

Job advertisement no. 79/2023

The junior research group **SIMS – Synthetic Biology of Microbial Natural Products**, led by Dr. Kenan Bozhüyük, at the Helmholtz-Institute for Pharmaceutical Research Saarland (HIPS) in Saarbrücken, is offering a position as

Postdoctoral Research Scientist (f/m/d)

Synthetic Biology

The Helmholtz Institute for Pharmaceutical Research Saarland (HIPS) researches new active ingredients against infectious diseases. It was founded in August 2009 as a branch of the Helmholtz Centre for Infection Research (HZI) in Braunschweig together with Saarland University. A new research building was moved into on the campus of Saarland University in 2015. Currently, 250 employees of international origin work at the institute, which is currently undergoing further extension. The HIPS is the first publicly funded non-university research institution in Germany explicitly dedicated to pharmaceutical research. The institute cooperates with international and national research institutions and industrial companies.

The research group provides state-of-the-art synthetic biology tools for the generation, screening and optimization of novel natural product-like compounds, with a particular focus on anti-infectives with novel modes of action. Our scientific vision is the development of all necessary tools to enable the biosynthesis of any natural product-like peptide/polyketide derivatives and *new-to-nature* peptides/polyketides – beyond the limitations of chemical synthesis. Hence, we combine expertise in parallelized high-throughput cloning and screening of artificial natural products, structural bioinformatics, and AI/ML to create even more powerful and reliable synthetic biology methods.

To make the structural diversity of bacterial natural products amenable to drug development purposes, the successful candidate will leverage *in vivo*, *in vitro*, and *in silico* experimentation to optimize molecular scaffolds of high societal impact that either are well advanced in preclinical development, but failed to be marketed due to poor pharmaceutical properties, or have severe toxic side effects preventing further clinical development.

Responsibilities:

- Manage and conduct natural product-based research projects
- Project-related research and implementation of synthetic biology pipelines
- Genetic engineering of microbial biosynthetic pathways
- Bioactivity screening to identify new active natural products
- Evaluation of analytical data (NMR & MS)
- Purification, isolation, and structure elucidation of natural products
- Supervision of bachelor and master students on topic related to the project
- Scientific writing (papers, patents, presentations, and project reports)

Requirements:

- PhD degree or equivalent in molecular microbiology, biochemistry, bioinformatics, pharmacy, natural product chemistry, or any other related field

- Profound experience in molecular microbiology and genetic engineering
- Profound experience in laboratory and analytical techniques, in particular NMR and MS-based techniques and analysis methods
- Knowledge of major bioinformatics methods
- Fluent English (written and spoken)
- Willingness to develop oneself further and to work in a goal-oriented manner as well as in a collegial, international and interdisciplinary environment

Advantageous for this position:

- Experience in programming (i.e. Python) is a plus
- First experience in flow cytometry, microfluidics, fluorescence-based detection is a plus
- First experience in analysis of next generation sequencing data is a plus
- Interest in protein design, and analysis of three-dimensional structures is a plus
- Interest in applying and implementing machine learning and artificial intelligence models, and/or statistical software (e.g. R, Matlab) is a plus

We offer you:

- Challenging and varied tasks in a dynamic and international research environment
- Most modern workplace equipment
- Additional services of the public service
- Extensive further training opportunities
- Flexible working hours and workplace design
- Support for a better balance between work and private life through our family office

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.

The HZI strives for professional equality between women and men. **Therefore, women are especially encouraged to apply.** The position is suitable for part-time work.

Starting date:	As soon as possible. The contract will initially run for two years with a possibility of extension up to four years.
Salary:	E13 TVöD Bund
Working time:	39 hours per week
Place of work:	Saarbrücken
Probation period:	6 months
Published:	02.06.2023
Closing date:	30.06.2023

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 further information please contact Dr. Kenan Bozhüyük: phone 0681 98806 3001.

email: kenan.bozhueyuek@helmholtz-hips.de

Please send your complete application quoting the reference number **79/2023** to the Helmholtz Centre for Infection Research GmbH, Human Resources Department, Inhoffenstr. 7, 38124 Braunschweig, Germany or by e-mail to JobsHIPS@helmholtz-hzi.de. If you send your application in electronic form, please provide a **summary in one single (1) pdf document**.