

The department of Forest- and Soil Sciences, institute of Forest Ecology is currently seeking for a

**Postgraduate Research Associate
(project employment)**
(Reference code: 06)

Extent of employment: 20 Hours per Week
Duration of employment: 15.03.2012 initially limited to 31.12.2012
(extension to 14.03.2015 after evaluation possible)

Classification under the collective agreement of the university: B1
Gross monthly salary (depending on previous experience) at least: € 1.266,-- (additionally we offer an attractive personnel development program and social benefits)

Work places: Mainly: BOKU Campus at Konrad Lorenz Straße 24, 3430 Tulln a.d. Donau
Occasionally: Inst. of Forest Ecology, Peter-Jordan-Straße 82, 1190 Wien

Job description

We offer a PhD position for the topic ‘*Sulfur biogeochemistry of forest ecosystems with special emphasis on the use of stable isotopes of S for mass balance approaches*’. We think that S isotopic fingerprints may be powerful tools for the determination of S cycles within forest ecosystems.

Background: Meanwhile, SO₂ emissions, the most important precursor of Acid Rain, declined sharply since the 1980s. However, revisiting the Acid Rain topic is worthy, since in many regions mass balance estimates of S are negative due to release of previously stored S, delaying the recovery of pH of soils and surface waters, depending on soil properties. We hypothesize that solute sulfate fluxes through the soil and the corresponding net S balances are crucial for predicting soil recovery. Hence, various S sources will be evaluated, including the use of stable S isotopes.

The project, funded by the Austrian Science Fund (FWF), aims at the development and application of advanced protocols for the prediction of the reversibility of soil acidification in beech (*Fagus sylvatica*) stands (see: https://forschung.boku.ac.at/fis/suchen.projekt_uebersicht?sprache_in=en&menue_id_in=300&id_in=8742). In particular, soil, water and plant materials will be analyzed for exchangeable elements and the isotopic composition of sulfur, partly after fractionation into different soil S pools. Therefore, a new protocol has to be established on an instrumentation which is currently installed at the clean room laboratories of the collaborating Department of Chemistry (VIRIS laboratory).

Elemental and isotopic analyses will be conducted mainly by inductively coupled plasma mass spectrometry (ICP-MS), with wet and dry (laser ablation) sample introduction systems. The PhD student will work in close cooperation with the project leader and his team at the Institute of Forest Ecology and PhD students and postdoctoral researchers, employed at the VIRIS laboratory.

Research tasks include the development, optimization and validation of analytical protocols and analyses of soil, plant and water compartments. The publication of the results in peer reviewed scientific journals is obligatory. The PhD student will be supervised by the project leader Prof. Torsten W. Berger (Department of Forest and Soil Sciences) along with Prof. Thomas Prohaska (Department of Chemistry - VIRIS laboratory).

Desired Qualifications

- MSc in Analytical Chemistry or related fields
- Sound knowledge of Chemistry and Soil Sciences
- Knowledge of the applied techniques as an asset
- Excellent command of English
- Excellent skills in scientific writing
- Stress resilience, reliability
- Social skills and teamwork abilities

Application must contain:

- CV
- Letter of motivation
- Two letters of recommendation

Date of publication: 25.01.2012

Closing date for applications: 15.02.2012

University of Natural Resources and Life Sciences Vienna intends to increase the proportion of its female personnel. Qualified women are therefore explicitly invited to submit applications. In the case of equal qualifications, women will be given preferential consideration for employment unless reasons specific to an individual male candidate tilt the balance in his favour.

Please send your job application to the department of human resources at the University of Natural Resources and Life Sciences, 1190 Vienna, Peter-Jordan-Straße 70; E-Mail: kerstin.buchmueller@boku.ac.at. (reference code: 06)

We don't refund travel costs to the job candidates.

www.boku.ac.at

Vice rector of strategic development:

Univ.Doz. DI Dr. Georg Haberhauer, MBA