



ESR 11 | Optimization of immobilization procedures for biocatalyst production

ROLES AND RESPONSIBILITIES

The first 18 months of your PhD research will be carried out at the University of Trieste (Italy) at the Department of Chemical and Pharmaceutical Sciences under the supervision of Professor Lucia Gardossi. The next 18 months will be performed at the company ViaZym B.V. in Delft (The Netherlands) under the supervision of Dr. Luuk van Langen. The H2020 Marie Skłodowska-Curie Actions (MSCA) – Innovative Training Network (ITN) project starts in January 2020 (M1). PhD project is funded for three years and the date of recruitment, start of the PhD project, is planned for July 2020 (M7) latest on December 2020 (M12).

Your PhD degree will be awarded based on successful completion of the research work. You will also be required to participate in the training events and workshops organized by the ITN-European Industrial Doctorates (EID) program. As a Marie Skłodowska-Curie Actions (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) Development of renewable enzyme carriers from inexpensive and readily available natural materials via chemical, enzymatic and physical modification of lignocellulosic matrices,
- (ii) Acquisition of information of protein structure and conformational behavior by means of molecular dynamic simulations,
- (iii) Development of new methodologies to immobilize industrially relevant enzymes (lipases, laccases and transaminases) using innovative bio-based cross-linking agents,
- (iv) Analysis of the efficiency of the sustainable-immobilized biocatalysts in cascade reactions for oxidation/ amination of HMF to yield monomers to be used in polycondensation reactions, under industrially relevant conditions,
- (v) Life cycle inventory, technical and economic assessment of the synthesis and the use of newly developed biobased carriers in multi-step conversions.

Recruiting Institution: ViaZym B.V. (The Netherlands)

Address applications to: Dr. Luuk van Langen (vanlangen@viazym.com)

REQUIREMENTS

- High motivation and an outstanding M.Sc. degree,
- Affinity and/ or experience in industrial biotechnology and/ or organic chemistry,
- Eligible as a graduate student at the University of Trieste, Italy,
- At the time of recruitment, the applicant must not have resided (or carried out his/her main activity e.g. work, studies, etc.) in The Netherlands, for more than 12 months in the last three years immediately prior to the reference recruitment date,
- An integrative and cooperative personality with excellent communication and social skills
- Fluency in English – written and oral.

APPLICATION PROCEDURE

To apply for the position, kindly provide:

- (i) A letter of motivation including a one-page statement of your research interests, relevant skills and experience;
- (ii) A CV including publication list; and
- (iii) Names and contact details of three referees willing to write confidential letters of recommendation.

Applications of women and disabled persons are particularly welcome.

All materials should be attached as a single PDF file (max. size 5MB). The PDF file name should include ESR11, your last name and first name (using “**ESR11_surname_firstname.pdf**”).

DEADLINE

The closing date for all applications is 01st of March 2020 or as soon as suitable candidates have been identified.



Innovative Training Network – European Industrial Doctorates

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