



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 # 10

WP3: ENZYME ENGINEERING WITH NON-CANONICAL AMINO ACIDS

DESIGN OF NOVEL ARTIFICIAL ENZYMES UTILIZING NOVEL NON-CANONICAL AMINO ACIDS

Organization

Vrije Universiteit Amsterdam, The Netherlands

Vrije Universiteit Amsterdam (VUA) is an internationally renowned research university founded in 1880. The university offers over 175 English-taught programmes at Bachelor's, Master's and PhD level to more than 29,000 students from all over the world. Students and staff of 122 nationalities create a dynamic international academic community. Vrije Universiteit Amsterdam is one of the top public universities in the Netherlands and it is ranked #115 in the 2022 Times Higher Education World University Ranking. In the University Impact Ranking 2022, the VUA was ranked 37th in Industry&Innovation and 45th for gender equality of all universities worldwide. VUA offers a high-end research infrastructure with multiple interdisciplinary institutes of national and international renown. This approach yields a wealth of fundamental and applied research, attracts prominent academics from the Netherlands and abroad, and gives a boost to the city, region and society. The mission of the Chemistry & Pharmaceutical Sciences department is to excel in three focus areas of the Molecular and Life Sciences: Human Health, Sustainability, and the Fundamentals of Molecular Sciences.

Doctoral Supervisor

Dr. Ivana Drienovská

Enrolment in Doctoral degree

Vrije Universiteit Amsterdam (VUA)



Secondments

At Georgia Institute of Technology (Atlanta, United States of America) with Prof. Lynn Kamerlin
& Symeres (Groningen, The Netherlands) with Prof. Richard M. Kellogg

Objectives

- Chemical synthesis of novel non-canonical amino acids (NCAA)
- Expression and characterization of novel NCAA-containing enzymes
- Investigation of NCAA-containing enzymes in model Michael addition reaction and exploration of their activity in other challenging reactions
- Engineering of the best performing variants to improve enzymatic activity
- Evaluate substrate scope of best variants

Fields related to the project

- (1) Synthetic organic chemistry
- (2) Computational biology
- (3) Protein engineering
- (4) 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 (42 months) with the recruiting institution, enrolled in a PhD programme
- Salary and benefits are in accordance with the MSCA regulations for PhD students
- *BiocatCodeExpander* promotes 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/>