



At the Institute of Microbial Cell Biology in the faculty of Mathematics and Natural Sciences of Heinrich Heine University Düsseldorf (HHU) a posts as a

scientific employee (m/f/d)

(100,00 %, pay grade 13 TV-L)

is to be occupied starting 01.03.2023. The employment is limited until 31.12.2026. It is a qualification position in the sense of the Act of Academic Fixed-Term Contract (Wissenschaftsvertragsgesetz – WissZeitVG), which is to promote the scientific qualification of the employees.

The advertised project is integrated into CRC 1535 MibiNet “Microbial networking – from organelles to cross-kingdom communities” and the associated graduate research training group “MibiNeXt”. In addition to the HHU as the host university, CRC 1535 includes five cooperation partners, including the Research Center Jülich (FZJ), the Technical University of Aachen (RWTH), the University of Bielefeld, the University of Cologne and the Max Planck Institute for Plant Breeding Research (MPIPZ) in Cologne. Further job offers can be found on our homepage (www.sfb1535.hhu.de).

Angomonas deanei is a non-pathogenic trypanosomatid that contains a single proteobacterial endosymbiont. Intriguingly, cell cycles of host and endosymbiont are synchronized and the symbiont is tightly associated with several host cell glycosomes. Previously, we identified host proteins that apparently control the cell cycle of the endosymbiont. Furthermore, we found that a gene that was transferred from the endosymbiont to the host cell nucleus, encodes a metabolic enzyme that now localizes to the endosymbiont-associated glycosome, likely adjusting the metabolic capacity of the glycosome to the needs of the endosymbiont. Aims of the proposed project are 1. to explore host-symbiont metabolic integration with a special focus on the role of the glycosome in this process; 2. to establish advanced optogenetic tools for *A. deanei* that will be instrumental in scrutiny of host-symbiont interactions; and finally, 3. to establish a synthetic endosymbiosis system in mammalian cells that will allow us to study basic questions regarding host-symbiont interaction (e. g. by reconstructing processes such as nuclear control over endosymbiont division in an orthogonal system).

Your tasks:

- Investigation of the proteome composition of the *A. deanei* glycosome
- Reconstruction of compartment-specific metabolic maps and characterization of the system by metabolomics (incl. isotopologue profiling)
- Implementation of optogenetic tools (e.g. light-regulated gene expression systems) in *A. deanei* in close collaboration with the group of Matias Zurbriggen at the Institute of Synthetic Biology
- Support of the Zurbriggen group in the establishment of synthetic endosymbioses using parts derived from *A. deanei*

Our requirements:

- A completed scientific university education as well as a PhD in the field of Biology, Microbiology, Biochemistry or equivalent fields
- An excellent academic track record
- Experimental experience in metabolomics, molecular biology, and/or biochemistry
- Experience in metabolomics and the work with trypanosomatids would be of advantage
- Very high motivation for experimental work, independent literature search and scientific writing
- A good command of the English language is essential
- Affinity to teamwork
- Good communication skills and enthusiasm for interdisciplinary exchanges are appreciated

The pay scale grouping will be, depending on the personal qualification of the applicant, up to pay grade 13 TV-L.

In principle, the employment can also take place part-time, if no compelling official reasons are opposed in an individual case.

Heinrich Heine University Düsseldorf aims at increasing the percentage of employed women. Applications from women will therefore be given preference in cases of equal aptitude, ability and professional achievements unless there are exceptional reasons for choosing another applicant. Applications from suitably qualified severely disabled persons or disabled persons regarded as being of equal status according to Book IX of the German Social Code (SGB – Soziales Gesetzbuch) are encouraged.

Your contact person in case of questions is Dr. Lilli Bismar; email: sfb1535-application@hhu.de.

Please submit your application documents (cover letter, CV and certificates, additional references or resp. contact details) citing **reference no. 105.23 – 3.1** until **16.02.2023** preferably by email to

sfb1535-application@hhu.de

or in writing to:

Heinrich Heine University Düsseldorf
Faculty of Mathematics and Natural Sciences
Institute of Microbiology
Attn. Dr. Lilli Bismar
Build. 26.24.01
Universitätsstraße 1
40225 Düsseldorf



Please do not submit application materials in folders and be sure to send copies only, as documents will not be returned (they will be destroyed after the selection procedure has been completed).