Julius-Maximilians-
UNIVERSITÄT
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The research group of Prof. Dr. Bettina Warscheid at the University of Würzburg, Chair of Biochemistry II, offers a

PhD position for the
Spatial proteomics of peroxisomal and extra-peroxisomal proteome remodeling during viral infection

The research group of **Prof. Dr. Bettina Warscheid**, **Chair of Biochemistry II** (Proteomics and Bioanalytical Mass Spectrometry), invites applications for a PhD position within the prestigious **VirION (Interorganelle crosstalk in viral infections)** Marie Skłodowska-Curie Doctoral Network (www.virion-msca.eu).

The Chair of Biochemistry II (warscheidlab.de) at the **Biocenter of the University of Würzburg** is internationally recognized for developing and applying cutting-edge mass spectrometry (MS)-based proteomics technologies to investigate biological processes from the molecular to the cellular level. We offer outstanding research conditions, including modern biochemistry, molecular and cell biology laboratories, a state-of-the-art proteomics platform equipped with the latest high-resolution Orbitrap mass spectrometers, and a highly collaborative and interdisciplinary research environment.

The Project

Peroxisomes are dynamic organelles that play essential roles in lipid metabolism, redox homeostasis, innate immunity, and antiviral defense. Increasing evidence indicates that viruses manipulate peroxisome function and remodel the cellular proteome to promote infection and evade immune responses. However, the molecular mechanisms underlying these processes remain poorly understood.

This PhD project aims to systematically characterize virus-induced remodeling of the peroxisomal and extra-peroxisomal proteome using state-of-the-art spatial and quantitative proteomics. By combining high-resolution MS, computational proteomics, machine learning, and functional cell biology, the project seeks to identify host proteins and pathways that regulate peroxisome function during viral infection and to uncover fundamental mechanisms of virus–host interactions.

About VirION

VirION is a Marie Skłodowska-Curie Doctoral Network (MSCA-DN) funded by the European Union under the Horizon Europe programme. The network brings together leading research groups across Europe to investigate how cellular organelles contribute to viral infection and innate immune responses, with the long-term goal of developing innovative host-directed broad-spectrum antiviral therapies.

As a doctoral candidate, you will benefit from interdisciplinary scientific training, international collaborations, research secondments at partner institutions, and a comprehensive programme of transferable skills and career development activities.

Your Responsibilities

- Perform cell culture work and viral infection experiments
- Apply subcellular fractionation workflows to generate high-resolution spatial proteome maps.
- Perform quantitative proteomics using state-of-the-art high-resolution MS.
- Analyze large-scale proteomics and multi-omics datasets using bioinformatics and statistical approaches.
- Develop spatial proteome maps using machine learning and AI-based methods to identify virus-induced changes in protein localization.
- Integrate quantitative proteomics with complementary functional datasets to elucidate molecular mechanisms of virus–host interactions.
- Present research findings at international conferences and consortium meetings and contribute to scientific publications.
- Collaborate closely with international partners within the VirION consortium.

Your Profile

Applicants should have:

- A master's degree in Biochemistry, Biology, Molecular Medicine, or a related life science discipline.
- Experience in organelle biology, quantitative proteomics, and/or high-resolution MS is advantageous.
- Practical experience with mammalian cell culture, viral infection, and molecular and cell biology techniques.
- Experience or a strong interest in bioinformatics, computational biology, and quantitative data analysis.
- Experience with statistics and programming (R and/or Python) is desirable.
- Excellent written and spoken English.
- High motivation, scientific curiosity, and the ability to work both independently and collaboratively in an international research environment.

We Offer

- An exciting interdisciplinary research project at the interface of proteomics, virology, organelle biology, cell biology, and computational biology.
- A highly collaborative and supportive international research environment.
- Access to state-of-the-art Orbitrap instrumentation and outstanding laboratory infrastructure.
- Comprehensive training in organelle biology, spatial and functional proteomics, advanced quantitative LC-MS technologies, bioinformatics, and machine learning.
- Participation in the scientific, educational, networking, and career development activities of the VirION Doctoral Network.
- A competitive salary including living, mobility, and family allowances (where applicable) in accordance with the MSCA Doctoral Network regulations.

Eligibility

The position is available from **March 1st, 2027,** for **three years**, with the possibility of a one-year extension. Applicants must comply with the **MSCA mobility rule**. At the time of recruitment, applicants **must not have resided or carried out their main activity (work, studies, etc.) in Germany for more than 12 months during the three years immediately preceding recruitment.** For more information, refer to the recruitment guidelines available online (www.virion-msca.eu).

Equal Opportunities

The University of Würzburg is an equal opportunity employer and particularly encourages applications from women. Applicants with disabilities who are equally qualified will be given preferential consideration in accordance with applicable regulations.

Application

Please submit a single PDF file containing:

- Motivation letter
- Curriculum vitae
- Degree certificates and transcripts
- Summary of previous research experience and research interests
- List of publications (if applicable)
- Reference letters of two academic referees (max. 2 pages each) endorsing the application.

Applications should be submitted by email to Prof. Dr. Bettina Warscheid (bettina.warscheid@uni-wuerzburg.de).

Application deadline: December 16th, 2026

Please do not send original documents by post. Application documents cannot be returned.