



“Gheorghe Asachi” Technical University of Iasi, Romania



EDITORIAL

Green and Circular Economy ECOMONDO 2019

23th 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 2019* held in Rimini, Italy, during 5-8 November 2019 (<http://en.ecomondo.com>).

Ecomondo is the one of largest European exhibitions in the field of *Green and Circular Economy*, with over than 100,000 delegates from 60 different nations and 1300 companies exhibiting their products and processes in 123,000 square meters. It is hosting over than 100 conferences and workshops, ensuring a weighted and rewarding balance between sales dimension and technical-scientific dimension, with extensive room dedicated to research and innovation, education and training and international networking.

As with the previous editions, the aim of *Ecomondo 2019* 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 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 2019* dedicated a particular attention to the main challenges and needs of the Mediterranean macro-region, addressing, via dedicated workshops, the priorities of the area associated with the water scarcity, the Mediterranean Sea contamination (also due to marine litter) and the blue and sustainable growth of the area.

Ecomondo 2019 hosted about 100 conferences, more than 900 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 most relevant technical and scientific conferences of 2019 edition of *Ecomondo*.

We believe that this collection of papers will be useful to people who could not visited and participate in *Ecomondo 2019*. 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 areas mentioned.

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



ECOMONDO

Progettiamo
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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 280 scientific papers, 180 of which on medium/high IF peer-review international journals of industrial and environmental biotechnology. He has 7733 overall citations, a H-index of 50 and an i10 index of 127 (Google Scholar) along with 180 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 and ROUTES (on the production of microbial and biodegradable polymers from different organic waste and food processing effluents), MINOTAURUS and WATER4CROPS (on the intensified bioremediation of contaminated waste- and ground- water and the integrated valorization and decontamination of wastewater

coming from the food processing industry and biorefineries), and ULIXES and KILL SPILL (on the development of strategies for intensifying the *ex situ* and *in situ* bioremediation of marine sediments contaminated by (chlorinated)hydrocarbons and microplastics and the isolation and industrial exploitation of microbes from such contaminated matrices). F. Fava served and is serving several national, European and international panels, by covering the following positions:

- Italian Representative in the Horizon2020 Programme Committee of Societal Challenge 2: European Bioeconomy Challenges: Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and inland water research" (European Commission, DG RTD) (2013-);
- Italian Representative in the "States Representatives Group" (SRG) of the Public Private Partnership "Biobased Industry" (PPP BBI JU) (Brussels) (2014-); he is chairing the SRG since October 2018;
- 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-);
- Member of the "Working Party on Biotechnology, Nanotechnology and Converging Technologies" of the Organization for Economic Co-operation and Development (OECD, Paris) (2008-);
- Chair (2011-2013) and currently Deputy Chair of the "Environmental Biotechnology section" of European Federation of Biotechnology (EFB) (2013-).

Finally, he is the scientific coordinator of the International Exhibition on Green and Circular economy ECOMONDO held yearly in Rimini (Italy)