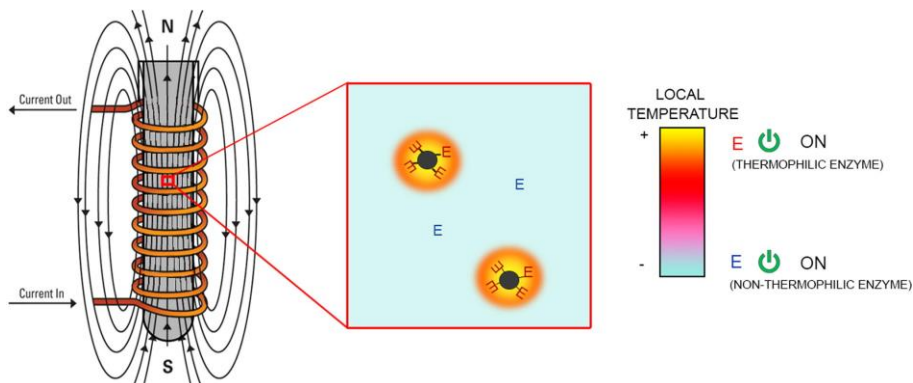


PhD student position
Institute of Biotechnology and Biochemical Engineering,
Graz University of Technology, Austria

Project description

A PhD position (36 months) is available within the **HOTZYMES FET OPEN** project **Redesigning Biocatalysis: Thermal-Tuning of One-Pot Multi-Enzymatic Cascades by Nano-actuation.**



(2019) *Journal of Colloid and Interface Science*, 537, pp. 615-628
<https://doi.org/10.1016/j.jcis.2018.11.058>

The overall objective of **HOTZYMES** is to create a toolbox of magnetic nanoparticles, engineered enzymes and porous microbeads with the aim at regulating cell-free multi-enzyme cascades by the application of alternating magnetic fields (AMFs), see Figure.

The specific aim of your project is the assembly, implementation and intensification of a multi-enzyme cascade comprised of thermophilic and mesophilic enzymes. You will study the assembly of enzymes into hybrid composites of magnetic nanoparticles and porous particles; characterize the performance of cascade reaction when the local temperature is fine-tuned by AMF. This will enable the operation of simultaneous enzymatic reactions with unpaired optimal temperatures. The project will be developed in close collaborative efforts with other project partners.

Requirements

Successful applicants have a Master degree in chemical or biochemical engineering, chemistry, biotechnology or a related field. Strong background and practical experience with enzyme technology and enzyme immobilization will be useful. The candidate should also be familiar with basic techniques of biocatalyst characterization and bioprocess design. FET OPEN projects involve radically new ideas for future breakthrough technologies. Accordingly, we look for a high-potential “FET OPEN” candidate.

Information and application. For more information about this position, please contact, Prof. Bernd Nidetzky (bernd.nidetzky@tugraz.at) or Dr. Juan M. Bolivar (j.m.bolivar@tugraz.at) Application deadline: 28.02.2019