

In the Department of Biotechnology at BOKU, Vienna, the Wiltschi group offers a

PhD position (30 h/week, 36 months) in the synthetic biology of proteins

The project

'**Metabolic Incorporation of latent fast reacting thioesters (MISTER)**' is an **ANR-FWF joint project** between research groups at **research groups at CIIL (ciil.fr, Lille, France) and BOKU (Austria)**. The goal of this project is to develop a fully integrated approach, spanning from chemistry to synthetic biology, that will enable the **selective functionalization of proteins with activatable and extremely fast-reacting thioester derivatives**. The robustness of the approach will be challenged through the recombinant production of a protein monomer, which polymerizes to form a biopolymer endowed with muscle-like mechanical properties. The Austrian partner at BOKU is responsible for the synthetic biology part of the project.

Your tasks

- state-of-the-art molecular biology, synthetic biology techniques, e.g., Gibson cloning and Golden Gate cloning, protein engineering
- protein expression in *E. coli* using cutting-edge expression systems in bioreactor cultures
- expansion of the genetic code with non-canonical amino acids
- protein purification using state-of-the-art chromatography equipment
- bioorthogonal conjugation chemistry for protein functionalization
- oral & written presentation of results, active contribution to the publication process of the results in peer-reviewed journals

Your profile

The ideal candidate holds a **degree in molecular biology, biochemistry or biotechnology** and has very good theoretical and practical knowledge of **molecular biology methods, bioinformatics** (database search, sequence analysis, vector & library design), as well as **microbiological techniques and protein biochemistry**. **Interest in synthetic biology is essential**, hands-on experience, e.g., in an iGEM project or similar is a plus. We expect you to be **enthusiastic to reach ambitious goals**, to learn new techniques and **to present your results in oral and written form**. **Excellent skills in spoken and written English** and **the ability to work in an international team** are essential.

What you should know

- monthly gross payment of € 2.228,60 (PhD 30 h/week)
- duration of employment: 36 months
- The PhD position is funded by the ANR-FWF joint project MISTER.

How to apply

If you feel addressed, please submit your expressive letter of application including your earliest possible start date together with a detailed CV, your Master's certificate (or equivalent), and three letters of reference to birgit.wiltschi@boku.ac.at. Of course, we welcome applicants of all sexes (f/m/x), backgrounds and ages.

Project start: March 1st, 2022

Application deadline: January 30th, 2022