

We are offering a position, available starting 1st of July, 2021, as a

Postdoctoral Researcher (m/f/d) in Computational Biology

About us

The **Schirmer lab** is part of the ZIEL - Institute for Food & Health, an inter-disciplinary Corporate Research Center at the Technical University of Munich located in Freising-Weihenstephan. Our research focuses on the **human microbiome**, especially gut microbes, and investigates mechanisms of host-microbial interactions in human diseases, including chronic intestinal inflammation and colitis-associated cancer. 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 goal is to provide 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 candidate for this project will be responsible to apply, conceive and develop algorithms and analytical approaches for multi-omics datasets. This role will require analysis of microbiome datasets generated from clinical samples, interpreting this data within the context of the study and developing testable hypotheses that can be subsequently validated in the lab.

Tasks

- Analyzing large multi-omics datasets and interpret results
- Perform comparative microbial genomics analysis
- Develop, enhance, validate, and maintain current and new bioinformatic pipelines
- Lead and contribute to the generation of publications, grant applications, and protocols
- Support research projects as needed, including: managing large amounts of data, and monitoring and running pipelines
- Network with our national and international collaborators and present our work at conferences and scientific meetings

Requirements

- PhD in computational biology, computer science, mathematics, statistics or a relevant field
- Experience with analyzing complex datasets, ideally next-generation sequencing, metabolomic or genomic data
- Experience with scientific programming (such as R, Bash, Python, or C/C++), data analyses and data visualization
- Fluency in Unix, standard bioinformatic tools, and comfortable applying relevant statistical methods
- 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
- Experience in high-performance and cloud computing is an advantage

Our offer

We offer you a cutting-edge, interdisciplinary research project using data from state-of-the-art multi-omics technologies in 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 DFG-funded “Sonderforschungsbereich” that focuses on the functional relevance of the microbiome in the digestive tract. Specific research topics of the successful candidate can include strain-level metagenomic profiling, functional profiling, metatranscriptomics, metagenomic assembly, metabolomic analysis and integration of multi-omics datatypes. New research lines will also be considered and scientific curiosity towards related research areas will be welcome.

The position is available starting **July 1st, 2021** and initially available for 1.5 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 **May 23rd, 2021** to 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 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.