



EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



CSC-Tübingen PhD Scholarship Program

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

- 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_02_23.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 biomaterials for tissue engineering and regenerative medicine. The focus is on designing novel hybrid scaffolds with tunable properties by leveraging the complementary strengths of albumin and collagen for optimized cell-matrix interactions. Advanced fabrication and characterization techniques will be used to create materials with controlled morphology, optimized mechanical properties, and fine-tuned biodegradability and biostability profiles, enhancing tissue integration and regeneration. Innovative co-culture systems simulating in vivo environments will be employed to evaluate cell-matrix interactions, targeting cell adhesion, proliferation, and differentiation in response to bioactive cues. Real-time imaging, omics-based analyses and histology will track cellular responses and tissue formation. The ultimate goal is to develop multifunctional biomaterials with superior mechanical integrity, controlled degradation, and enhanced bioactivity for effective tissue repair and regeneration, facilitating their translation into clinical applications and paving the way for future 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*).