

ESR 7 Project Information Sheet

Project Title	<i>Nanomotor-based quorum behavior with directional and rotational control</i>
Reference number	BIOMOLMACS_ESR_7
Host Institution/Company	Eindhoven University of Technology
Supervisor(s)	Prof. Jan van Hest
Research Group	Bio-organic chemistry group
Department/School	Department of Chemical Engineering and Chemistry
Duration	36-months full-time employment contract provided and ESR enrolled on 4- year structured PhD. The fourth year will be provided by Eindhoven University of Technology
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*	https://www.academictransfer.nl https://jobs.tue.nl/nl/vacatures.html

**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:

Nanomotors, composed of self-assembled bowl-shaped polymer vesicles which are loaded with enzymes are able to show directional motion. They will be decorated on the surface with molecular motors. These molecular motors show clockwise or anti-clockwise motion when irradiated with the wavelength of light. The two types of motion will be used to induce a concerted directional and rotational movement via the addition of fuel, and irradiation with appropriate light. The final aim is to achieve this concerted effect in a population of nanomotors.

Further information on the research interests of Prof. Jan van Hest can be found on their website.

<https://www.tue.nl/en/research/research-groups/bio-organic-chemistry/>

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.

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 Prof. Jan van Hest by email at J.C.M.v.Hest@tue.nl
More information about job conditions and application at TU/e can be obtained with mr. Leo van Houten (email: l.v.houten@tue.nl)

For queries relating to the application and admission process please contact

Dr Gokhan yilmaz at biomolmacs@gmail.com

Website: www.biomolmacs.com
