

DC 9 | Development and optimization of a cascade involving NN- and CCzymes

ORGANISATION

Faculty of Chemical Engineering and Technology is an integral part of the **University of Zagreb**, and is a 103 years old research and educational institution. With 63 teachers and with around 1200 students at undergraduate, graduate and postgraduate level it is focused on excellence in education, as well as in science. Our priority research topics involve environmental protection and management, development of advanced materials and sustainable technologies, alternative and renewable energy sources, development of new pharmaceuticals, industrial biotransformations, etc. We are among the most research oriented and the most productive faculties (https://www.fkit.unizg.hr/en/science/international_projects) at University of Zagreb. The position we offer is placed at the Department of Reaction Engineering and Catalysis in the Group of Biocatalysis whose work is oriented on potentially bridging the gap between the lab and industry. This is done by investigating the kinetics of enzyme action and devising models that enable process prediction and optimization, and are complemented by investigating enzyme operational stability.

ROLES AND RESPONSIBILITIES

The main part of your PhD research (3 years in total) will be carried out at **the University of Zagreb, Faculty of Chemical Engineering and Technology** (UZAG, Croatia) under the supervision of **Prof. Dr. Zvezdana Findrik Blažević** at the Department of Reaction Engineering and Catalysis. Within these three years, two academic research stays (in total 6 months) will take place at the **University of Groningen** (RUG, the Netherlands) under the supervision of **Prof. Dr. Sandy Schmidt**, and industrial secondment at **Enzymicals** (ENZ, Germany) under the supervision of **Dr. Rainer Wardenga**. The Horizon Europe Marie Skłodowska-Curie Actions (MSCA) – Doctoral Network (DN) project starts in January 2023. The date of recruitment and start of the PhD project is planned for May 2023 and latest in December 2023. Your **PhD degree** will be awarded based on successful completion of the research work from **University of Zagreb** (UZAG, Croatia). You will also be required to participate in the **training events and workshops** organized by the DN program. As a MSCA fellow, you are also expected to **contribute your time in the dissemination of your PhD project's result** through public engagement and other scientific platforms.

The PhD research will focus on:

- (i) Interdisciplinary project on biocatalysis, chemistry and chemical engineering
- (ii) Protein expression and purification, preparation of enzymes (1st, academic secondment),
- (iii) Identification of enzyme kinetics in a cascade reaction
- (iv) Mathematical model based reaction optimization
- (v) Training in industrial environment and scale up methodology (2nd, industrial secondment),

Primary supervisor: Prof. Dr. Zvezdana Findrik Blažević (zfindrik@fkit.hr, <https://orcid.org/0000-0002-5312-8951>)

Recruiting institution: University of Zagreb, Faculty of Chemical Engineering and Technology (Croatia)

QUALIFICATIONS

- An outstanding M.Sc. degree in Chemical Engineering, Chemistry, Biotechnology or related field
- Eligible as a graduate student at University of Zagreb (Croatia),
- Research experience in chemistry/chemical engineering, biocatalysis, analytical methods (HPLC, GC, MS, NMR etc.), enzyme purification and assays
- Ability to work in an international team,
- Inter- and multidisciplinary thinking,
- High motivation,
- An integrative and cooperative personality with excellent communication and social skills,
- Fluency in English – written and oral.

CONDITIONS OF EMPLOYMENT

We offer you:

- a salary of € 3,167 gross per month
- a participation in a pension scheme for employees
- a contract is signed for a three-year period and the candidate will enroll in the doctoral school Chemical Engineering and Applied Chemistry

The 1.0 FTE appointment is temporary for a specified period of three years. The preferred starting date is between May 1st and July 1st 2023.

APPLICATION PROCEDURE

To apply for the position, kindly provide:

- (i) A letter of motivation including a statement of your research interests, relevant skills and experience and an explanation for the choice of position(s);
- (ii) A CV including publication list (if applicable);
- (iii) Names and contact details of three referees willing to write confidential letters of recommendation;
- (iv) Copies of relevant diplomas including explanation of international grades.

Please upload applications only according to instructions at www.biodeccodinng.eu.

Address applications to: Prof. Dr. Zvezdana Findrik Blažević

The Faculty of Chemical Engineering and Technology at the University of Zagreb strives to be an institution in which students and staff are respected and feel at home, regardless of differences in background, experiences, perspectives, and identities. We believe that working on our core values of inclusion and equality are a joint responsibility and we are constructively working on creating a socially safe environment. Diversity among students and staff members enriches academic debate and contributes to the quality of our teaching and research. We therefore invite applicants from underrepresented groups in particular to apply. Our selection procedure follows the European Commission's European Code of Conduct for recruitment of researchers, <https://euraxess.ec.europa.eu/jobs/charter/code>.

Unsolicited marketing is not appreciated.

APPLICATION DEADLINE

You may apply until 10th of January 11:59 pm / before 11th of January 2023 Dutch local time (CET) for this position by means of the online application form (click on "Apply" below on the advertisement on the BiodeCCodiNNG website).

MARIE SKŁODOWSKA-CURIE ACTIONS
Doctoral Networks (DN)



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