



Open PhD position in NanoGeoMicrobiology

‘Formation and reactivity of Biogenic Iron-Oxides (BIOS)’

We are seeking a PhD student (geomicrobiologist or nanogeochemist) to investigate the biogeochemical cycling of BIOS in controlled lab settings and the environment. BIOS are iron-carbon (Fe-C) rich aggregates that are produced by various Fe(II)-oxidizing microbes. Despite the ubiquity of BIOS, their properties and susceptibility to degradation remain under-constrained. Knowledge on their reactivity will be vital in elucidating interspecies interactions (e.g., between Fe-metabolizing and C-degrading microbes) and the biogeochemical cycling of Fe, C and various associated trace metals and nutrients.

We will use a combination of XRD, Mössbauer spectroscopy, FTIR and spectrophotometry to characterize BIOS (trans)formation. Special focus will be placed on the investigation of the nanoparticulate/colloidal fraction that is considered to be the most reactive, using techniques such as size-fractionation filtration, dynamic light scattering, single particle ICP-MS and cryo-FIB-SEM. Results of incubation experiments will be interpreted using multivariate analysis that can distinguish the most important controlling factor(s) within complex reaction networks.

The candidate will be a member of the Geomicrobiology group and be given many opportunities to be creative and innovative, to apply state-of-the art geochemical analyses, microbial physiological studies, and microscopic techniques, and to work on a challenging and fascinating topic within a large network of (inter)national collaborators.

Requirements:

- Strong background and/or interest in geomicrobiology and nanogeochemistry
- Ability to work independently and in a team
- Excellent management and communication skills
- Good computer and language (English) skills
- Experience with basic programming (e.g., Python, R) preferred but not necessary

Start date for successful applicants is summer/fall 2022. Employment (TVL E13, 75%, 3 years) will be arranged by the University of Tübingen. The university seeks to raise the number of women in research and teaching and therefore urges qualified women to apply. Disabled persons will be preferred in case of equal qualification.

For more information and to apply, please send a CV, motivation letter and overview of techniques and methods previously used by email

before April 29th, 2022 to: Dr. Muammar Mansor (muammar.muammar-bin-mansor@uni-tuebingen.de) and Prof. Dr. Andreas Kappler (andreas.kappler@uni-tuebingen.de), Geomicrobiology, Center for Applied Geosciences, University of Tübingen, Germany.