



EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



CSC-Tübingen PhD Scholarship Program

2024 application round: prospective PhD positions at the University of Tübingen

Faculty:	Faculty of Science
Institute/Section/Subject:	Interfaculty Institute of Microbiology and Infection Medicine Tübingen/Bacterial Metabolomics/ Synthetic Biology
Supervising Professor:	Prof. Dr. Hannes Link
About the Supervisor:	Prof. Link's research aims to advance knowledge and innovation in synthetic microbiology, addressing global challenges like sustainable production of chemicals and combating antibiotic resistance. More information at www.linkmetabolism.com
Specification:	Production of glycerol from CO ₂ using engineered <i>E. coli</i>
Topic Description:	Glycerol, a sustainable feedstock for many bio-based products, is currently a byproduct of biodiesel production—a source that's expected to deplete in the future. This research aims to engineer <i>E. coli</i> bacteria to fixate CO ₂ and introduce a synthetic pathway for enhanced glycerol production. The glycerol pathway, originally developed by the Link group in <i>E. coli</i> (Wang et al, Nature Comm.) is being refined using a synthetic autotrophic <i>E. coli</i> as a production host. We will employ cutting-edge genome engineering to create superior production strains and utilize metabolomics for in-depth examination.
Degree:	Dr. rer. nat. in Biology
Required Degrees:	M.Sc. in biotechnology, microbiology or a related field
Language Requirements:	Fluent English, verbally and in writing (IELTS 6,5 or TOEFL equivalent);
Notes:	See our papers on www.linkmetabolism.com , e.g. Wang et al. in Nature Communications (2021) for the glycerol production strain.