

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**, an inter-disciplinary Corporate Research Center of the Technical University of Munich located in Freising-Weihenstephan. The research of the Schirmer lab focuses on the human microbiome, especially gut microbes, and investigates potential mechanisms of host-microbial interactions in a variety of human diseases including chronic inflammatory bowel diseases. Integrated multi-omics analyses (metagenomics, metatranscriptomics, metabolomics) are used to identify disease-associated bacterial strains and their metabolites. These strains are subsequently isolated and cultured in the lab to validate their immunogenicity and inflammatory activity. Our research provides insights into the potential mechanisms of the human microbiome in immune-related diseases.

### *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 and represent an exciting opportunity to discover the underlying mechanisms of the role of the microbiome in human health. Bacterial strains and predicted host-microbial interactions will be prioritized based on computational analysis of multi-omics data from large population cohorts. The candidate for this project will be responsible for the isolation, cultivation and characterization of these bacterial strains from human samples (including biopsies, stool, saliva).

### *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)
- Lead and contribute to the generation of publications, grant applications, and protocols
- Network with our national and international collaborators and represent our works 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/interest in mouse work (germ-free, SPF) 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. The successful candidate will work on projects of the DFG funded Emmy Noether grant and

the Collaborative Research Center (CRC) 1371 Microbiome Signatures, a newly DFG-funded “Sonderforschungsbereich” that focuses on the functional relevance of the microbiome in the digestive tract. Specific research topics of the successful candidate will include the validation of predicted strain-specific host-microbial interactions in inflammatory bowel disease, how bacterial strains adapt to different environments and how these environments change bacterial metabolism and functions. 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 funding is available 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 **October 15<sup>th</sup>, 2020** 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.

**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.