CSC-Tübingen PhD Scholarship Program

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

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Faculty:	Faculty of Science
Institute / Section / Subject:	Interfaculty Institute of Microbiology and Infection Medicine (IMIT), Department of Microbial Bioactive Compounds https://www.hughesresearchgroup.de/ subject: natural products chemistry
Supervising Professor(s):	Dr. Chambers C. Hughes
About the Supervisor(s):	Dr. Hughes was born and raised in bucolic western New York, USA. In 1999 he graduated with a B.S. in biochemistry and a minor in Latin from Geneseo College. In 2004 he completed a Ph.D. in chemistry from the University of California, Berkeley, with Prof. Dirk Trauner. Next, Dr. Hughes held an extended postdoctoral/research associate appointment with Prof. William Fenical at the Scripps Institution of Oceanography, UC San Diego. In 2012 Hughes was hired as assistant professor at Scripps. He then joined his family, in 2019, in Tübingen and is currently a Research Group Leader in the Department of Microbial Bioactive Compounds at the University of Tübingen.
Specification/Project title:	The discovery of new phosphonate natural products
Topic Description:	Phosphonate natural products form a distinct class of bioactive compounds, predominantly produced by actinomycetes. They stand out for their remarkable biological activities and an unusually high rate of successful commercialization compared to natural products in general. Notable examples include fosfomycin, phosphinothricin, and fosmidomycin. Building on strains from the DSMZ and Tübingen strain collections, which have already been shown through genome mining to harbor phosphonate biosynthetic gene clusters, we aim to discover novel phosphonates. To achieve this, we will employ both classical approaches and innovative strategies such as chemical labeling.
Intended Degree:	Dr. rer. nat.
Type of the PhD Study:	Full time at the University of Tuebingen

Required Degrees and Qualifications: MSc in chemistry, biochemistry or similar subject, experimental expertise in bacterial cultivation, natural product isolation and structure elucidation, NMR spectroscopy and high-resolution mass spectrometry

Language Requirements: English in C1 in a SELTS (IELTS, PTE, TOEFL) for all parts of the test

Notes: Previous CSC scholarship holders in the group have published in high-impact journals. For example, see: Vitale GA,[#] Xia SN,[#] Dührkop K, Reza M, Shahneh Z, Brötz-Oesterhelt H, Mast Y, Brungs C, Böcker S, Schmid R, Wang M, Hughes CC,* Petras D.* Enhancing tandem mass spectrometry-based metabolite annotation with online chemical labeling. Nat Commun. 2025;16:6911. DOI:10.1038/s41467-025-61240-z

# indicates co-first author