

## ESR 1 Project Information Sheet

<b>Project Title</b>	Molecular motor based artificial muscles
<b>Reference number</b>	BIOMOLMACS_ESR_1
<b>Host Institution/Company</b>	University of Groningen
<b>Supervisor(s)</b>	Prof. Ben Feringa
<b>Research Group</b>	Feringa Research Group
<b>Department/School</b>	Stratingh Institute for Chemistry
<b>Duration</b>	48-months full-time employment contract in accordance with the Collective Labour Agreement for Dutch Universities, of which 36 months within the ITN framework.
<b>Funding information</b>	Funding agency: H2020-MSCA-ITN-2019 (Proposal no:859416)
<b>Early Stage Researcher Salary and Allowances</b>	<p>Living allowance: <b>approximately</b> €40,000/year + mobility allowance of €7,200/year + family allowance where applicable  <b>(all values before tax and social security payments)</b></p> <p>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.</p>
<b>Pre-application closing date</b>	28 <sup>th</sup> of February 2020
<b>Official application closing date</b>	15 <sup>th</sup> of March 2020
<b>Start date</b>	1 <sup>st</sup> of April 2020 or as soon as possible thereafter.
<b>Official job application link*</b>	<a href="https://www.academictransfer.com/en/">https://www.academictransfer.com/en/</a>  <a href="https://www.rug.nl/education/phd-programmes/prospective/current-phd-vacancies?lang=en">https://www.rug.nl/education/phd-programmes/prospective/current-phd-vacancies?lang=en</a>

*\*The pre-application form should be submitted to [biomolmacs@gmail.com](mailto:biomolmacs@gmail.com) by latest 28<sup>th</sup> 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:**

Feringa group have recently developed supramolecular fibers by self-assembly of molecular rotary motors in water and discovered that alignment allows cooperativity of motor function to exert macroscopic motion. In this muscle type structure, comprising 95% water, motion is amplified over multiple length scales from the nano- to macro-scale. The soft actuators can bend and perform lifting functions upon exposure to light and provide a unique starting point for designing muscles with various responsiveness and integrating artificial muscle systems with and within living cells. ESR will be studying such artificial muscle systems using molecular motors.

Further information on the research interests of Prof. Ben Feringa can be found on their website.

<http://www.benferinga.com>

### **Standard duties and responsibilities of the ESR**

For the first 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 University of Groningen's English Language Requirements for details.
- Evidence of interest, aptitude and research experience in the above disciplines.

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### **Further information**

For any informal queries, please contact Dr Anouk Lubbe by email at [a.s.lubbe@rug.nl](mailto:a.s.lubbe@rug.nl)

For queries relating to the application and admission process please contact

Dr Gokhan Yilmaz at [biomolmacs@gmail.com](mailto:biomolmacs@gmail.com)

Website: [www.biomolmacs.com](http://www.biomolmacs.com)

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