



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

### **Postdoctoral position: “CRISPR RNA biology” (all genders)**

in the Research Group of RNA Synthetic Biology (RSYN) under the direction of Prof. Chase Beisel.

The Helmholtz Institute for RNA-based Infection Research (HIRI) was established in May 2017 as a joint venture between the Helmholtz Centre for Infection Research (HZI) in Braunschweig and the Julius Maximilian University of Würzburg (JMU). The HIRI is the first research institution worldwide to exclusively address the role of ribonucleic acids (RNA) in infection processes. Based on novel findings, innovative therapeutic approaches are developed in an integrated research approach and made clinically usable through the development of pharmaceutical forms of application. For more information, please visit [www.helmholtz-hiri.de](http://www.helmholtz-hiri.de).

#### **Project description:**

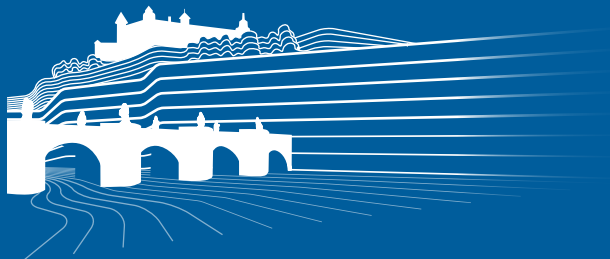
The RSYN research group focuses on characterizing and harnessing CRISPR-Cas systems toward better understanding, diagnosing and treating human infections. The postdoctoral fellow will help lead efforts as part of the PI's recently funded ERC Consolidator Award. The project involves characterizing how CRISPR RNAs are generated and how this process shapes adaptive immunity by CRISPR-Cas systems. CRISPR RNAs direct nucleic-acid targeting by a system's effector nucleases and are stored as DNA “spacers” in expandable CRISPR arrays. The arrays though pose multiple logistical challenges that impact the ability of these systems to pose a robust immune defense against prior infections. The arrays must be transcribed and processed into individual crRNAs, where a single array can harbor hundreds of spacers. The systems are also under pressure to prioritize defense against recent infections using the newest acquired spacers. Acquired spacers can be virtually any sequence, where these sequences can cause misfolding of the transcribed array that could impair defense against multiple invaders. Finally, the intervening conserved repeat sequences are identical, posing potential issues for genome stability. The group has already collected data revealing new features of CRISPR RNAs critical for immune defense, providing ample opportunities to advance our understanding of these prokaryotic immune systems and develop new classes of CRISPR technologies.

#### **Your profile/qualifications:**

- PhD or equivalent in biology, biochemistry, microbiology, biotechnology, engineering, or a related field
- Highly motivated and independent
- Strong written and spoken English language communication skills
- Strong publication record given career stage

#### **Desired (non-essential) background:**

- CRISPR biology and/or technologies
- RNA biochemistry and characterization
- RNA folding prediction
- Next-generation sequencing
- Synthetic biology
- Bacterial genetics, culturing, and manipulation



**Our range/offer:**

We offer compensation according to TVöD and varied activities on an international team. The hiring is through the Helmholtz Centre for Infection Research GmbH in Braunschweig. The place of employment is Würzburg.

Severely handicapped persons with equivalent professional qualifications are given preference. The HZI strives for professional equality between women and men. Therefore, women are especially encouraged to apply. We support flexible working and part time models. Part-time working is possible.

**Starting date:** The position is immediately available, although the starting date is flexible. Funding ends 31 May, 2025.  
**Salary:** E 13 TVÖD / Bund  
**Place of Work:** Würzburg  
**Probation period:** 6 months  
**Published:** 15.01.2021  
**Closing Date:** 14.02.2021

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.

For questions please contact Prof. Dr. Chase Beisel via e-mail at the following address: [Chase.Beisel@helmholtz-hiri.de](mailto:Chase.Beisel@helmholtz-hiri.de)

We look forward to receiving your complete application (cover letter, CV without picture, certificates) quoting the **reference number 07/2021**. Your application can be submitted preferably by e-mail in **one single (1) pdf document** to [JobsHIRI@helmholtz-hzi.de](mailto:JobsHIRI@helmholtz-hzi.de). Applications can also be mailed to the following address:

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