

PhD position in immobilization of enzymes and their application in flow-biocatalysis

The laboratory of biocatalysis at the University of Bern (Switzerland) has extensive experience in enzyme immobilization and flow-biocatalysis. The immobilization of enzymes on solid supports enables the stabilization, separation, and reuse of biological catalysts, facilitating their application in unconventional media and in cascade reactions. Within the MetRaZymes project, a Marie Skłodowska-Curie Actions Doctoral Network, it is proposed to develop suitable immobilization strategies for a particular class of enzymes which operate via radical mechanism, such as mono- and di-oxygenases. The combination of these enzymes in cascade reactions with other (immobilized) biocatalysts in continuous flow will create new sustainable pathways to high value molecules. To achieve this ambitious goal, the selected candidate will collaborate with leading groups throughout Europe both from academia and industry with secondment periods at the University of Milan (Italy) and Basel (Switzerland). The MSCA MetRaZyme doctoral network aims at training the next generation of researchers in the field of biocatalysis proceeding via radical mechanisms.

The Department of Chemistry Biochemistry and Pharmaceutical Sciences (DCBP) at University of Bern houses 20 leading research scientists within a unique interdisciplinary context. The Paradisi Research Lab (<https://paradisiresearch.com>) joined the DCBP in 2019, the laboratories are newly renovated and equipped with state-of-the art equipment. Multiple opportunities for collaborations exist within the Department and outside.

Your position

The selected candidate will develop interdisciplinary skills including:

- Recombinant protein expression and purification
- Chemistry of immobilization
- Continuous processing (flow-technologies)
- Analytical methods (NMR, HPLC, GC...)
- Product purification

Your profile

- Master's degree in chemistry or biochemistry
- Multidisciplinary skills (spectroscopy, biochemistry, informatics etc.)
- Good communication skills in English
- Ability to work independently in a multicultural and multidisciplinary environment
- Ability to prioritize work and organize it within a structured schedule
- Care for the detail
- Intellectual independence

Marie Skłodowska-Curie fellowship requirements

At the time of recruitment at the University of Bern, candidates must not have resided or carried out their main activity (studies or work) in Switzerland for more than 12 months in the 3 years immediately prior to their recruitment. The PhD student recruited at the University of Bern will complete his PhD thesis in the framework of the MSCA Doctoral Network project MetRaZymes and be fully integrated in

the project. However, since this position is financed by the Swiss government, he/she will not be considered an official MSCA PhD fellow by the EU.

We offer you

Full time 3-year contract. Competitive salary and mobility allowance (in line with Swiss PhD salaries). Extensive training opportunities. Stimulating, highly interdisciplinary research and high quality scientific environment.

Envisaged starting date: **April 1, 2023**.

Application / Contact

For more details about this position, please refer to <https://paradisiresearch.com> as well as <https://twitter.com/MetRaZymes>.

Applicants should prepare the following documents i) a motivation letter, ii) a CV, iii) full academic records, iv) the contact details of two reference persons.

Please submit your dossier by email (ref. MetRaZymes_Paradisi) as a single pdf file to francesca.paradisi@unibe.ch and raheleh.pardehkhorrani@tu-darmstadt.de before **23rd of December 2022**.

www.unibe.ch