



EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN



CSC-Tübingen PhD Scholarship Program

2026/2027 application round: prospective PhD positions at the University of Tübingen

Faculty: Faculty of Science

Institute / Section / Subject: Geography / Geoecology / Biogeochemistry of Phosphorus in Caves

Supervising Professor(s): Prof. Dr. Yvonne Oelmann, PD Dr. Harald Neidhardt

About the Supervisor(s): The research in the Geoecology Group of Prof. Oelmann focuses on nutrient cycles in natural ecosystems, with a strong focus on phosphorus. We use innovative approaches to identify key biogeochemical processes that control the fate of phosphorus in the environment, spanning from forests, grasslands, over semi-aquatic to groundwater ecosystems, and, more recently, caves. See our homepage for more information on ongoing research activities (<https://uni-tuebingen.de/de/84524>).

Specification/Project title: Phosphorus in the dark – revealing the biogeochemistry of phosphorus in cave ecosystems

Topic Description: This project investigates the biogeochemical cycling of phosphorus in cave environments, considering both inorganic and organic phosphorus species and their transformations from recent to over millennial timescales. Cave sediments integrate phosphorus from diverse sources, including bedrock and allochthonous deposits (e.g., loess, bat guano, animal bones, and anthropogenic inputs). Multiple caves with archaeological records extending back to the Early Pleistocene will be investigated, combining geochemical analyses with archaeological findings the latter provided by collaboration partners. Particular attention will be given to phosphatization, a process related to mineral transformation and phosphorus accumulation. Collaboration with the GACT consortium is envisioned.

Intended Degree: PhD (Dr. rer. nat.)

Type of the PhD Study: Full-time and Sandwich-Model, both possible

Required Degrees and Qualifications: MSc degree in Geosciences or related fields

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

Notes: Motivated researcher with Master in Geoecology, Geoscience, Environmental Sciences, Geochemistry, or Environmental Chemistry or related disciplines. The successful candidate should research and knowledge of biogeochemical processes in ecosystems with a particular focus on phosphorus, experience in interdisciplinary research, and be familiar with laboratory work. Good communication skills and commitment to independent research are required.