Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG

Position Opening

The Chair of Microbiology at Julius-Maximilians-Universität Würzburg (JMU), Germany, is inviting applications for a

PhD student position

on the RNA-centric landscape of microbiota-pathogen interactions in the gut

under the direction of Prof. Dr. Alexander Westermann.

The Westermann lab is recruiting a PhD student to work on a DFG/BBSRC-funded German-UK collaboration that tackles cutting-edge research in the area of the “Integrative Microbiome”. The project will focus on investigating the role of small regulatory RNA molecules during host-pathogen-microbiota interactions. Regulatory RNAs in bacteria control the expression of genes that code for processes such as metabolism, stress and virulence - typically in response to a variety of environmental cues. The majority of existing RNA biology research has focused on deep mechanistic in vitro studies of regulatory RNAs, leaving their relevance and impact within the host environment largely unknown. This project will address this knowledge gap by combining innovative transcriptomic and CRISPR-based functional genomic approaches, relevant infection models and classical genetics/biochemistry to dissect the role sRNAs play in vivo. The work will reveal crucial new insights into the underlying molecular mechanisms of how RNA-based regulation contributes to host colonisation and infection, from the perspective of the microbiota and invading pathogens. A deeper knowledge of RNA regulatory interactions could pave the way for RNA-based therapeutics as a promising alternative to traditional antibiotics.

The position is immediately available, although the starting date is flexible and will be fixed term for an period of 3 years. While the position is full time, candidates wishing to work part time may also be considered. Remuneration will be based on the collective agreement for the public service of German federal states (TV-L).

Qualifications:

- A qualification as Master Sc. or equivalent in molecular, cellular, or microbiology, or a related field of the life sciences
- Strong experience and interest in RNA biology and bacteriology
- Bioinformatics knowledge and experience with obligatory anaerobic bacteria are desirable
- Experience with standard molecular biology techniques
- Strong written and spoken English language communication skills
- Highly motivated and organized

What 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.

The JMU aims to reduce the underrepresentation of women and therefore explicitly encourages qualified women to apply.
Severely handicapped applicants will be given preferential consideration in the case of broadly equal suitability, ability and professional achievements.

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 as a **single pdf document via email**, quoting the reference number **01/2025**

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For further information please contact Prof. Dr. Alexander Westermann, email: alexander.westermann@uni-wuerzburg.de.

The closing date for applications is 31.08.2025.

Further reading:

- *Nat Commun*. 2025 Jan 2;16(1):208. doi: 10.1038/s41467-024-55383-8.
- *Nat Microbiol*. 2024 Apr;9(4):1130-1144. doi: 10.1038/s41564-024-01642-9. Epub 2024 Mar 25.
- *Proc Natl Acad Sci U S A*. 2024 Feb 6;121(6):e2311323121. doi: 10.1073/pnas.2311323121. Epub 2024 Jan 31.
- *Trends Microbiol*. 2022 Feb;30(2):104-108. doi: 10.1016/j.tim.2021.11.009. Epub 2021 Dec 8.
- *Nat Rev Genet*. 2021 Jun;22(6):361-378. doi: 10.1038/s41576-021-00326-y. Epub 2021 Feb 17.
- *Biol Chem*. 2020 Sep 24;402(1):55-72. doi: 10.1515/hsz-2020-0230. Print 2020 Nov 18.