

**Job announcement No. 111/2024**

The Department of Microbial Immune Regulation of Prof. Dr. Till Strowig at the Helmholtz Centre for Infection Research (HZI) in Braunschweig, Germany, is offering a position as

**Doctoral Researcher (f/m/d)**

**Project description:**

**Characterizing the metabolic interaction between gut bacteria for the development of microbiome-based therapeutics**

The strategic aim of our research group is to discover and characterize how the microbiome influences the host's susceptibility to infectious diseases and immune-modulated diseases (e.g., Galvez et al., Cell Host Microbe 2020; Osbelt et al., Cell Host Microbe 2021, Osbelt et al., Nature Microbiology 2024). To understand how the microbiota modulates the colonization resistance of the host, we are applying an interdisciplinary combination of sequencing-driven, microbiological, and immunological approaches.

For this PhD project, which will focus on translational aspects of commensal microbes, we are looking for highly motivated candidates interested in isolating novel gut bacterial strains and exploring their therapeutic use. Specifically, we seek to characterize and understand the metabolic capacities and bacterial cross-talk in defined synthetic communities that efficiently block colonization of and infection with critical multi-resistant and hyper-virulent pathogenic bacteria. The project is embedded in a highly translational environment to develop novel, microbiome-based therapeutics based on mechanistic understanding of bacterial interactions. The candidate will perform high-throughput anaerobic cultivation of bacteria coupled with bioinformatics analyses and *ex vivo* assays to characterize the ability of single bacterial strains and microbial communities to suppress the outgrowth of pathogenic bacteria. Findings from the bioinformatic analyses and *in vitro* assays will be verified through gene-targeting studies in candidate bacteria. Moreover, gnotobiotic mouse models will allow the characterization of the consequences of synthetic communities on gut colonization of pathogens and susceptibility to infections.

**Qualifications:**

- Master's Degree/Diploma in Biology or a related field of the life sciences
- Excellent English communication skills (written and spoken)
- Ability to work independently and as part of an international team
- Experience in microbiological work, preferentially anaerobic cultivation
- Experiences with laboratory animals, molecular biology, and the analysis of sequencing data are highly beneficial
- A strong interest in microbiome research and translational application of basic research
- The project demands a well-structured and communicative working style

Disabled persons are given preference in the case of equal professional qualifications. The HZI aims for professional equality between women and men. The position is suitable for part-time work.

**We offer:**

- Modern laboratories, including S3 unit
- State-of-the-art analytical instrumentation
- Ample biological profiling platforms (*in vitro* and *in vivo*)
- A lively scientific community
- 30 days vacation, (24.12. & 31.12. are considered as completely free days)
- An annual additional payment (Weihnachtsgeld) analogue to § 20 TVöD
- Social security included
- Flexible working hours and workplace design
- DO IT- PhD initiative <https://www.helmholtz-hzi.de/de/karriere/do-it-doktorandeninitiative>

- A corporate culture of appreciation and promotion of equal opportunities
- Welcome Office
- Buddy System for new doctoral researchers
- Family Office, Child Holiday Care

The successful candidate will be integrated in the HZI International Graduate School for Infection Research (GS-FIRE) which provides an innovative structured PhD programme within the field of Infection Research <https://www.helmholtz-hzi.de/de/karriere/graduierenschule/curriculum/>.

**Starting date:** 15.09.2024 or later - initial contract for 3 years  
**Salary:** alike TVöD (Bund) E13 (65%)  
**Place of work:** Braunschweig  
**Probation period:** 6 months  
**Published on:** **18 July, 2024**  
**Closing date:** **08 August, 2024**  
**Application:** Applicants are required to complete the online application form here: <https://hzi.opencampus.net/> (Please select Job No. **111/2024**).

For more details regarding the position, please contact Prof. Dr. Till Strowig at [till.strowig@helmholtz-hzi.de](mailto:till.strowig@helmholtz-hzi.de) or by phone at +49 531 6181-4700.

Further information about the institute and the research group of Prof. Dr. Till Strowig can be found on our website: [www.helmholtz-hzi.de/MIKI](http://www.helmholtz-hzi.de/MIKI)