Call for Proposals

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Workshop for Early Career Investigators in Engineered Living Materials

The Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) announces the first "Workshop for Early Career Investigators in Engineered Living Materials (ELM)". Early career scientists interested in this emerging and rapidly growing field will be interdisciplinary trained and prepared for the submission of their own project proposal at the DFG. The participants will have the opportunity to further develop their own innovative ideas and apply for one-year funding to kick-off their career in ELM.

Background

Nature is a major source of inspiration for materials engineering. Lightweight construction, photonic structures or intelligent actuation are just a few examples reflecting a variety of design principles and functions evolved in natural materials that have led to materials and technological development. In spite of notable achievements, reconstructing natural designs with synthetic materials remains cumbrous. In the last few years, the idea of ELM has emerged as a paradigm change in bioinspired materials engineering. ELM aim to integrate living organisms as active components of man-made materials, with the purpose of augmenting non-living matter with life-like capabilities. In ELM, tools from biotechnology and synthetic biology are combined with materials chemistry and engineering, and provide new capabilities for bottom-up generation of (multi)materials in situ, and for programming multifunctionality by integrating sensing and actuating capabilities in single components.

Objectives and content

The workshop for early career researchers aims at initiating an ELM community in Germany, by accelerating interdisciplinary training and exchange among researchers in materials and life sciences. The early career scientists will acquire complementary skills in ELM-specific research principles and techniques, they will enjoy seminar talks from invited international experts, and they will receive feedback from experts to their own research ideas as well as career plans in the highly innovative ELM field. With these skills, feedback, experience, and networking the participants will be optimally prepared to develop and implement innovative research in ELM.

The workshop will be organised as follows: After a "Virtual Information and Networking Event" (18.02.2022), participants are invited to apply for the workshop by submitting a concise outline of their research idea in ELM and their CV (deadline 03.04.2022). Up to 20 participants will be invited to a one-week in-person workshop (17.–23.06.2022). Two weeks after the in-person workshop, we will offer the virtual workshop "Your Project and Profile" (two half days).

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The in-person workshop comprises:

- The Methods Toolbox: We will organise two specific courses combining theoretical and practical elements: "Materials Design and Characterisation" (for participants with a primary background in life sciences) as well as "Programming Cell Fate and Function" (for participants with a primary background in materials sciences). In addition, a practice-oriented training module of how to develop and structure a successful research proposal adapted to the specific career phase will be offered.
- Meet the Experts: The workshop will include access to the "Third International Conference on Engineered Living Materials" that will take place directly after the workshop in Saarbrücken. Beyond learning about latest ELM research at the conference, dedicated sessions will be organised in which workshop participants will have the opportunity to talk to international experts in small groups in order to build a scientific network and foster opportunities for collaboration.

During the virtual workshop "Your Project and Profile" the participants will have the opportunity to present their project ideas to their peers as well as to experts in the ELM field. They will receive feedback to both, their project as well as to their profile as researcher in order to further develop and improve their own project proposal to be submitted to DFG in order to start their own, independent ELM research career. The experts participating in this virtual workshop will also be available for individual feedback and discussions in the subsequent grant writing phase.

Target Group

This programme targets doctoral researchers in their last year of PhD thesis and postdocs having obtained their PhD within the past four years with a background in material science, synthetic biology, biotechnology, biophysics, bioinformatics or complementary fields. In this stage, they have acquired research expertise in one particular field, and are about to initiate or just initiated a complementary training as next career step. The workshop for early career investigators will provide them an opportunity to initiate their own research programme in the emerging field of ELM, for which a rapidly increasing interest for qualified individuals in the academic and industrial job market is expected as consequence of the "biological transformation" of technology progresses. Given the interdisciplinary nature of ELM, we expect a diverse background of participants including materials sciences, synthetic biology, biophysics, or biotechnology.

Application procedure

Interested researchers are invited to attend the "Virtual Information and Networking Event" (18.02.2022) in order to obtain an introduction to the field of ELM, further information on the application procedure as well as the opportunity to network and initiate collaborations. Please sign up to the virtual event via email (see below, Further Information).

Interested candidates are invited to submit the application as a single pdf file including the following documents via email (see below, Further Information)

- Cover Letter (1 page)
- Outline of the research idea in ELM: state-of-the-art, project aims, materials design, work plan, references (2 pages, Arial 10, single line spacing)
- Curriculum vitae (max. 2 pages including up to five most important publications
- Copy of the doctoral certificate or planned date for the PhD defence
- Statement of the participant's PI that lab space will be provided in the case of funding

The applications will be assessed by the organisers assisted by external referees. Up to 20 participants will be selected.

The DFG grants typically comprise a full-time position for the applicant as well as funds for lab consumables and student assistants. The DFG grants applied for within the frame of this workshop will last for one year and are intended to initiate the research work and obtain preliminary data as a strong basis for follow-up funding frameworks such as DFG Eigene Stelle or Emmy Noether, or equivalent programmes at other funding institutions.

Timeline

Virtual Information and Networking Event: 18.02.2022 via Zoom
Deadline for submission of your application: 03.04.2022
In-person workshop and attendance to Third International Conference on Engineered Living Materials: 17.–23.06.2022
Virtual Workshop "Your Project and Profile": two half days will be arranged within the 18 July and 29 July 2022
Deadline for submission of the DFG Proposal: 04.10.2022
Start of funding: 2023
During the project implementation phase a networking event will be organised in order to connect and strengthen the emerging ELM community in Germany.

Further Information

Further Information on the workshop can soon be found at:
www.engineeredlivingmaterials.de

For a guide to applying for individual research grants, see DFG form 50.01:
www.dfg.de/formulare/50_01

Virtual Information and Networking Event (04.02.2022):
https://us06web.zoom.us/j/82188644247?pwd=RnBsSUJ5Qk4rSzhTSnQvbzJCUE9xQT09
(access only after registration at Petra.Lueck@leibniz-inm.de)

Submission of application via email to:
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For scientific questions, contact the coordinators of the workshop:
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