



MARIE SKŁODOWSKA-CURIE EUROPEAN TRAINING NETWORK "EUROoC" (H2020-MSCA-ITN-2018) FOR ADVANCING ORGAN-ON-A-CHIP TECHNOLOGY IN EUROPE

# JOB POSTING

## PhD position

### Subproject title:

Optical sensor concepts for monitoring metabolic activity in Organ-on-Chips

### Recruiting organisation:

Graz University of Technology (TU Graz),  
Institute of Analytical Chemistry,  
Workgroup of Assoc. Prof. Torsten Mayr

### Starting date:

01.06.2019

### Job description:

The advertised subproject will be carried out by a PhD student ("Early-stage Researcher") at TU Graz over a period of 36 months.

She/he will investigate new optical sensor concepts for lactate, potassium and reactive oxygen species and transfer to Organ-on-Chips devices. The new sensors will complement sensors for oxygen, pH and glucose and enable the analysis of the metabolic activity of biological models on the exposure of drugs and nanomaterials. The main working tasks of the advertised subproject are:

- 1) To investigate new microfluidic biosensor concepts based on enzymatic conversion of the target analytes including preparation of sensor components (dyes, polymers and particles)

- 2) to integrate sensors and immobilize enzymes into organ on chip devices
- 3) to establish multi-parametric monitoring and control of cell viability of micro-biological models

### Secondments are planned as follows:

- UPM - The Biofore Company, Finland, for 2 months
- Fraunhofer – IGB, Germany for 2 months
- University Hospital Jena, Germany for 2 months

This subproject is fully funded by the Marie Skłodowska-Curie European Training Network „EUROoC“ (H2020-MSCA-ITN-2018). Please visit the [EC MSCA webpage](#) for more information. The recruited researcher will have the opportunity to work as part of an international, interdisciplinary team of 15 PhD students, based at universities and industrial firms throughout Europe. She/he will gain a unique skill-set comprising microfabrication, biomaterial science and stem cell differentiation, as well as an overview of different organ-on-a-chip technologies and their implementation at industrial level. She/he is expected to finish the project with a PhD thesis and to disseminate the results through patents (if applicable), publications in peer-reviewed journals and presentations at international conferences. The annual salary is € ~39.000 p.a. (fully taxed) plus a mobility allowance of € 600 per month. The researcher will be employed at the TU Graz temporally for 12 months. After a positive evaluation the contract can be extended for another 24 months. Graz University of Technology is an equal opportunity employer.



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## Requirements:

### **Qualifications / experience:**

- Early-stage researcher: a researcher without a PhD, who is in the first four years (full-time equivalent research experience) of her/his research career, measured from the date when she/he obtained the degree, which would formally entitle her/him to embark on a doctorate.
- Graduation in the field of biochemical engineering, biomedical engineering, analytical chemistry or similar – M.Sc. preferred.
- Fluency in written and spoken English is a must
- Well-structured and autonomous working style, good organizational and communication skills
- Basic knowledge of microfabrication and cell culture
- Experience in optical chemical sensor technology and/or fluorescence spectroscopy is an advantage
- Experience in sensor development is an advantage
- Basic knowledge of data analysis and Microsoft Office.
- Interest in interdisciplinary work (biology, polymers, fluorescence, dyes, analytical chemistry)

### **Mobility:**

The applicant must not have resided or carried out her/his main activity (work, studies etc.) in Austria for more than 12 months in the past three years.

### **Background information:**

Marie Skłodowska-Curie European Training Networks (ETNs) are joint research and training projects funded by the European Union. Funding is provided for PhD students from both inside and

outside Europe to carry out individual project work in a European country other than their own.

The European training network "EUROoC" is made up of 11 core and 10 associate partners from academia, industry and regulatory agencies, coordinated by Fraunhofer IGB.

Organ-on-a-Chip (OoC) technology is advancing at breathtaking pace due to its potential impact in drug development and personalised treatments of disease. New researchers entering this field must be equipped with a multidisciplinary background ranging from biology to microfluidic chip engineering.

EUROoC will qualify the next generation of interdisciplinary scientists for all aspects of OoC development and utilisation, including understanding of commercialisation pathways and regulatory aspects.

<https://eurooc.eu/eurooc-network/#esr>

### **How to apply:**

Please send your CV, a half-page summary of master/diploma thesis, a letter of motivation (up to 2 pages) which states your research experience and interests, and names and contact information of at least two academic referees who could write a letter of recommendation by e-mail to the following address, quoting the reference „EUROoC-IGB-ESR 15“: [EUROoC@igb.fraunhofer.de](mailto:EUROoC@igb.fraunhofer.de)

For questions, please contact:  
Assoc. Prof. Dr. Torsten MAYR;  
[torsten.mayr@tugraz.at](mailto:torsten.mayr@tugraz.at)

**Application deadline:** 31<sup>st</sup> January 2019

Interviews are planned for February/ March 2019.