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The Soil Science Group of the Institute of Geography, University of Bern, Switzerland, is inviting applications for

One Ph.D. position about the occurrence and fate of micro- and nanoplastics in arable soils

Background

Significant amounts of plastics end up in agricultural soils by littering, sewage sludge and compost application, the use of plastic foils, irrigation with contaminated water, atmospheric deposition and many other sources. The plastics might be already in the micro- or nano size range or disintegrate to small plastic items like microplastics (MP) or nanoplastics (NP). These MP and NP are known to have negative effects on organisms and soil properties and might affect soil ecology and fertility.

The PhD student will work on 1) the analysis of NP in soils, 2) the uptake of NP into plants and 3) the degradation of MP and NP in soils.

Requirements

The successful candidate will have a Master in Geography, Geology, Chemistry, Environmental Sciences or similar disciplines. Experience in field sampling, in lab work and in using analytical instruments is required. Specific experience with method development, MP/NP research, research about nano particles, FTIR and Raman spectroscopy, py-GCMS, SEM/TEM or STXM is an asset. The successful candidate will have good English writing and communication skills.

Further information

The position will start at the University of Bern (CH) but change to the TU Darmstadt (D) after about 6-9 month. This is due to the move of the supervisor from Bern to Darmstadt. The salary in CH is according to SNF guidelines, the salary in D will be according to DFG guidelines. The funding guaranteed for 4 years starting from 01.01.2022 or later. Please send a single PDF including a letter of motivation, a complete CV and the names and Email of two referees to microplastic.bern@gmail.com until 16.01.2022.

For further information, please contact PD Dr. Moritz Bigalke, moritz.bigalke@giub.unibe.ch.