

Vacancy: PhD position “Biodegradation of organic pollutants in groundwater impacted by landfill leachates” at the Division of Soil and Water Management, KU Leuven, Leuven, Belgium

A PhD position is available at the Division of Soil and Water Management on the biodegradation of organic pollutants in groundwater impacted by landfill leachates. The PhD is performed within the framework of the RESPONSE research project supported by the Belgian Science Policy Office, in a collaboration between the Division of Soil and Water Management KU Leuven (Prof. Dirk Springael/Prof. Erik Smolders) and research groups from SCK-CEN, VUB, RBINS and UCL. RESPONSE is an interdisciplinary project involving specialists in hydrological and solute transport modeling, geochemistry, geography, geology and microbiology and aims at improving the use of coupled reactive transport models to simulate the fate of inorganic and organic contaminants in aquifers impacted by leachates of landfills and graveyards. The successful candidate will study the role of uncharacterized reactive dissolved organic matter in landfill leachate in demarcating the redox zonation in contaminant plumes originating from landfills and in determining the processes in biodegradation of recalcitrant toxic organic compounds (like pesticides and BTEX) in the plume. The study will involve laboratory and field experiments and will use techniques as batch biodegradation assays, in situ microcosm studies, molecular ecology methods like microbial community 16S rRNA gene next generation sequencing and chemical analytical techniques like compound specific stable isotope analysis as well as basic reactive transport modeling. Candidates must have a Master degree in bio-engineering (with relevant specialization) or similar degrees involving environmental microbiology/(geo)chemistry. Experience with reactive transport modeling and/or environmental microbiology/(geo)chemistry during for instance the Master thesis is an advantage. The position is for 4 years starting from around August-September 2017.

Interested candidates should send their application to Prof. Dirk Springael (Tel: ++ 32 16 32 16 04; e-mail: dirk.springael@ees.kuleuven.be), preferentially by e-mail, at the latest on May 31, 2017. The application must contain (1) a curriculum vitae, (2) publications record and study results, (3) a motivation letter, and (4) contact details of 2 persons for references.