

ESR 9 Project Information Sheet

Project Title	<i>Nanomotor-induced motion in synthetic cytoskeletons</i>
Reference number	BIOMOLMACS_ESR_9
Host Institution/Company	SyMO-Chem BV Eindhoven University of Technology (TUE)
Supervisor(s)	Dr. Henk Janssen Prof. Jan van Hest
Research Group	SyMO-Chem Bio-organic chemistry group (TUE)
Department/School	Department of Chemical Engineering and Chemistry (4 th year)
Duration	36-months full-time employment contract provided at SyMO-Chem, with envisioned 4 th year enrolment for PhD at the TUE.
Funding information	Funding agency: H2020-MSCA-ITN-2019 (Proposal no:859416)
Early Stage Researcher Salary and Allowances	Living allowance: approximately €40,000/year + mobility allowance of €7,200/year + family allowance where applicable (all values before tax and social security payments) This calculation is to give you an idea about the level of funding. The actual salaries can be found on the official job application link below.
Pre-application closing date	28 th of February 2020
Official application closing date	15 th of March 2020
Start date	1 st of April 2020 or as soon as possible thereafter.
Official job application link*	To be confirmed.

**The pre-application form should be submitted to biomolmacs@gmail.com by latest 28th of February 2020. Following the initial eligibility assessment, the applicants will be requested to submit their applications using the links provided specific to each institution/company.*

Post Summary

Brief description of the project

ESR 9 will focus on the development of the creation of artificial cells capable of directed deformation. The enzyme catalase, either free or loaded in bowl-shaped polymersomes - stomatocytes - will be conjugated to or combined with self-assembled fibrous structures that can form a hydrogel within a giant unilamellar vesicle. Upon addition of hydrogen peroxide as chemical fuel, motion of the enzymes will be transferred to the cytoskeleton. This transfer of kinetic energy will lead to deformation, and motion. Membrane proteins involved in bacterial fission will be incorporated to mimic cell division.

Further information on the research interests of Dr Henk Janssen can be found on their website.

<http://www.symo-chem.nl>

Standard duties and responsibilities of the ESR

For the 36 months of employment contract the ESR will be required to work exclusively on the MSCA ITN programme (BIOMOLMACS). In all cases, all duties and responsibilities will be clearly outlined in the researchers Personal Career Development Plan, as determined in the early stages of the project between the ESR and their supervisory committee.

Person Specification

Qualifications

Essential

Applicants should hold or expect to attain, as a minimum a 2:1 Honours degree, or equivalent, in Chemistry, Materials Science, Analytical Chemistry, Organic Chemistry, Biomedical Science, Polymer Chemistry, Pharmaceuticals or related area.

Knowledge and Experience

Essential

- Research project carried out in at least one of the above disciplines.
- A demonstrated knowledge of at least three of the following: pharmaceutical formulation development, drug delivery, cell culture/molecular biology, nanotechnology, polymerisation techniques, organic chemistry.

Desirable

Work placement undertaken in an industry related to the above disciplines

Skills and Competencies

Essential

- Applicants whose first language is not English must submit evidence of competency in English, please see Eindhoven University of Technology's English Language Requirements for details.
- Evidence of interest, aptitude and research experience in the above disciplines.

Further information

For any informal queries, please contact Dr Henk Janssen by email at H.Janssen@tue.nl or at h.janssen@symo-chem.nl. For queries relating to the application and admission process please contact Dr Gokhan Yilmaz at biomolmacs@gmail.com

Website: www.biomolmacs.com
