

The **Leippe** Lab at the Rudolf Virchow Center for Integrative and Translational Bioimaging, University of Würzburg, Germany invites applications for



---

Center for Integrative and  
Translational Bioimaging

---

## 1 PhD position (f/m/d) in protein and biosensor engineering

*We screen biosensor libraries by the tens of thousands in living cells, using cell sorting to let the cells themselves reveal the best designs.*

The Leippe Laboratory develops genetically encoded fluorescent biosensors and combines them with functional genomics to make metabolism visible in real time. We engineer high-performance sensors for intracellular metabolites by screening pooled biosensor variant libraries at large scale directly in human cells, and pair this with machine learning to understand how protein sequence drives biosensor performance. We then deploy these sensors in CRISPR screens to tackle fundamental questions in metabolic compartmentalization and transporter biology.

### Why join us

We are a young, ambitious lab, and that is a feature, not a footnote. You will be among the founding members, with real ownership of your project, frequent and direct mentorship from the PI, and the chance to shape how this lab grows. You will be trained across the full arc of a modern biosensor project - protein engineering, large-scale library cloning, FACS-based screening, NGS, microscopy and the computational skills that turn data into discovery - a combination of skills that is rare and highly transferable. We are committed to making sure our people leave here as better scientists than they arrived, and are well positioned for whatever comes next, in industry, academia or beyond.

We are also a place that takes the work, and each other, seriously: we are excited about the technology we build and the biology we chase, we dig until we understand things mechanistically, and we never lose sight of why any of it matters. We work collaboratively and openly - shared data, electronic lab notebooks, reagents, and ideas.

### PhD Project - Protein/Biosensor Engineering

This project sits at the heart of the lab's engineering platform. You will design, clone, and screen largepooled libraries of biosensor variants in human cells using FACS-based selection, with the goal of building high-performance sensors for intracellular amino acids. Building on the lab's expertise in biosensor engineering and screening, you will generate the deepest sequence-function dataset produced to date for any single biosensor and characterize performance across multiple human cell models. This dataset directly powers the lab's machine-learning efforts and its downstream biological discovery.

### Who we're looking for

Essential:

- A university degree (Diploma, MSc, or equivalent) in life sciences or a related field
- curiosity about both the technology and the biology — we care more about how you think than about a perfect CV
- Care and rigor in the lab; large-scale screening rewards people who are precise and patient
- Proficiency in English (the working language of the lab)

Desirable:

- Experience with flow cytometry/FACS, microscopy, large-library cloning, or next-generation sequencing
- Comfort with quantitative data analysis (Python, R, command-line, or AI-assisted coding tools)

### What we offer

The Rudolf Virchow Center is a highly competitive international research institute with an outstanding infrastructure. We have in-house access to state-of-the-art instrumentation and to an extensive range of modern biophysical and cell biological equipment. We are integrated into a stimulating cross-disciplinary environment that includes our partners at the Biocenter, the physics department, the Max Planck Research Group in Systems

Immunology, the Institute for Molecular Infection Biology (IMIB), Helmholtz Institute for RNA-based Infection Research (HIRI) and the University Hospital in Würzburg.

Würzburg is located in the beautiful, wine-growing area of Franconia, in proximity of Frankfurt (1 hour by train) and Munich (2 hours).

The fully-funded position will start **1<sup>st</sup> November 2026** and is initially offered for **one year** with extension upon positive evaluation. The salary is commensurate with training and experience according to Collective Agreement for the Public Service of German Federal States TV-L.

The successful doctoral applicants will enroll in the **Graduate School for Life Sciences (GSLs)** in Würzburg and benefit from its extensive transferable skills program, travel funds and administrative support. You will have access to both national and public-service pension schemes (VBL), health care, and are entitled to **30 days of holiday in addition to 13 annual public holidays** in Bavaria. Our Welcome Center supports international candidates in finding accommodation as well as in administrative matters - and the University of Würzburg offers support for researchers with children, including flexible working hours and childcare.

The University of Würzburg is an equal opportunity employer. As such, we explicitly encourage applications from qualified women. Severely handicapped applicants will be given preferential consideration when equally qualified.

### **INTERESTED?**

Applications including a cover letter, a detailed CV (2 pages), a short summary of past research projects (1 page, excluding references), copies of certificates, and the contact information of two referees, should be sent preferably via email as a single pdf file (not exceeding 10 MB) to [sabine.sattler@uni-wuerzburg.de](mailto:sabine.sattler@uni-wuerzburg.de) by 31<sup>st</sup> of August.

Alternatively, application documents may be sent as hard copies to:

Rudolf-Virchow-Zentrum  
Universität Würzburg  
z.H. Sabine Sattler  
Josef-Schneider-Str. 2/ Haus D15  
97080 Würzburg  
Germany



Note: Please send only copies. For financial reasons, application documents cannot be returned. They will be destroyed shortly after completion of the selection process. If you enclose a postage-paid envelope, the application documents will be returned to you three months after completion of the selection process.