CSC-Tübingen PhD Scholarship Program

2025/2026 application round: prospective PhD positions at the University of Tübingen

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Faculty: Faculty of Medicine

Institute / Section / Subject: Institute for Biomedical Engineering (IBE) / Medical Technologies and regenerative medicine

Supervising Professor(s): Prof. Dr. Katja Schenke-Layland

About the Supervisor(s): Professor of Medical Technologies and Regenerative Medicine and Director of the Institute of Biomedical Engineering (IBE) at the Faculty of Medicine of the University Hospital Tübingen, as well as the Study Dean of the Medical Technology program at the University of Tübingen. Research Interests: Tissue engineering, Matrix Biology, Biomaterials Development and Functional Characterizations, Pancreatic islets etc.
(https://www.schenke-layland-lab.com/aboutkatja.html#;
CV: https://www.schenke-layland-lab.com/assets/pdf/CV-KSL_11_22.pdf).

Specification: **Development of Innovative Albumin/Collagen-Based Biomaterials for Advanced Tissue Engineering and Regenerative Medicine**

Topic Description: This PhD research aims to develop next-generation albumin/collagen-based (**Albucol**) biomaterials for regenerative medicine. The project focuses on creating tunable hybrid scaffolds by exploiting metallic coordination chemistry to precisely adjust structural and functional properties, enabling use in both soft and hard tissue repair. Advanced fabrication and characterization techniques will deliver scaffolds with controlled morphology, tailored mechanics, and finely tuned biodegradability and stability. Innovative co-culture systems that mimic in vivo environments will be used to probe cell–matrix interactions, including adhesion, proliferation, and differentiation in response to bioactive cues. Cutting-edge imaging, biological evaluaitons, and histology will provide real-time insights into cellular responses and tissue formation. The ultimate goal is to develop multifunctional, clinically relevant biomaterials with enhanced bioactivity and adaptability, addressing key challenges in tissue replacement and opening new avenues for translational therapies in regenerative medicine.

Intended Degree: PhD in Experimental Medicine

Type of the PhD Study: Full-time

Required Degrees and Qualifications: Master's degree in clinical medicine, medical technology, biomedical engineering, or a related field. Candidates must have hands-on experience in biomaterial fabrication and characterization, with proficiency in cell culture and histology techniques. Preferred qualifications

include expertise in advanced fabrication methods, experience with co-culture systems or dynamic tissue models, and a background in interdisciplinary research.

Language Requirements: English, C1 Level (e.g. *IELTS 7).*