



## ESR 4 | Advanced morphologic and spectroscopic characterization of immobilized enzymes and surface analysis

### ROLES AND RESPONSIBILITIES

The PhD activities will start in Trieste (Italy) at the Department of Chemical and Pharmaceutical Sciences of the University of Trieste (supervision of Prof. Lucia Gardossi and Dr. Sara Fortuna) and at ELETTRA Synchrotron (supervision of Dr. Lisa Vaccari). Overall, 18 months of the PhD program will be spent at EnginZyme A.B. in Stockholm (Sweden), within an industrial context, under the supervision of Dr. Alexey Volkov and Dr. Vincent Murphy. 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 and application of methodologies, based on Synchrotron radiation for high resolution advanced morphologic and spectroscopic characterization of enzyme immobilization carriers and immobilized biocatalysts, with the aim of optimizing their compartmentalization,
- (ii) Computational analysis of structural and dynamic properties of enzymes under different conditions,
- (iii) Correlation of morphologic properties and physical-chemical data with biocatalyst efficiency for the rational development of protocols,
- (iv) Experimental validation of biocatalysts in cascade synthesis of renewable bio-active pre-polymers.

Recruiting Institution: Università degli Studi di Trieste (UNITS, Italy)

Address applications to: Prof. Lucia Gardossi ([gardossi@units.it](mailto:gardossi@units.it))

### 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 Italy, 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
- (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 ESR4, your last name and first name (using "ESR4\_surname\_firstname.pdf").

### DEADLINE

The closing date for all applications is 15<sup>th</sup> of May 2020 or as soon as suitable candidates have been identified.



Innovative Training Network – European Industrial Doctorates

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