CSC-Tübingen PhD Scholarship Program

2023 application round: prospective PhD positions at the University of Tübingen

Faculty: Faculty of Sciences

Institute / Section / Subject: Center for Molecular Plant Science (ZMBP) & Interfaculty Institute of Microbiology and Infection Medicine Tübingen (IMIT) / Microbial Interactions / PhD in molecular plant-sciences and microbiology

Supervising Professor(s): Prof. Dr. Eric Kemen

About the Supervisor(s): The research at Kemen lab focuses on microbial interactions in plant ecosystems. Prof. Kemen received his PhD from the University of Konstanz (2007), before joining Jonathan Jones’ group at the Sainsbury Laboratory in Norwich for postdoc. In 2012 he became a group leader at the Max-Plank Institute in Cologne and discovered one of his key findings "microbial hubs" that link microbial communities to host genotypes. In 2017 he was appointed full professor (W3) at the University of Tübingen.

Specification: Unraveling mechanisms of persistence in microbiome-host interactions under light (UV) stress

Topic Description: The phyllosphere microbiome promotes stress tolerance to plants, but the mechanisms are not well understood. One unique feature of the phyllosphere microbiome compared to rhizosphere and soil is the increased abundance of pigment producing microbes. In this project, we explore the metabolic potential of pigment producing key phyllosphere microbes to investigate protective functions related to pigment biosynthesis under light (UV) stress. We will use the cutting-edge resources from ZMBP and IMIT including genomics, molecular and metabolomics tools. The goal of this project is to identify a novel mechanism of microbe ‘suncream’ for plant light stress tolerance.

Degree: Dr. rer. nat.

Required Degrees: MSc in Biology, bioinformatics or similar

Language Requirements: English (TOEFL iBT 95 or IELTS 6.5 or equivalent)

Notes: Key publication: Agler et al. (2016) Plos Biology, 14 (1), e1002352 (One of the most cited research papers in the microbiome field)