



Curriculum Vitae. Mario Urso is a Marie Curie fellow and senior postdoctoral researcher in the Future Energy and Innovation Lab led by Prof. Martin Pumera at the Central European Institute of Technology (Brno, Czech Republic) since 2020. He attained his Master's degree in Physics and Ph.D. in Materials Science and Nanotechnology from the University of Catania in 2016 and 2020. His main scientific interests focus on autonomous intelligent micro/nanorobots powered by light and magnetic fields, electrochemical (bio)sensing, gas sensing, energy storage, and water splitting. He is responsible for the MSCA-IF WF project "*MIPhmotors*" (160K €), aiming to develop self-propelled micromachines to detect environmental pollutants.

ABSTRACT

Micro/nanorobots are at the frontier of research in Materials Science and Nanotechnology, exploiting the synergy between the unique physicochemical properties of micro/nanoscale materials and active motion dimension. They are powered by locally available chemical fuels or external energy sources, such as light or magnetic field, and programmed to perform complex tasks, finding applications in environmental remediation, sensing, and biomedicine. Specifically, these tiny machines are shaping the future of Science, being capable of decontaminating water from highly toxic pollutants and plastics, selectively catching and detecting targeted molecules, traveling in our organism to transport/release specific biomolecules or kill cancer cells.

