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Research Success Story

ERC GRANT FOR A TECHNOLOGY TOOLBOX FOR CRYSTAL ENGINEERING

With a Starting Grant from the European Research Council (ERC), materials scientist Dr Josep Puigmartí-Luis from Empa, Swiss Federal Laboratories for Materials Science and Technology has the opportunity to push his research on crystallisation processes forward. His project “ μ -CrysFact” (Microfluidic Crystal Factories: a breakthrough approach for crystal engineering) aims to develop a toolbox based on micro-fluidic technologies.

Josep Puigmartí-Luis had fond memories of the time he worked as a fellow at ETH Zurich and was therefore pleased to get the chance to move back and start working as a group leader in the Materials Meet Life Department at Empa in St. Gallen in February 2014. The move worked out well as it allowed him to continue his research and thinking about new ideas and possibilities. To take the next step in his career, he applied for an ERC Starting Grant. “I feel honoured and privileged to have been awarded this grant” says Puigmartí-Luis, “because it offers me not only the possibility to establish my own research group but also to push my research forward faster by hiring two postdocs”.

New spectrometer

The aim of his research is to develop a toolbox based on micro-fluidic technologies

in order to get a better understanding of the aggregation, nucleation and self-assembly processes of crystalline matter. “The idea is to develop tools to create crystal structures in a controlled environment so we can monitor the crystallisation process and use this knowledge to develop new chemicals and crystals with advanced functionalities”.

“[The ERC Starting Grant] offers me not only the possibility to establish a research group but also to push my research forward faster”

Highly advanced spectrometers are required to carry out this type of research. Puigmartí-Luis was very pleased that the additional funding he requested to buy one of these spectrometers

was included in the grant. “Up until now, I had to ask former colleagues to make measurements for me on top of their own work but soon we will be able to carry them out ourselves”.

Helpful and effective support

“I very much appreciate the work that Euresearch does in supporting and advising researchers”, says Puigmartí-Luis. When a colleague told him about Euresearch, he signed up for the monthly newsletter, attended one of their events in Bern and met with the ERC National Contact Point, Katja Wirth, to discuss his ideas for a Starting Grant. “During my ERC application process, Euresearch was always very helpful and effective in answering my questions. I fully recommend others to make use of the information and advice Euresearch offers”.

About μ -CrysFact



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Dr Josep Puigmartí-Luis
Empa, Swiss Federal Laboratories for Materials Science and Technology

CONTENT SUMMARY

The aim of the μ -CrysFact project is to develop microfluidic toolbox technologies to monitor crystallisation processes in a controlled environment and to contribute to the development of new applications in many different disciplines and industries. The new technologies will be used to localise, integrate and chemically treat crystals, with the aim of honing their functionality and potentially leading to the discovery of new materials with advanced functions and unique properties.

Euresearch is the Swiss network mandated by the State Secretariat for Education, Research and Innovation to provide targeted information, hands-on advice and transnational partnering related to European research and innovation programmes.

FACTS AND FIGURES

Project Name
 μ -CrysFact – Microfluidic Crystal Factories: a breakthrough approach for crystal engineering

Research Area
Materials Engineering

Organisation
Empa, Swiss Federal Laboratories for Materials Science and Technology

Start Date – End Date
01.07.2016 – 30.06.2021

Duration
5 years

Project Cost
€1.81 million

Project Funding
€1.81 million

Programme
Horizon 2020 Excellent Science: ERC Starting Grant

More Information
www.empa.ch/web/empa/materials-meet-life

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