The Department of Chemistry, Institute of Analytical Chemistry is currently seeking a

Postgraduate Research Associate
PhD student in chemical ecology of plant-plant interaction
(Project employment)
Reference code: 15

Extent of employment: 30 Hours per Week
Duration of employment: 1st of March 2020, limited to 28th of February 2023

Workplace: Vienna & Tulln

Gross monthly salary and pay grade in terms of collective agreement
for university staff (payable 14 times per year): B1, € 2.196,80

Our research groups are interested in elucidating below ground plant-soil and plant-plant interactions. For this purpose, we are interested in identifying and characterizing key compounds involved in these processes. Some of the compounds of interest may suppress the growth of neighboring plants. This may help to reduce the application of herbicides, which is an important social and environmental goal, as concern is growing about the development of herbicide-resistant weeds and the ecological consequences of herbicide application. Several cover crops are known to successfully suppress weeds, providing a pertinent answer to this problem.

So far rhizosphere interactions of two neighboring plants have received little attention in the scientific community. In previous experiments, we could demonstrate that below ground interactions between the cover crops *Fagopyrum esculentum* (buckwheat) and *Avena strigosa* (black oat) led to growth suppression of *Amaranthus retroflexus* (redroot pigweed), presumably induced by specific cover crop root exudates.

Our research is conducted in a multidisciplinary collaboration funded by the Swiss and the Austrian National Science funds (SNF, FWF). Two PhD students will work on this project, one at Agroscope Changins and one at BOKU Vienna and Tulln. The PhD based in Austria will set-up and conduct plant experiments for collecting root exudates and develop and apply mass spectrometric methods for detection and identity confirmation of significant compounds. Data evaluation and interpretation will be performed in strong interaction with the team at Agroscope Changins.

Responsibilities

- Analytical method development for non-targeted analysis of rhizosphere samples via LC-QTOFMS
- Development of identity confirmation workflow tailored for the project
- Application of advanced experimental tools for root exudate collection
- Collaborate with the PhD at Agroscope Changins
- Writing of scientific publications
- Participate in training courses, workshops and conferences

Required skills and qualifications

- MSc in Chemistry, Soil Chemistry, Plant Physiology, or related fields

Desirable skills and qualifications

- Experience with lab work, chemical analysis (e.g. liquid chromatography, mass spectrometry), data processing; statistics
- Very good skills in communication
- Very good English language skills
- Ability to work independently in an interdisciplinary team
- Stress resilience, reliability

Applications can be submitted until: 7th of February 2020

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: 15)**

Questions relating to the positions should be sent to:
Assoz. Prof. Dr. Stephan Hann (stephan.hann@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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