

CONTRATO PREDOCTORAL-UNIVERSIDAD TÉCNICA DE MÚNICH (ALEMANIA)

PhD Position: Rhizosphere as driver of subsoil organic matter dynamics

Root-derived organic carbon is a major source for the formation of soil organic matter. Roots provide carbon input via root litter and rhizodeposition and, therefore, play a key role in soil biogeochemical cycles. This is evidenced in the development of a soil-specific structure with emergent properties during pedogenesis. The main objective of the project is to better understand the influence of growing roots and their associated microbiome on the composition, distribution and the amount of soil organic carbon within the sub-soil and specifically in the subsoil rhizosphere. The project is part of the DFG research unit FOR 1806 – “The forgotten part of carbon cycling: Organic matter storage and turnover in subsoils (SUBSOM)”.

We seek a highly motivated candidate to work with us on a cascade of experiments with advanced complexity, using established state of the art methods (e.g. NMR spectroscopy, NanoSIMS). In addition we want to go a step beyond and develop new techniques to better understand the role of the rhizosphere for subsoil organic carbon dynamics.

The Soil Science Group at TUM (<http://www.soil-science.com>) offers a vibrant academic environment with well-equipped facilities located nearby Munich in southern Germany. Applicants should have the ability to work self-organized and in a team, have excellent management and communication skills and should be highly motivated and committed to pursuing interdisciplinary research. Good computer and language skills (English) are necessary. The candidate will have the opportunity to present her/his results in international journals and conferences.

The successful candidate should hold a MSc degree (or equivalent) in biology, geo-ecology, agriculture, forestry, geology or related natural sciences and have sound knowledge of soil science. Candidates with experience in microscopic techniques, scanning and/or transmission electron microscopy (SEM, TEM), or in plant physiology as well as microbiology are highly welcome.

The project is funded by the German Research Foundation (DFG) for three years and provides a salary of 65 % of German TVL E13 (approx. EUR 1400 per month/net) scheme together with health and social security benefits. The starting date is 01.01.2017, or a later date to be decided upon.

A single pdf-file including letter of motivation, research experience, CV, and publication list should be sent by email to PD. Dr. Carsten W. Mueller (bodenkunde@wzw.tum.de). Application deadline is 20.10.2016.

PD Dr. Carsten W. Mueller

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