



Dawn of the Dead: Chemical composition and turnover of dead microbial biomass and its role in the soil food chain

Even though microbial biomass typically accounts for only 1% of soil organic carbon (Fierer *et al.*, 2009; Serna-Chavez, Fierer and Van Bodegom, 2013), its contribution to carbon cycling is extensive (Kindler *et al.*, 2009; Throckmorton *et al.*, 2012; Schweigert *et al.*, 2015). Soil science, however, was previously limited to the mere description of the soil microbial community composition without emphasizing the chemistry of the inhabiting microbes. Chemistry was shown to impact the recalcitrance of soil organic matter (Schmidt *et al.*, 2011) and it is thus called into question whether the chemistry of morphologically different microbes is comparable, especially since the chemistry of the living will determine the chemistry of the dead.

To investigate the chemical composition and turnover of dead microbial biomass and its role in the soil food chain, we are looking for a

Postdoctoral researcher – Soil biogeochemistry/microbiology

Requirements: Within a three years period, a representative set of bacteria and fungi will be grown in pure cultures in the laboratory using different carbon sources and media by metabolomics. The biomass will be added to soil and its fate will be determined in a long-term incubation experiment by measuring soil chemistry and stoichiometry, microbial activity, biomass and community composition. The applicant is therefore required to have experience with OMIC techniques and basic microbial methods such as the extraction of DNA and metabolites. Basic knowledge of statistical analysis, R, python or an equivalent are beneficial. Good communication skills and teamwork are required.

Location: Laboratory of Environmental Microbiology, Institute of Microbiology of the Czech Academy of Sciences, Prague, Czech Republic

Starting date: 01.01.2020

Duration: Three years

Salary: 45,000Kč per month (~1,760€)

Contact information: Interested applicants are welcome to send their CV and a motivation letter to robert.starke@biomed.cas.cz. For more details about the position and the project, feel free to use the same email address.

