



“Gheorghe Asachi” Technical University of Iasi, Romania



EDITORIAL

Green and Circular Economy at ECOMONDO 2021

International Trade Fair of Material & Energy Recovery and Sustainable Development

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 2021* held, given the pandemic, in the sole digital format from the Italian Exhibition Group headquarter in Rimini, Italy, during 26 - 29 November 2021

(<http://en.ecomondo.com>).

Ecomondo is the one of largest European exhibitions in the field of *Green and Circular Economy*, which, in the 2019 edition (before the pandemic), hosted over than 100,000 delegates from 60 different nations along with 1350 companies exhibiting their products and processes in 135,000 square meters. Despite the pandemic, *Ecomondo 2021* hosted over than 90 conferences and workshops dedicated to policies, research and innovation, innovation funding opportunities, education, communication and entrepreneurship and international networking.

As with the previous editions, the aim of *Ecomondo 2021* was to explore recent industrial advances and opportunities in industrial technical waste production reduction, recycling and exploitation; sustainable agrifood and wood chains, biowaste collection and exploitation via integrated biorefinery schemes, with the production of biobased chemicals, materials and biofuels, including methane; industrial eco-design; industrial symbiosis, renewable and critical resources; water resources monitoring, protection and sustainable use in the civil and agrifood sectors; wastewater treatment and valorization with nutrients recovery and water reuse; marine resources protection and sustainable exploitation; sustainable remediation of contaminated sites, ports and marine ecosystems; indoor

and outdoor air monitoring and clean up; and circular and smart cities.

Some of the international workshops were focused on the emerging trends in the circular economy domains and on the role of digitalization and industry 4.0 enabling technologies in process efficiency, eco-design and waste collection in the major industrial value chains. Some other workshops were focused on the technical and regulatory constrains currently affecting the implementation of circular economy value chains in the sectors of electronic and electric products, automotive, construction and demolition, packaging materials and textile and fashion. A special room has been dedicated to the recycling of plastic waste, biodegradable plastics and the monitoring, prevention and mitigation of marine litter. Finally, *Ecomondo 2021* also hosted events on the priorities of the Mediterranean macro-region, and in particular the water scarcity of the area, the Mediterranean Sea contamination (also due to marine litter) and its sustainable exploitation.

Ecomondo 2021 conferences hosted more than 700 oral communications and almost 100 papers. 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 2021*.

We believe that this collection of papers will be useful to people who could not follow the edition of *Ecomondo 2021*. It is primarily towards them but it also aspires to provide permanent records in the promotion, adoption and implementation of the major priorities and opportunities of the green and circular economy in Europe and in the Mediterranean basin, with the conversion of some of the key local environmental

challenges into new opportunities for a green and sustainable growth of the territories.

For additional info, please refer to the following links:

<https://en.ecomondo.com>

<http://en.keyenergy.it/>

<http://en.cittasostenibile.net/>

Guest Editor:

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



Fabio Fava, born in 1963, is Full Professor of "Industrial & Environmental Biotechnology" at the School of Engineering of University of Bologna since 2005.

F. Fava published about 250 scientific papers, 210 of which on medium/high IF peer-review international journals of industrial and environmental biotechnology and circular bioeconomy. He has 9769 overall citations, a h-index of 58 and an i10 index of 149 (Google Scholar) along with 205 papers quoted by Scopus. He is actively working in the fields of environmental, industrial and marine biotechnology and of the circular bioeconomy in the frame of a number of national projects and collaborative projects funded by the European Commission. Among the latter, he coordinated the FP7 collaborative projects NAMASTE, on the integrated exploitation of citrus and cereal processing byproducts with the production of food ingredients and new food products, and BIOCLEAN, aiming at the development of biotechnological processes and strategies for the biodegradation and the tailored depolymerization of wastes from the major oil-deriving plastics, both in terrestrial and marine habitats. He also coordinated the Unit of the University of Bologna who participated in the FP7 collaborative projects ECOBIOCAP, ROUTES, MINOTAURUS, WATER4CROPS, ULIXES and KILL SPILL.

F. 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 (2022-);
- Italian Representative in the BLUEMED WG of the EURO-MED Group of Senior Officials (EU Commission DG RTD and Union for Mediterranean) (2017-);
- Italian Representative in the initiative on sustainable development of the blue economy in the western Mediterranean the "Western Mediterranean Initiative" WEST MED, promoted by the EU Commission (DG MARE) in close cooperation with 10 countries of the area (2016-);
- 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)