



EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



CSC-Tübingen PhD Scholarship Program

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

Faculty:	Medicine
Institute / Section / Subject:	Robert Bosch Center for Tumor Diseases / Biochemistry / Molecular Cancer Research
Supervising Professor(s):	Prof. Dr. Steven A. Johnsen
About the Supervisor(s):	<p>Prof. Johnsen is an Honorary Professor at the University of Tübingen and is Scientific Director of the Robert Bosch Center for Tumor Diseases in Stuttgart. He currently has six natural sciences Ph.D. students enrolled at the University of Tübingen and has successfully supervised 22 Ph.D. students since 2007. (See detailed info: https://www.rbct.de/en/team/steven-johnsen.)</p> <p>Prof. Johnsen received his Ph.D. in Molecular Biology from the Mayo Clinic Graduate School of Biomedical Sciences in 2002 before moving to Germany where he was a postdoc in Hamburg and at the EMBL in Heidelberg. He was appointed Assistant Professor of Molecular Oncology at the University of Göttingen in 2007 and later served as Associate Professor at the University of Hamburg and Full Professor at the University of Göttingen. From 2019-2022 he was a Full Professor of Medicine and Pharmacology at the Mayo Clinic before being appointed Scientific Director of the Robert Bosch Center for Tumor Diseases. He has been an Honorary Professor at the University of Tübingen since 2024. Prof. Johnsen is an expert in transcriptional and epigenetic regulation of cell identity and has focused his efforts on pancreatic cancer for the last ten years. His group has made major contributions that have recently been published in major journals in the field.</p>
Specification/Project title:	Transcriptional and Epigenetic Regulation of Cellular Identity and Transdifferentiation in Pancreatic Cancer
Topic Description:	Pancreatic cancer remains one of the most lethal forms of cancer with a five-year survival rate of only 10-13%. One of the major hurdles to treating advanced pancreatic cancer is the extreme plasticity and heterogeneity of the tumor cells and their ability to rapidly adapt to

therapeutic challenges. The Johnsen group utilizes modern molecular biological and genomics approaches to identify and interrogate transcriptional and epigenetic mechanisms controlling cell identity in pancreatic cancer. Specifically, we utilize techniques such as RNA-seq, ChIP-seq, PRO-seq, HiChIP and others to explore how transcription factors direct cell identity by altering epigenetic status and/or chromatin interactions. In this project we will build upon our recent work (Ekstrom, et al., *Gut* 2025; Wang, et al., *Mol. Canc. Res.* 2023; Hamdan, et al., *Gut* 2023; Hamdan, et al. *PNAS* 2018) in which we determined the mechanisms by which identity-defining master transcription factors control the maintenance of pancreatic cancer molecular subtype identity. In this project we will specifically aim to further uncover the signaling pathways and transcriptional regulation of transdifferentiation of “classical” pancreatic cancer to the more aggressive “basal” form. This will utilize established and primary mouse and human cell models, as well as relevant organoid and patient-derived xenograft models, complemented by orthotopic syngeneic mouse models of pancreatic cancer to both identify molecular mechanisms controlling transdifferentiation as well as testing novel intervention approaches to limit plasticity. This work will be performed in close collaboration with a highly international team of outstanding young scientist who are passionate about their work and dedicated to making a difference in cancer treatment.

Intended Degree: Dr. rer. nat.

Type of the PhD Study: Full time

Required Degrees and Qualifications: M.Sc.

Language Requirements: Good command of English

Notes: