

Reference: DINF Master Student

Position Offer for a Master's Thesis

The Helmholtz Centre for Infection Research (HZI), Department of Respiratory Infection Dynamics (DINF), led by Prof. Dr. med. Hortense Slevogt, is seeking a master's student to join our team at the earliest opportunity.

Master's Student (m/f/d)

The HZI is Germany's largest non-university infection research center within the Helmholtz Association. Our mission focuses on cutting-edge research in infectious diseases. Our scientists are dedicated to developing new methods and strategies to combat infectious diseases more quickly and effectively.

Information about the Department/Project:

Our research group at HZI in Braunschweig focuses on the interactions between respiratory microbes and the host. We combine clinical and molecular biological methods and have a strong connection with the Clinic for Pneumology and Infectiology at MHH and the German Center for Lung Research (DZL), offering excellent opportunities for translational research. Our team consists of nine scientists employing a broad range of methods, including cell culture, bioinformatics, molecular biology, and infection biology.

Project Description:

The project aims to investigate the biodiversity of the respiratory tract's microbial ecosystem and explore the potential roles of microorganisms in different parts of the respiratory tract. By employing whole-genome shotgun metagenomics, a culture-independent next-generation sequencing (NGS) method, we will sequence all genomes present in a sample that will allow us to not only identify the microbial community's composition but also infer the potential functionality of its members.

The project has two main objectives:

- **Establishment of wet-lab and bioinformatics pipeline:** We will develop and optimize both wet-lab procedures and bioinformatics pipelines necessary for effective metagenomics analysis.
- **Translational application:** The optimized pipeline will be applied to human respiratory tract samples. This will involve sequencing of the collected samples and performing bioinformatics analyses to characterize the microbiome and its functional potential.

Methods:

- Cultivation of fungi and bacteria
- Cell culture

- DNA extraction
- Quantitative PCR (qPCR)
- Next-Generation Sequencing (NGS) library preparation
- Sequencing and bioinformatics analysis

Your Qualifications and Skills:

- Bachelor's degree in biochemistry, microbiology, biology, biomedicine, or related fields
- Experience in aseptic and clean laboratory practices
- Strong mathematical understanding and good observational skills
- Precise and scientific working methods
- Very good English skills are an advantage
- Motivation, good communication skills and team spirit

We Offer You:

- An exciting and diverse role in a forward-looking research institute with an international environment on the Science Campus Süd in Braunschweig.
- Access to state-of-the-art infrastructure and the latest technologies
- A workplace culture that values appreciation and equal opportunity
- Professional supervision and academic support during your master's thesis
- The opportunity to work on a current and relevant scientific topic, gaining valuable experience in a friendly and international team

We aim for gender equality and welcome applications from qualified women. If you have a disability, please indicate this in your application, and preference will be given to equally qualified candidates with disabilities.

Start Date: As soon as possible

Contact for Further Information:

For more information, please contact Dr. Cristina Zubiria Barrera at 0531 6181-3603 or via email at cristina.zubiriabarrera@helmholtz-hzi.de.

How to Apply:

Please confirm your acknowledgment of our data protection policy and consent to the processing of your personal data by including the relevant text block from our [data protection declaration](#) with your application. Without this consent, we cannot process your application and will delete any received applications after the position is filled.

Submit your application including a cover letter, CV, certificates, and references (please do not include a photo) via email to slevogt.hortense@mh-hannover.de.

We look forward to receiving your application!