The Würzburg Institute for Systems Immunology at the
University of Würzburg / Max Planck Research Group
invites applications for

PhD Position in host-microbial interactions SFB-TRR 425 "DEFINE"

- Tissue development and microbiome impact on desmosome dysfunction and susceptibility to inflammatory skin diseases –

Join our excellent team in the Host-Microbial Interactions Group in Mercedes Gomez de Agüero's lab for an innovative project within the SFB-TRR 425 in tandem with Prof. Misselwitz (LMU;Munich). This tandemproject aims to investigate how the crosstalk between tissue developmental stage and the microbial community modulates desmosome dysfunction, thereby influencing susceptibility to inflammatory diseases. Dr. Gomez de Agüero will focus on the skin, while Prof. Misselwitz will focus on the intestine. The ultimate goal is to explore targeted microbial-based interventions, including bacteriophage therapy, to eliminate harmful bacterial, reinforce desmosome-mediated barriers and reduce inflammation. This project will leverage cutting-edge preclinical gnotobiotic animal models, combined with access to clinical samples, organoid systems, and a broad range of molecular and cellular approaches. Gomez de Agüero's group has strong expertise in understanding host-microbial interactions, particularly during early life (Gomez de Agüero M. et al. 2016) with a focus in the barrier tissues (Gomez de Agüero et al. 2012; Hacini, Gomez de Agüero et al. 2017), microbial metabolites (Gomez de Agüero et al. 2016, Rutsch et al. 2025), tissue barrier colonizers (Jakob et al. 2023, Shmeleva, Gomez de Agüero et al. 2022; Feuerstein et al. 2020) and their role in infections and inflammartory diseases.

We offer:

- The opportunity to work on a fascinating scientific topic in an international research team.
- Cutting edge technology and methods in a vibrant scientific environment.
- Continuous scientific mentoring and academic training in the Graduate School of Life Science at the University of Würzburg and Integrated Research Training Group (IRTG) and SFB-TRR 425.
- Salary and benefits are according to the public service positions in Germany (TV-L)

Requirements:

- Excellent Master degree in life science (or equivalent)
- Strong interest in immunology, microbiology and cell biology
- Motivation, reliability and dedication to working in an academic research lab are a must
- A collaborative spirit to work in a multidisciplinary project and consortium
- Fluent spoken and written English

Applicants with the following qualifications are preferred:

- Experience with cellular, molecular and biochemical standard lab methods.
- Immune and structural cell isolation and *in vitro* culture methods
- Hands-on experience in microbial strain isolation and DNA analysis.

For details, please contact Dr. Mercedes Gomez de Agüero directly via mercedes.gomez@uni-wuerzburg.de . Full applications with code No. 2026/SI-MG should be sent via mail to systemimmunologie@uni-wuerzburg.de in a single PDF file until 01.February.2026. The application must include a motivation letter, a recent CV and at least two independent references (with full address, email and telephone number).

The University of Würzburg aims to increase the number of women in science. Therefore, women are especially encouraged to apply for this position. Physically handicapped persons will be preferred in case they are equally qualified.

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