



"Gheorghe Asachi" Technical University of Iasi, Romania



EDITORIAL

Leading the Ecological Transition

ECOMONDO 2024

The Green Technology Expo

The papers collected in this special issue of *Environmental Engineering and Management Journal* were presented as lectures or posters at the scientific and technical conferences hosted by *Ecomondo 2024* held from the Italian Exhibition Group headquarter in Rimini, Italy, during 5-8 November 2024. (<http://en.ecomondo.com>).

Ecomondo is one of the largest European exhibitions in the field of *Green and Circular Economy*, hosting annually over than 100,000 delegates from more than 120 different nations along with 1,650 industrial exhibition stands in 170,000 square meters and over than 200 conferences and workshops on policies, research and innovation, innovation funding opportunities, financing, education, communication, and entrepreneurship and international networking and partnership creation.

As with the previous editions, the aim of *Ecomondo 2024* was to explore and share recent industrial advances and opportunities in: industrial eco-design; industrial symbiosis, renewable and critical resources; industrial technical waste production reduction, recycling and exploitation in the frame of the plastic, packaging, textile, electronic and electric, steel and construction industries; sustainable agrifood and wood chains, biowaste collection and exploitation via integrated biorefinery schemes, with the production of biobased chemicals, materials and biofuels; wastewater treatment and valorization with nutrients recovery and water reuse; water resources monitoring, protection and sustainable use in the civil and agrifood sectors; earth observation, marine resources protection and sustainable exploitation and coastal regeneration; sustainable remediation of contaminated sites and marine

ecosystems; indoor and outdoor air monitoring and clean up; and circular and healthy cities.

Several international workshops featured the participation of the European Commission and the European Environment Agency (EEA), focusing on emerging trends in circular economy sectors such as electrical and electronic products, construction and demolition waste, packaging materials, and the textile and fashion industries. Special attention was given to environmental and health monitoring, complemented by events jointly organized with the European Commission, FAO, and OECD on topics including soil and coastal restoration, plastic waste management, and the monitoring, prevention, and mitigation of marine litter. Finally, *Ecomondo 2024* also hosted events dedicated to the priorities of the Mediterranean macro-region, in collaboration with the European Commission and the Union for the Mediterranean, addressing key challenges such as water scarcity and pollution of the Mediterranean Sea, particularly from marine litter.

Ecomondo 2024 conferences hosted more than 800 oral communications, about 70 of them were then selected for full paper publications on this journal, the *Procedia Environmental Science, Engineering and Management* and the *Ecomondo proceedings*. This special issue contains some of such papers and provides some of the key information presented and discussed in the frame of some of the mentioned technical and scientific conferences of *Ecomondo 2024*.

We believe that this collection of papers will be particularly valuable for those who were unable to attend the 2024 edition of *Ecomondo*. While primarily intended

for them, it also aims to serve as a lasting record supporting the promotion, adoption, and implementation of the major priorities and opportunities of the green and circular economy in Europe and across the Mediterranean basin.

The collection highlights how key local environmental challenges can be transformed into new opportunities for green and sustainable growth within the territories. For more information, please visit: <https://en.ecomondo.com>

Guest Editor:

Professor **Fabio Fava**, *Alma Mater Studiorum - Università di Bologna*, Italy



Fabio Fava has been a Full Professor of *Industrial & Environmental Biotechnology* and *Circular Bioeconomy* at the School of Engineering, University of Bologna, since 2005. He has authored around 250 scientific publications, including over 220 papers in international peer-reviewed journals with medium to high impact factors, focusing on industrial and environmental biotechnology and the circular bioeconomy. His work has received more than 12,500 citations, with an H-index of 63 and an i10-index of 150 (Google Scholar), and over 220 publications indexed in Scopus.

His research activities span environmental, industrial, and marine biotechnology, as well as the circular bioeconomy, within several national and European Commission-funded collaborative projects. Among the latter, he coordinated the FP7 collaborative projects **NAMASTE**, focused on the integrated valorization of citrus and cereal processing by-products for the production of food ingredients and novel food products, and **BIOCLEAN**, aimed at developing biotechnological processes and strategies for the biodegradation and tailored depolymerization of waste derived from major oil-based plastics in both terrestrial and marine environments. He also coordinated the University of Bologna's participation in several other FP7 collaborative projects, including **ECOBIOCAP**, **ROUTES**, **MINOTAURUS**, **WATER4CROPS**, **ULIXES**, and **KILL SPILL**.

Fabio Fava served and is serving several national, European and international panels, by covering, among others, the following positions:

- Member of the Scientific Committee of the European Environmental Agency (EEA), Copenhagen, for the "Circular economy and resource use" domain (2021-);
 - Italian Representative in the "European Bioeconomy Policy Forum" and the "European Bioeconomy Policy Support Facility" of the European Commission (2020-);
 - Senior Expert of the Italian delegation to the Programming committee Horizon Europe, Cluster VI: Food, bioeconomy, natural resources, agriculture and environment (European Commission, DG RTD)(2020-);
 - Italian Representative and elected vice chair in the "States Representatives Group" della Public Private Partnership "Circular Biobased Europe" (CBE JU), Brussels (2021-);
 - Italian Representative in the "Working Party on Biotechnology, Nanotechnology and Converging Technologies" of the Organization for Economic Co-operation and Development (OECD, Paris) (2008-);
- Finally, he is the scientific coordinator of the International Exhibition on Green and Circular economy ECOMONDO held yearly in Rimini (Italy)