



10 international PhD fellowships in the European Doctoral Network *BiocatCodeExpander* for a training on innovative biotechnological applications of non-canonical amino acids for biocatalysis, synthetic biology, organic chemistry and computational biology

PhD fellow # 6

WP2: NOVEL STRATEGIES FOR COUPLING & IMMOBILIZATION

STABILIZATION OF GROWTH FACTORS WITH NON-CANONICAL AMINO ACIDS

Organization

Enantis , Czech Republic

Enantis, a Czech biotechnology company, founded in 2006, focuses on the field of protein engineering. The principal goal of the company is to improve proteins to make them more suitable for medical use, greener industrial production of fine chemicals, as well as other multiple applications. The company's interdisciplinary

team participates in diverse projects addressing the challenges of today's society, such as, for example, more effective treatment of chronic wounds by using recombinant protein therapeutics. Enantis' approach to enzyme engineering is based on the combination of several computational and experimental approaches, including, but not limited to focused directed evolution, rational engineering of access tunnels and active sites in enzymes, reconstruction of ancestral enzymes with remarkable properties, and high-throughput mining of interesting enzyme sequences in genomic databases. As an innovative company, Enantis continuously strives to learn the newest techniques and trends in the field of protein engineering.

Doctoral Supervisor

Dr. Radka Chaloupková

Enrolment in Doctoral degree

Masaryk University (MU)



Secondments

At University of Manitoba (Winnipeg, Canada) with Prof. Nediljko Budisa
& The Center for Cooperative Research in Biomaterials (San Sebastian, Spain) with
Dr. Fernando López-Gallego

Objectives

- Rational design of selected growth factors as therapeutically- and biotechnologically-attractive proteins using incorporation of non-canonical amino acids (NCAA)
- Production and characterization of selected NCAA incorporating proteins
- Development of a method of selective chemical modification of selected proteins and enzymes using incorporated NCAA
- Development of a method for site-specific immobilization of growth factors using NCAA

Fields related to the project

- (1) Computational biology
- (2) Protein engineering
- (3) Biocatalysis

Qualifications

- Researchers can be of any nationality
- The researcher must not have carried out his/her main activity (work, studies, etc.) in the country of his/her host organization for more than 12 months in the 3 years immediately prior to recruitment.
- The researcher should not have obtained a PhD degree and should not have more than 4 year full-time or equivalent research experience since obtaining the degree which makes them eligible for starting the PhD degree
- Applicants must demonstrate excellent proficiency in English language to be eligible
- Researchers must demonstrate an excellent academic record. Hold a master's degree (or equivalent) relevant to the project (chemistry, biochemistry, biotechnology, molecular sciences or related disciplines)



We offer

- Full-time contract (36 months) with the recruiting institution, enrolled in a PhD programme
- Salary and benefits are in accordance with the MSCA regulations for PhD students
- *BiocatCodeExpander* promote gender equality, open science practices and cutting-edge training.
- PhD students will be trained in an international, inter-disciplinary academic and industrial environment through state-of-the-art research
- Two secondments per PhD position and exciting summer schools

Application

The application, in English, must be submitted electronically by email to the *BiocatCodeExpander* email address biocatcodeexpander.beta@vu.nl before the 22/01/2023 (only applications that are complete, in English and submitted before the deadline will be considered eligible)

The preferred starting date is between April-September 2023

Please, submit the following documents in one PDF document:

- A cover letter, stating your motivation to join the doctoral network, and mentioning the choice of project you would prefer to apply for (max. 3 projects)
- CV: a one- to two page synopsis of yourself, your scientific interests, experience, current research work and list of publications
- Two letters of recommendation from former advisors/professors

More information

Web site for additional job details: <http://www.biocatcodeexpander.com/>