

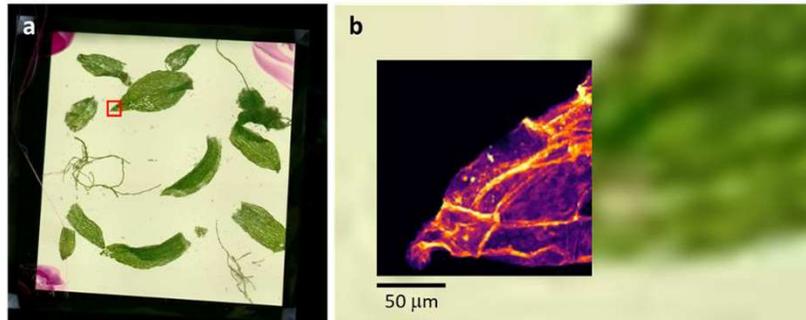


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Universität für Bodenkultur Wien

*Two fully funded PhD positions (3.5 years) in Plant Cell Biology
at the University of Vienna (UNIVIE) & University of Applied Life Sciences
(BOKU), Austria*



„Toxic or just a nuisance – how mosses cope with heavy metal stress“

Increasing concern about pollution in the environment demands tools to determine metal accumulation in plants. Mosses are widely used for metal biomonitoring on a phenomenological level, but there is no fundamental understanding of the metal dynamics and factors governing adsorption and toxicity. Most studies focus on single metals, despite clear indications that metal combination and complexation play a crucial role.

We will use a combination of state-of-the-art imaging techniques, such as light, fluorescence and electron microscopy, x-ray fluorescence imaging and x-ray absorption spectroscopy to track metal adsorption, speciation and dynamics in moss plantlets. These studies will be complemented by biochemical analysis and x-ray scattering and diffraction to determine any changes in ultrastructure and composition of the cell wall.

We will gain important insights into the co- and cross-playing effects of different metals and metal compounds, thus shedding light on the underlying coping mechanisms of plants when confronted with environmental contamination. The project is a joint effort by the groups of Ingeborg Lang at the Department of Functional and Evolutionary Ecology (UNIVIE) and Helga Lichtenegger at the Institute of Physics and Material Science (BOKU).

We are seeking two highly motivated PhD students for this joint project with a master's degree in biology, molecular biology materials science, physics, (bio-)chemistry, biotechnology, (bio-)engineering or related area and a strong interest to work in the field of biophysics, plant biochemistry and physiology. The positions are fully funded (30 h/week) for 3.5 years with a starting date in November 2022.

➔ For further details see next page.

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FWF



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Position at BOKU & how to apply

Extent of employment: 30 hours per week

Workplace: Vienna

Gross monthly salary and pay grade in terms of collective agreement for university staff (payable 14 times per year): B1, € 2.294,00

Responsibilities

- Research in the framework of the FWF project “Toxic or just a nuisance – how mosses cope with heavy metal stress”
- Studying metal accumulating mosses with focus on composition and ultrastructure investigations by x-ray fluorescence, x-ray scattering, x-ray absorption spectroscopy and electron microscopy
- Sample preparation, scientific experiments, data evaluation
- Working with complex scientific instruments, handling fragile samples, performing experiments at large scale European synchrotron radiation facilities
- Co-operation with our research partners in the project and outside
- Publication in scientific journals and presentations at conferences
- It is favored that the candidate is willing to perform a PhD study to obtain a doctorate degree

Required skills and qualifications

- Diploma degree in materials science, physics, (bio-)chemistry, biotechnology, (bio-)engineering or other equivalent university degree
- Interest in (bio-)physics related topics and methods
- Laboratory skills (skilled with hands for handling delicate samples and equipment, engineering skills)
- Mathematical skills
- Excellent skills in spoken and written English
- Highly dedicated to scientific work
- Team player
- Ability to work independently
- Willingness to travel abroad for research purposes is required (synchrotron experiments 2-4 times a year, a few days each)

Please send your job application incl.

- motivation letter
- CV
- Diploma for highest finished degree (expected date of graduation if not yet finished)
- Full transcript of grades for your university studies (with grade key in English)
- List of min. 2 reference persons with contact information (optional: 2 reference letters)

Applications please to: helga.lichtenegger@boku.ac.at

Application deadline: 14th of Nov 2022