



University of Stuttgart
Germany



ENVIRONMENTAL
MICROBIOLOGY
Stuttgart

PhD Student Position in Environmental Microbiology

The Department of Environmental Microbiology at the Institute for Sanitary Engineering, Water Quality and Solid Waste Management (ISWA) at the University of Stuttgart is delighted to announce an open position for a PhD student who will work on:

“Identification of surfactant impacts on N- and C-cycling microbial key players in soils and freshwater sediments”



Glyphosate is the most widely applied herbicide on Earth, exhibits potential toxicity, and persists in the environment. Glyphosate is not used as single compound but as mixture, a formulation, with surfactants as the second most abundant ingredient. These surfactants are considered inert, and a critical knowledge gap exists regarding their impacts on microorganisms in the environment. Of particular interest are microbial key players that drive biogeochemical cycles and influence the fate of greenhouse gases.



The PhD project will identify glyphosate-based surfactant impacts on microbial key players that are involved in the N- and C-cycle (i.e., ammonium oxidizers, nitrifiers or heterotrophic C-cyclers). In particular, aerobic and anaerobic cultivation techniques will be used to enrich the target organisms. Subsequently, cultivation experiments will be established to unravel surfactant impacts on enriched microbial key players. Microcosm studies will be performed to identify surfactant impacts on complex microbial

communities in agricultural soil and freshwater sediment using a suite of biogeochemical and molecular tools (e.g., 16S rRNA gene sequencing, metagenomics, and metatranscriptomics). This interdisciplinary project will further reveal if surfactants from glyphosate application can have effects on greenhouse gas formation. The project is funded by the European Research Council (ERC).

We are offering a PhD student position (3-4 years) in an interdisciplinary, international, and dynamic team of environmental microbiologists and microbial ecologists. The position provides the opportunity for the candidate to be creative and innovative, and to work on a challenging topic that combines various fields within environmental sciences. Ideal candidates should have a **solid background in environmental microbiology and molecular ecology**. Applicants must have the ability to work independently and in a team, have excellent management and communication skills and should be highly motivated and committed to pursuing interdisciplinary research. Very good computer and language skills (English) are necessary. The candidate will have the opportunity to present the results in international journals and on conferences.

The starting date is **March 2024 or as soon as possible thereafter**. Employment (TV-L E 13, 75%) will be arranged by the administration of the University of Stuttgart. People with disabilities will be given preferential consideration if they are equally qualified. The University of Stuttgart strives to increase the proportion of women in research and teaching and therefore strongly encourages qualified women to apply.

Applications including CV, motivation letter, an overview about the methods used in the past, and contact information of academic references should be submitted before January 14th, 2024 to the JoinUS portal:

<https://careers.uni-stuttgart.de/job/Stuttgart-PhD-Student-Position-in-Environmental-Microbiology/962885255/>

More information about the Department of Environmental Microbiology can be found on the website:

<https://www.iswa.uni-stuttgart.de/institute/em/>