

The Department of Biotechnology, Institute of Microbiology and Microbial Biotechnology is currently seeking a

## **Postgraduate Research Associate**

(Reference code: 229)

Extent of employment: 30 hours per week

Duration of employment: 1<sup>st</sup> of March 2024, limited to 28<sup>th</sup> of February 2027

Workplace: 1190 Vienna, Muthgasse 18

Gross monthly salary and pay grade in terms of collective agreement for university staff (payable 14 times per year): B1, € 2.458,00

### **Responsibilities**

- Perform PhD thesis is desired
- Join the PhD program BioToP (<https://biotop.boku.ac.at>) at BOKU, participate in the lectures, events, workshops and retreats
- Carry out research project “More than just letters – the impact of protein sequence variation on expressibility and host cell responses” (see <https://biotop.boku.ac.at/application.html> for a detailed project description)
- Mutants of model enzymes, antibody fragments and non-antibody binder scaffold will be expressed in yeast (soluble and/or yeast surface display YSD) and analysed regarding their secretion yields, stress responses and biophysical properties
- For one model protein it will be validated that expressibility is host species-independent by expressing selected protein sequence variants in the yeast *Komagataella phaffii* (*Pichia pastoris*) as well as in mammalian cells (human T-cells)
- Additional mutations will be introduced into the model proteins through random mutagenesis or targeted approaches
- High-throughput correlation of cell stress to protein sequence variations by expressing different sequence variants as surface displayed-protein libraries in yeast cells that contain fluorescent biosensors for folding- and secretion-related cellular responses and subsequent analysis by flow cytometry
- Selected variants will be analyzed in order to differentiate between mutations affecting folding/secretion and activity/binding properties, as well as the more in-depth cellular response to their expression

### **Required skills and qualifications**

- Diploma degree in Biotechnology, Molecular Biology, Biochemistry, Chemistry or closely related subject or other equivalent university degree
- Language skills: English, German

### **Desirable skills and qualifications**

- Practical experience in molecular biology or biochemistry methods
- Interest in microbial expression systems
- Interest in computational analysis
- Interest in working on an interdisciplinary topic
- Confidence in communicating and presenting scientific work to colleagues and to public
- An organized approach with strong attention to detail and good communication skills in German and/or English with ability to work well in teams
- Practical experience in one or more of the above mentioned protein characterization and analysis methods desired

Applications can be submitted until: 8<sup>th</sup> of December 2023

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.

People with disabilities and appropriate qualifications are specifically encouraged to apply.

Please send your job application incl.

- BioToP applications form (download from <https://biotop.boku.ac.at/application.html>)
- Copies of degree certificates
- Copy of your passport

to Personnel Management, University of Natural Resources and Life Sciences, Peter-Jordan-Straße 70, 1190 Vienna; E-Mail: [kerstin.buchmueller@boku.ac.at](mailto:kerstin.buchmueller@boku.ac.at). (**Reference code: 229**)

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)**