applications will be considered on an ongoing basis until the deadline.

**Data protection information:** When you apply for a position at the Technical University of Munich (TUM), you are submitting personal information. Please take note of the data protection policy according to Art. 13 Datenschutz-Grundverordnung (DSGVO) on the collection and processing of personal information as part of your application. By submitting your application, you confirm that you have acknowledged the data protection information of TUM.