



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

## Postgraduate Research Associate PhD Position / Project Employment (Reference code: 152)

Extent of employment: 30 Hours per Week  
Duration of employment: 1<sup>st</sup> of November 2019, limited to 31<sup>st</sup> of October 2022

Workplace: 3430 Tulln, UFT-Tulln / 1190 Vienna, Muthgasse 18

Gross monthly salary and pay grade in terms of collective agreement for university staff (payable 14 times per year): B1, €2.148,40

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 geochemical behaviour of all eight identified PS in micronutrient deficient soils. Experimental work will include the development and implementation of an LC-MS/MS based workflow to analyze all identified PS as well as the conduction of a wide range of incubation studies to reveal the fate and function of PS in soil.

Joint experiments with other project partners (including soil microbiologists, 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.

### Responsibilities

- Develop and implement LC-MS/MS based analysis of phytosiderophores
- Investigate the geochemical behaviour and micronutrient solubilisation properties of phytosiderophores in different soils
- Collaborate with other members of the ERC project
- Writing of scientific publications
- Participate in training courses, workshops and conferences

### Required skills and qualifications

- Completed degree in Chemistry, Geochemistry, Agriculture, Biology, Plant Sciences, Soil Science, or related fields

### **Desirable skills and qualifications**

- Experience with lab work, chemical analysis (mass spectrometry, liquid chromatography), 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: 23<sup>rd</sup> of September 2019

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.

Please send your job application (including a motivation letter, CV and references) to Personnel department, University of Natural Resources and Life Sciences, 1190 Vienna, Peter-Jordan-Straße 70; E-Mail: [kerstin.buchmueller@boku.ac.at](mailto:kerstin.buchmueller@boku.ac.at). **(Reference code: 152)**

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

**[www.boku.ac.at](http://www.boku.ac.at)**