

The group of **Jun-Prof. Dr. Alexander Westermann** at the **Institute of Molecular Infection Biology**, Julius-Maximilians-Universität Würzburg is offering a

PhD Student Position (f/m/d)

“Identification and functional characterization of RNA-binding proteins in the human microbiota member *Bacteroides thetaiotaomicron*”.

Project description:

Applications are invited for a PhD student position at the Institute of Molecular Infection Biology (IMIB) in Würzburg, Germany. The successful candidate will work in an interdisciplinary team of researchers from both, the IMIB and the Helmholtz Institute for RNA-based Infection Research (HIRI).

In this project, we aim to identify RNA-binding proteins (RBPs) in a predominant member of the human intestinal microbiota, *Bacteroides thetaiotaomicron*. We will build upon recent technological breakthroughs to uncover bacterial RBPs and transfer these techniques to *B. thetaiotaomicron*. The protein candidates inferred from our screen will be independently validated and mechanistically and functionally characterized by a variety of genetic, biochemical, and phenotypic assays. This will uncover the molecular determinants for the RBPs to interact with their RNA ligands, and provide functional insights into *Bacteroides* RNA biology. As this bacterium lacks homologs of the most common global RBPs in other Gram-negatives, this project promises to reveal novel aspects about bacterial RNA biology in general.

Further information:

Our gut is home to myriads of bacteria – collectively referred to as the intestinal microbiota – that help us metabolize dietary polysaccharides and protect us against enteric infections. A substantial fraction of the gut microbiota of healthy individuals is composed of *Bacteroides* spp.; obligate anaerobic, Gram-negative commensals. What molecular mechanisms allow *Bacteroides* to colonize our gut? How do they influence our physiology? And what is the role of non-coding RNAs and RNA-binding proteins in this context? These and related questions are addressed by our group. Using cutting-edge RNA-seq-based techniques in combination with mechanistic studies our research centers on the identification and functional characterization of RNA-mediated processes during *B. thetaiotaomicron* colonization of the human gut. For further information, please see for example our recent publication (Ryan et al., 2020, Nat Commun, PMID: 32678091) or visit our websites: <http://www.imib-wuerzburg.de/research/westermann/research/> and <https://www.helmholtz-hiri.de/en/research/organisation/teams/team/host-pathogen-microbiota-interactions/>.

Applicants should have a M.Sc. degree and a strong background in microbiology, molecular biology, biochemistry, or infection biology. We welcome applications from suitably qualified people from all sections of the community regardless of race, gender or disability. Preference will be given to severely handicapped persons in case of otherwise equal aptitude. Salary is based on TV-L.

Please send your application (Subject: “*Bacteroides* RBP”) including a letter of motivation, CV, publication list, copies of relevant documents, and contact information of two academic references as a **single PDF-file** until **September 6th, 2020** via email to elisa.koese@uni-wuerzburg.de.

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