

# H3: Abiotic transformation of organic trace compounds

The research will focus on the abiotic transformation of organic compounds in reducing water environments (bank filtration, ground water, hyporheic zone). Main compounds to be examined are halogenated organic compounds like iodinated X-ray contrast media which can be found at much higher concentration than any other pharmaceutical compound in waste water, surface water and bank filtrate. It could be shown that the iodinated contrast media are deiodinated under oxygen free conditions in presence of an electron donor and electron shuttle. The transformation has to be studied further with varying electron shuttles and redox systems and the transformation products should be characterized for their persistence, adsorptive uptake by soil and aerobic degradation in subsequent drinking water treatment. Non-halogenated organic trace compounds (e.g. sulfamethoxazole, carbamazepine) showing no or low removal rates under natural oxic/anoxic conditions will be tested for their stability under abiotic anaerobic lab conditions.

The successful candidate holds a university degree (Master or equivalent) in Water or Environmental Engineering, Environmental Chemistry, Geosciences or a related area, with some experience in analytical chemistry and is enthused about the prospect of working in a collaborative team.

Supervisors: Dr. Anke Putschew (TUB), Prof. Lorenz Adrian (UFZ Leipzig), Prof. F. Hellweger (TUB). Please address enquiries to Anke Putschew ([anke.putschew@tu-berlin.de](mailto:anke.putschew@tu-berlin.de)).

Applicants should submit the following documents: letter of motivation indicating research interests and experience and the project key H3, CV including 2 references, letter of recommendation (preferably from a professor), Bachelor and Master certificates, Master Thesis. Please **send your application in a single PDF** containing all application documents **using the online UWI application platform under: <https://webservice.service.tu-berlin.de/candidate.php>**