



The Department of Forest- and Soil Sciences, Institute of Soil Research is currently seeking a

Postgraduate Research Associate PhD position / project employment (Reference code: 19)

Extent of employment: 30 hours per week
Duration of employment: 1st of March 2021, limited to 29th of February 2023
(a third year will be funded by our collaboration partner, the University of Vienna)

Workplace: UFT Tulln / University of Vienna (Althanstraße 9)

Gross monthly salary and pay grade in terms of collective agreement for university staff (payable 14 times per year): B1, € 2.228,60

We are seeking a motivated PhD student to work in the EU-funded project "PhytoTrace - Wanted: Micronutrients! Phytosiderophore-mediated acquisition strategies in grass crops" (ERC Starting Grant 801954). Understanding micronutrient (Zn, Cu, Fe) deficiency induced plant responses and related rhizosphere processes is crucial to improve crop yield and micronutrient grain content for high quality food and feed. Phytosiderophores (PS) are root exudates released by grass species (Poaceae) for the solubilization of Fe and are implicated to improve Zn and Cu acquisition, particularly under deficient conditions. Moving beyond the traditional segregation of "soil-free" and soil-focused research, the aim of this project is uncover the interplay of PS release, plant genetic responses and rhizosphere processes under natural growth conditions. Within this framework, the focus of this PhD position lies on investigating the decomposition and partitioning dynamics of all eight identified PS in the plant-microbe-soil system.

Experimental work will combine stable isotope probing (¹³C-PLFA, NanoSIMS) as well as molecular techniques (16S rRNA gene amplicon sequencing, FISH) for identifying the key microbial players involved. Joint experiments with other project partners (including soil scientists, plant geneticists, organic and analytical chemists) will provide the opportunity to be part of an interdisciplinary team with the potential to establish highly visible and internationally competitive research.

The Institute of Soil Research, Tulln is well connected to public transportation and is fully equipped with state-of-the-art instrumentation required for plant and soil analysis providing an excellent working environment. The PhD student will have a joint affiliation with the Division of Microbial Ecology (DoME) at the University of Vienna, which is applying the latest technologies for investigating the function of environmental microorganisms.

Responsibilities

- Investigating phytosiderophore decomposition dynamics and the identification of the key microbial players involved
- Tracing the partitioning of ¹³C-labelled phytosiderophores in the plant-soil-microbe system
- Collaborating with other members of the ERC project
- Writing of scientific publications
- Participating in training courses, workshops and conferences

Required skills and qualifications

- Diploma degree in Biology, Chemistry, Microbiology, Agriculture, Plant Sciences, Soil Science or related fields

Desirable skills and qualifications

- Experience with lab work, (molecular) microbial community analysis (PLFAs, amplicon sequencing and NGS data analysis), data processing; knowledge on statistics is welcome
- Very good skills in communication / English language skills
- Ability to work independently in an interdisciplinary team
- Stress resilience, reliability

Applications can be submitted until: 12th of February 2021

University of Natural Resources and Life Sciences Vienna seeks to increase the number of its female faculty and staff members. Therefore qualified women are strongly encouraged to apply. In case of equal qualification, female candidates will be given preference unless reasons specific to an individual male candidate tilt the balance in his favour.

People with disabilities and appropriate qualifications are specifically encouraged to apply.

Please send your job application incl. motivation letter, CV and references to Personnel department, University of Natural Resources and Life Sciences, Peter-Jordan-Straße 70, 1190 Vienna;
E-Mail: kerstin.buchmueller@boku.ac.at. **(Reference code: 19)**

We regret that we cannot reimburse applicants travel and lodging expenses incurred as part of the selection and hiring process.

www.boku.ac.at