HIRI HELMHOLTZ Institute for RNA-based Infection Research

Job announcement no. 100/2022

The Helmholtz Institute for RNA-based Infection Research (HIRI) is offering an

ERC-funded postdoctoral position in bacterial sRNA biology (f/m/d)

in the Research Group “Host-Pathogen-Microbiota Interactions” (HOPI) under the direction of Jun. Prof. Dr. Alexander Westermann.

The Westermann lab at HIRI is recruiting a postdoc to work on an innovative ERC-funded research project. The project is centered on endogenous RNA-mediated metabolism control mechanisms in a predominant microbiota species. The successful applicant will work with a dynamic team of scientists and will apply bacterial genetics, RNA biochemistry approaches, and functional assays to dissect the mechanism of antisense RNA-mediated gene expression control in the anaerobic commensal, *Bacteroides thetaiotaomicron*.

Our intestinal tract offers an attractive environment for both beneficial and pathogenic bacteria. The beneficial bacteria of our microbiota feast on undigested foods and provide numerous health benefits. Enteric pathogens see this environment as an entry point for infection. Both groups influence each other, creating a tripartite interaction with us, the host. Understanding this interaction represents an emerging research area to combat infections poised to improve human health. *Bacteroides* are key commensals in these triangular interactions, as they produce diffusible intermediates as part of their metabolism that are utilized by pathogens and the host (*Bornet & Westermann 2022 Trends Microbiol.*). *Bacteroides* metabolism control has been a major focus, but the field has focused mostly on transcriptional regulation. Recent work from my group (*Ryan et al. 2020 Nat. Commun.*) and others (PMID: 27353652) suggested that *Bacteroides* employ *cis*-encoded antisense RNAs to regulate metabolic gene expression. However, the mechanism(s) by which these noncoding RNAs regulate their target genes in *Bacteroides*, and whether this depends on assisting RNA-binding proteins, remain elusive and will be addressed in the present project. In the past, the lab drew from a toolkit of genetics, RNA biochemistry techniques, RNA stability / translation assays and reporter systems to answer similar questions on bacterial regulatory RNAs (*Westermann et al. 2016 Nature*; *Ryan et al. 2020 Nat. Commun.*; *Santos et al. 2021 Cell Rep.*).

Requirements

- PhD or equivalent in molecular microbiology, RNA biochemistry, or a related field of the life sciences
- Very strong background in the field of bacterial small RNA and RNA-binding proteins
- Proficient in bacterial genetics, culturing, and manipulation
- Strong written and spoken English language communication skills
- Highly motivated, organized, and independent
- Strong publication record given career stage

We offer

We offer state-of-the-art infrastructure and cutting-edge technologies to promote scientific progress and interdisciplinary collaboration. We focus on a close integration of research and management and strive for excellence inside and outside the laboratory. Promoting equal opportunities and competencies for our employees and celebrating diversity are a matter of course for us. To ensure a good work-life balance, we have created a family-friendly atmosphere with flexible working hours and part-time models, a parent-child room and regular social activities.

Employment is through the Helmholtz Centre for Infection Research (Helmholtz-Zentrum für Infektionsforschung GmbH / HZI) in Braunschweig. The place of work is Würzburg. The position is suitable for part-time work. The HZI strives for professional equality between women and men. Therefore, women are especially encouraged to apply. People with severe disabilities and equivalent professional qualifications who are suitable for the position are given preference. In order to protect 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.

Starting date:	The position is available from September 1, 2022, although the starting date is flexible. Depending on the start date, the contract will run for up to five years. Funding ends August 31, 2027.
Salary:	E 13 TVöD Bund
Working time:	39 hours per week
Place of work:	Würzburg
Probation period:	6 months
Published:	June 24, 2022
Closing date:	July 24, 2022

How to apply

We look forward to receiving your complete application including a cover letter, CV, certificates, and a ½ - 1 page description of a prior research project. You are also welcome to provide reference names in your CV. Please send your application quoting the reference number **100/2022** to the Helmholtz Centre for Infection Research GmbH, Human Resources Department, Inhoffenstr. 7, 38124 Braunschweig, Germany or by email to JobsHIRI@helmholtz-hzi.de. If you send your application in electronic form, please provide a **summary in one single (1) pdf document**. For further information please contact Jun. Prof. Dr. Alexander Westermann, email: alexander.westermann@helmholtz-hiri.de.

When sending us your application documents, please confirm that you have read our privacy policy and that you agree 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 immediately delete any application documents already received after the application deadline.

About the HIRI

The Helmholtz Institute for RNA-based Infection Research (HIRI) is the first institution worldwide to combine ribonucleic acid (RNA) research with infection biology. Based on novel findings from our strong basic research program, our long-term goal is to develop innovative therapeutic approaches to better diagnose and treat human infections. HIRI is a joint venture of the Helmholtz Center for Infection Research (HZI) in Braunschweig and the Julius Maximilians University of Würzburg (JMU) and is located on the Würzburg Medical Campus.

More information at www.helmholtz-hiri.de.