Job Advertisements within the CRC/TRR 225

The Collaborative Research Centre/Transregio **CRC/TRR 225 "From the Fundamentals of Biofabrication towards Functional Tissue Models"** is an interdisciplinary research consortium of the Universities of **Würzburg, Bayreuth, and Erlangen-Nürnberg**.

The TRR225 aims to develop innovative biofabrication strategies - particularly automated 3D printing technologies - for processing living cells and biomaterials into complex tissue constructs. These advanced in vitro models provide new opportunities for pharmaceutical, cancer, and infection research, support the reduction of animal testing and offer long-term perspectives for regenerative medicine.

Since its establishment in 2018, the consortium has achieved substantial scientific progress and international visibility and will enter its third funding period in 2026.

The advertised position is part of the **subproject C07 Endothelialized perfusable microvascular networks for biofabrication of standardized in vitro tissue models**, which focuses on **Vascularization as a key challenge in the biofabrication of hierarchical tissue structures and their application. In detail, we aim to fabricate perfusable endothelialized microvascular networks mimicking the peripheral vessels and the blood-brain barrier. These will serve as a basis for functional, tissue-specific investigations in health and disease. Building on previous knowledge and methods, free-form printing of POx will be used to increase the complexity of sacrificial structures and incorporate functional, stable vessel-like structures into complex 3D tissue models. The developed models should better reflect physiological conditions and improve predictive power in preclinical testing**.

PhD candidate (f/m/d)

Your responsibilities

The position includes, but is not limited to:

- Fabrication of Melt Electrowriting-based sacrificial scaffolds
- Development of complex 3D vascular-like sacrificial structures using Freeform Printing for 3D tissue models
- Endothelialized micro-networks for tissue models and angiogenesis studies at the blood-brain barrier (BBB)
- Establishment of a perfusable glioblastoma model and investigation of tumor-induced changes of the BBB

- Employment level: E13 (65%)
- Contract duration: 4 years
- Expected starting date: 01.01.2026
- Place of work: University Hospital Würzburg, Department for Functional Materials in Medicine and Dentistry

Requirements

Required qualifications:

- Completed university degree (Master or equivalent)
- Experience in 3D cell culture, cell culture and differentiation of human induced pluripotent stem cells (hiPSCs), biomaterials, additive manufacturing/biofabrication

- Experience in the field of biochemical and metabolic analyses (qPCR, Western blot, ELISA, immunostaining, mitochondrial analyses, etc.)

Additional desirable qualifications:

- Good English skills are important due to collaboration with international colleagues.
- Ability to work independently and accurately, organizational skills, and enthusiasm for learning a new field of work

What We Offer

- Interdisciplinary, collaborative research environment
- Access to state-of-the-art equipment and facilities
- Structured PhD training programs
- Opportunities for conference attendance and research stays
- Support for career und personal development

Equal Opportunity & Diversity Statement

We are committed to equal opportunity and diversity and explicitly encourage women to apply. Candidates with disabilities will be given preference if their qualifications are equivalent. We offer an inclusive, supportive, and collaborative working environment.

Contact

For inquiries or to submit your application, please contact the person below. Please submit your documents by **December 31, 2025**.

Dr. Antje Appelt-Menzel and Dr. Matthias Ryma
University Hospital Würzburg / Department for Functional Materials in Medicine and Dentistry / Project C07
antje.appelt-menzel@uni-wuerzburg.de
+49 931 31-80771
https://trr225biofab.de/project-c07/

Attachments

Please include:

- CV
- Motivation letter
- References (if available).