

Job Advertisement Nr. 081/2024

The Helmholtz Institute for One Health in Greifswald (HIOH) is looking for a

Postdoc (f/m/d)

The Helmholtz Institute for One Health (HIOH), a site of the Helmholtz Centre for Infection Research (HZI) located in Greifswald, aims to explore links between human, animal, and environmental health. Our goal is to generate a better understanding of zoonotic diseases, antimicrobial resistance, and the evolution of pathogens, critical cornerstones for ultimately developing pandemic preparedness and prevention. The institute was founded in 2021 and harbors international and interdisciplinary research teams creating a hub for cutting-edge One Health research at the Baltic Sea.

The Evolutionary Community Ecology Group (EVCO) aims to contribute to building a basis for conservation policy aimed at living with biodiversity in a sustainable manner, both by understanding the processes that influence and maintain animal and microbial diversity in ecosystems, while contributing to the development of strategies to understand and mitigate disease emergence in human and wildlife populations. To this end, it is developing an environmental DNA toolkit for studying hosts and pathogens at landscape scales, as well as non-invasive approaches for generating genomic data from hosts, their symbionts and pathogens.

Every mammal hosts trillions of microorganisms; humans are no exception. These communities constitute a majority of the cells in a host and include bacteria, archaea, microbial eukaryotes as well as many viruses (including bacteria-infecting bacteriophages; hereafter phages). The most abundant and diverse communities are found in the gut and their composition is related to human diseases and long-term mortality risk. Phages have the potential to influence the structure and function of these ecosystems, and ultimately, human health. Despite their potential importance, the ecological and evolutionary processes that gave rise to the modern human phageome remain poorly resolved. Studies of non-human primates have the potential to provide insights into the evolutionary history of the human phageome and the ecological processes that shaped these communities prior to recent modifications in the way humans live.

For a collaborative project with Dr. Susanne Sievers at the University of Greifswald, EVCO seeks a post doc to help address these knowledge gaps by studying the gut phageomes of our closest living relatives, while developing phages as a tool to study rates of microorganism transmission at the human-wildlife interface and exploring their use as therapeutic agents (for details; [proposal](#); [10.1093/emph/eoac006](#); [10.1073/pnas.2013535118](#)). This involves work with extremely unique datasets (e.g., 20 year longitudinal sampling of wild chimpanzees; fecal samples from across the primate phylogeny; samples across the human-wildlife interface). We seek a candidate with **bioinformatic expertise** and interest in developing tools to describe previously undescribed phage communities. Experience with **phylogenetic approaches** to reconstruct the evolutionary history of organisms and explore patterns of co-divergence and histories of transmission would be a major asset. **Laboratory experience isolating phages** and testing their effectiveness against resistant isolates would also be useful skillset for the project. **Experience with the generation of libraries for high-throughput sequencing and using hybridization capture** to enrich targets of interest would be an asset, as we have a collection of bait sets targeting diverse groups of phages.

While the ideal candidate would have all of these skills, we offer opportunities to learn lacking skills and the Department for Microbial Physiology and Molecular Biology at the University of Greifswald, as well as the Helmholtz Institute for One Health offer a team with diverse expertise and resources that could augment missing skills. In addition, a PhD student will be hired for this project that can take on aspects of the project that can not be covered by the post doc, particularly the laboratory efforts to isolate phages.

In particular, your responsibilities will include:

- Developing and applying tools to describe previously undescribed phage communities from shotgun metagenomes
- Describe phage transmission within and between species at the human-wildlife interface using a combination of shotgun metagenomes and hybridization capture based enrichment experiments
- Work with the project's PhD student to explore the potential to isolate phages from wild animal's fecal samples and test them against resistant bacterial isolates

You should ideally have the following qualifications:

- Completed a doctorate in biology, bioinformatics, microbiology or related disciplines
- Experience working with large sequence datasets
- Good knowledge in molecular biology laboratory techniques
- Strong motivation and organizational skills
- Fluent in written and spoken English
- Strong writing and presentation skills

We offer:

- An exciting, varied job in a future-oriented research institute within an international scientific environment and many opportunities to establish stimulating local collaborations on other topics (e.g. disease ecology and evolution, environmental DNA, ancient DNA/RNA, antibiotic resistance)
- Modern laboratories and state-of-the-art instrumentation
- Extensive support for the development of technical and transferable skills
- Programs for the development of professional knowledge and personal skills
- A corporate culture of appreciation and promotion of equal opportunities
- Extensive training and continuing education opportunities to develop professional knowledge and personal skills
- A family office to support family and career as well as childcare offers
- Interesting additional public service benefits
- Subsidization of the job ticket

Severely disabled applicants will be given preference in cases of equal professional suitability. In order to safeguard your rights, we ask you to provide us with a clearly recognizable reference to the existence of a degree of severe disability in your cover letter or resume.

Employment is through the Helmholtz Centre for Infection Research in Braunschweig. The place of work is Greifswald.

The HZI is actively committed to equality, diversity and integration. For this reason, the HZI pursues the goal of professional equality between women and men and expressly welcomes applications from qualified women. The position is suitable for part-time work.

Starting date:	As soon as possible. The position is initially limited to two years with possible extension.
Salary:	E 14 TVöD Bund
Working hours:	39 hours/week
Place of work:	Greifswald (Germany)
Probationary period:	6 months
Published:	03.06.2024
Application Deadline:	01.07.2024

For more information about this position, please contact Jan Gogarten (jan.gogarten@helmholtz-hioh.de).

How to apply:

When sending us your application documents, **please confirm** that you have read our data protection declaration and that you consent to the processing of your personal data. Please use the text module in our [privacy policy](#) for this purpose. **Without these declarations we cannot consider or process your application** and will delete any application documents already received after the application deadline.

Please include a cover letter, resume, (employment) references, certificates, and (if available) work samples or reference projects with your application materials. Please refrain from sending a photo.

Please send your complete application with the privacy statement, quoting the **reference 081/2024**, to the Helmholtz Centre for Infection Research GmbH, Human Resources Department, Inhoffenstr. 7, 38124 Braunschweig or by [e-mail](#), **summarized in one single PDF document**.

We are looking forward to receiving your application!