

Teaching, research and practice – we connect

PhD student Applied Microbiology / Enzyme screening and biocatalysis

School of Life Sciences FHNW, Institute for Ecopreneurship

Your tasks: Biocatalysis is becoming increasingly relevant in industrial processes for various reasons. Its application can lead to processes that produce less waste and require less energy. Therefore, industrial processes that are partially based on enzymes can obviously become a game-changer in the creation of more sustainable and even more economic value chains. Within the framework of the Horizon Europe projects FuturEnzyme and Agriloop, we are looking for a PhD student working in the field of enzyme screening to develop lab-scale biocatalysis processes.

The PhD position is in collaboration with the University of Bologna. In the offered position, your main responsibilities will be:

- high-throughput screening of enzymes for future industrial application (natural, heterologously expressed, biomimetic)
- cloning of novel enzymes into suitable expression systems
- developing of conditions for the overexpression of natural or heterologous expression of prospective enzymes
- small and medium scale purification of natural and heterologously expressed enzymes for characterization
- activity screening by photometrical assays and monitoring product formation via chromatography, e.g., HPLC, GC
- characterization of candidate enzymes (substrate requirements)
- development of lab-scale processes relevant to the conversion of agricultural and industrial substrates

The position is initially limited to one year with a prospect of a three-year extension.

Your profile:

- MSc in microbiology, biotechnology or a related discipline
- sound knowledge in molecular methodologies, e.g., PCR, cloning, recombinant expression
- solid skills in biochemistry (enzyme handling, purification, activity assays and biochemical characterization)
- experience in the application of analytical methods, e.g., liquid chromatography, photometrical assays
- affection for the chemistry in biological processes
- open-minded team player who would like to contribute to bio-based solutions towards a sustainable industry

Your prospects: The FHNW School of Life Sciences offers state-of-the-art technical, laboratory and office facilities. Contributing to the school's highly motivating working environment – which is second to none – are its collaboration with a large number of companies and institutions in Switzerland and abroad, a widely varied program of scientific events, and daily contact with young students in research and teaching. The FHNW is also committed to equal opportunities and the compatibility of private and professional life.

Starting date at the earliest possible date. Workplace: Muttenz

Will you soon belong to our team? Please submit your application online via the respective announcement on www.fhnw.ch/offene-stellen to Cristina Kabas, HR Manager. For further information please contact Dr. Boris Kolvenbach, e-mail: boris.kolvenbach@fhnw.ch.

