

The EVA project Newsletter Advancing Research

Issue 2, October 2024

Magnetoelectric 3D printing technology

The revolution of actuatable composites

The EU-funded EVA project was initiated in October 2022 and is developing a new technology for **programming the mechanical, magnetic and electrical properties of 3D printed structures**.



Empowering Innovators

First Innovators Workshop: Funding Opportunities in Europe



1st Innovators Workshop
Thursday 25th January

"Funding Opportunities in Europe"



On January 25, 2024, the EVA project launched its Innovators Workshop series aimed at empowering early-career researchers and SME participants within the consortium. The inaugural workshop featured Prof. Andreas Flouris from the University of Thessaly, who provided insights into European funding opportunities and strategies for developing successful research proposals. This initiative reflects EVA's commitment to nurturing the next generation of innovators.

Advancing Micro-Engineered Nozzles

The INK Team convened on February 12, 2024, to discuss, focusing on micro-engineered nozzles for printing multi-material magnetic 3D structures. The team, lead by our young Innoovators reviewed current advancements and outlined further actions to enhance the project's objectives. These regular meetings are crucial for aligning efforts, driving innovation within the consortium and empowering early career researchers.



EIC Tech2Market Training Program February 15, 2024



Members of the EVA consortium participated in the EIC Tech2Market program, which supports researchers transitioning from laboratory discoveries to market applications. The session covered topics such as accelerating ideas, startup creation, investor engagement, and pitching techniques

Educational and Outreach Activities

Nanoinventum Initiative Participation April 2024

Dr. Maria Guix and Dr. Beltzane Garcia-Cirera from the University of Barcelona spearheaded the EVA project's involvement in the Nanoinventum initiative. This educational outreach program aims to introduce primary school students to the world of nanotechnology through creative and hands-on learning experiences.

As part of the initiative, third-grade students from Sagrada Familia School in Barcelona were encouraged to identify real-world health challenges and conceptualize nanorobots capable of addressing these issues.

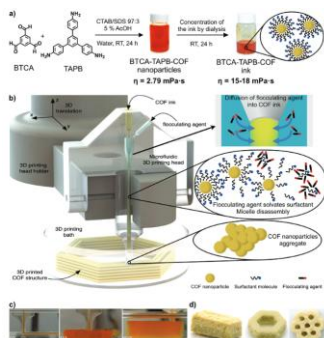
This approach not only personalized the learning experience but also fostered a deeper understanding of biomedical applications of nanotechnology.

MSc Course Presentation at University of Thessaly January 2024

Dr. Maria Vliora delivered a comprehensive presentation on the EVA project to students enrolled in the MSc course of Environmental Health at the University of Thessaly. The session focused on the development of innovative technologies and proof-of-concept strategies aimed at enhancing wastewater treatment processes. Dr. Vliora highlighted the EVA project's interdisciplinary approach, emphasizing the integration of advanced materials and nanotechnology to address the persistent issue of micropollutants in wastewater. The presentation spurred dynamic discussions among students, who explored the potential environmental and public health benefits of implementing such technologies.



Published work of EVA



3D Printing of Covalent Organic Frameworks: A Microfluidic-Based System to Manufacture Binder-Free Macroscopic Monoliths

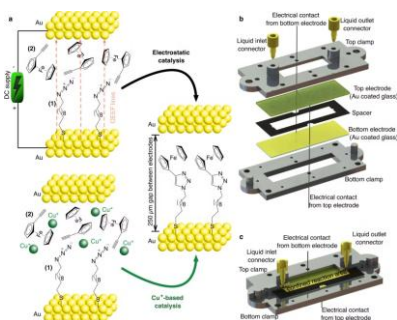
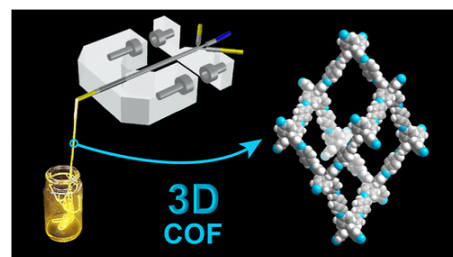
Sergio Royuela, Semih Sevim, Guillermo Hernanz, David Rodríguez-San-Miguel, Peter Fischer, Carlos Franco, Salvador Pané, Josep Puigmartí-Luis, and Félix Zamora

<https://zenodo.org/records/10571826>

Large-Scale and Rapid Processing of 3D COFs via 3D-Controlled Reaction–Diffusion Zones

Michele Mattera, Anh Tuan Ngo, João Pedro Vale, Carlos Franco, Semih Sevim, Maria Guix, Roc Matheu, Tiago Sotto Mayor, Salvador Pané, and Josep Puigmartí-Luis, (2024)

<https://zenodo.org/records/10677488>



Electrostatic catalysis of a click reaction in a microfluidic cell

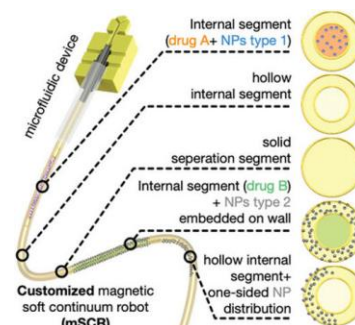
Sevim, S., Sanchis-Gual, R., Franco, C., Aragonès, A. C., Darwish, N., Kim, D., Picca, R. A., Nelson, B. J., Ruiz, E., Pané, S., Díez-Pérez, I., & Puigmartí-Luis, J. (2024).

<https://zenodo.org/records/10717478>

A Naturally Inspired Extrusion-Based Microfluidic Approach for Manufacturing Tailorable Magnetic Soft Continuum Micro-robotic Devices

Hertle, L., Sevim, S., Zhu, J., Pustovalov, V., Veciana, A., Llacer-Wintle, J., Landers, F. C., Ye, H., Chen, X. Z., Vogler, H., Grossniklaus, U., Puigmartí-Luis, J., Nelson, B. J., & Pané, S. (2024).

<https://zenodo.org/records/11500646>



Conferences and Fairs

12th World Biomaterials Congress (WBC 2024) Daegu, South Korea | May 28, 2024

Prof. Josep Puigmartí-Luis delivered a talk titled "Revolutionizing Materials Engineering and Processing with Microfluidic Tools," focusing on the transformative potential of microfluidic tools in advancing materials engineering and processing techniques.



Revolutionizing Materials Engineering and Processing with Microfluidic Tools

Prof. Dr. Josep Puigmartí-Luis
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ChemInFlow Group

EVA Living Composites

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