



The Department of Crop Sciences, Institute of Agronomy is currently seeking a

Postgraduate Research Associates Project Employment (Reference code: 151)

Extent of employment: 30 Hours per Week
Duration of employment: 1st of November, initially limited to 6 month
(with option for extension for 30 months)

Workplace: 3430 Tulln

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

We offer two 3-year PhD-positions within the Austrian Science Fund (FWF) project “*Soil silicon: Plant-availability and biotic solubilisation in hotspots of nutrient turnover*” that investigates silicon (Si) cycling in the plant-soil system. Although silicon is a non-essential element for plants, it is associated with numerous beneficial effects on plant health and growth, including water stress relief, metal toxicity alleviation, increased mechanical strength and resistance to fungal infections and insect herbivory. The effects of Si on crop growth and health, and Si cycling in soils have become important research topics in recent years. As a consequence, Si fertilizers are being increasingly marketed and applied in crop production.

This project aims at investigating

- the effect of root exudates on soil Si solubilisation and Si plant-availability,
- the role of earthworms in soil Si solubilisation and Si plant-availability, and
- using innovative infinite-sink extraction methods combined with elemental and isotopic fingerprinting for quantifying plant-available Si pools

In this way, this project will contribute significantly to understanding Si cycling in the plant-soil system.

The associates will carry out detailed characterization of soil Si fractions, investigate root exudation patterns in response to Si supply, and will perform earthworm feeding experiments for determining potential Si solubilisation and mineralogical changes in soil Si fractions. The analytical methods employed include ICP-OES and different element- and isotope-specific ICP-MS techniques. The associates will receive comprehensive training in all employed experimental techniques. A team of renowned researchers will supervise the associates, consisting of Dr. Jakob Santner (Institute of Agronomy), Dr. Markus Puschenreiter and Prof. Walter Wenzel (Institute of Soil Research), Prof. Johann Zaller (Institute of Zoology) and Prof. Thomas Prohaska (Montanuniversität Leoben, Chair of General and Analytical Chemistry). Both positions are designated as 3-year positions. Successful candidates will be employed for a 6-month period initially, followed by a 30-month employment period if candidate and supervisors positively evaluate the initial project period.

Required skills and qualifications

- Completed degree in Agriculture, Biology, Plant Sciences, Soil Science, Chemistry or related fields
- Excellent command of English
- Stress resilience, reliability
- Social- and teamwork skills

Desirable skills and qualifications

- Experience in scientific writing
- Knowledge of the applied techniques

Applications can be submitted until: 15th 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 to Personnel department, University of Natural Resources and Life Sciences, 1190 Vienna, Peter-Jordan-Straße 70; E-Mail: kerstin.buchmueller@boku.ac.at. **(Reference code: 151)**

Questions relating to the positions should be sent to Dr. Jakob Santner: jakob.santner@boku.ac.at and Dr. Markus Puschenreiter: markus.puschenreiter@boku.ac.at

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

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