



## ESR 13 | Medium and reaction engineering of chemo-enzymatic synthesis of biopolymer precursors

### ROLES AND RESPONSIBILITIES

The half part of your PhD research (18 months) will be carried out at Aarhus University (Denmark) under the supervision of Assoc. Prof. Dr. Selin Kara in the group of Biocatalysis and Bioprocessing at the Department of Engineering. The second half of the PhD work (18 months) will be at the company SpinChem (Sweden) under the supervision of Dr. Emil Byström and Dr. Christopher Öberg. 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) Optimization of the reaction conditions for chemoenzymatic synthesis of biopolymer precursors,
- (ii) Immobilization of enzymes with diverse methods and on/in diverse materials,
- (iii) Development of the chemoenzymatic cascade in low-water media,
- (iv) Evaluation of the chemoenzymatic synthesis in terms of productivity and sustainability,
- (v) Up-scaling of the model reaction system in low-water media at the industrial partner.

Recruiting Institution: Aarhus University (AU)

Address applications to: Assoc. Prof. Dr. Selin Kara ([selin.kara@eng.au.dk](mailto:selin.kara@eng.au.dk))

### REQUIREMENTS

- An outstanding M.Sc. degree in Biotechnology or Bioprocess Engineering,
- Eligible as a graduate student at Aarhus University, Denmark,
- At the time of recruitment, the applicant must not have resided (or carried out his/her main activity e.g. work, studies, etc.) in Denmark, for more than 12 months in the last three years immediately prior to the reference recruitment date,
- Research experience in chemo-biocatalysis, enzyme immobilization, reaction engineering and up-scaling,
- Experience in analytical methods (HPLC, GC, MS, etc.),
- Ability to work in an international team,
- Inter- and multidisciplinary thinking,
- Creativity, high motivation and conceptual thinking,
- 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 ESR13, your last name and first name (using **"ESR13\_surname\_firstname.pdf"**).

### DEADLINE

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



Innovative Training Network – European Industrial Doctorates

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 860414.