



“Gheorghe Asachi” Technical University of Iasi, Romania



EDITORIAL

Material & Energy Recovery and Sustainable Development ECOMONDO 2014

18th International Trade Fair of Material & Energy Recovery and Sustainable Development

The contributions in the form of Full papers collected in this Special Supplement of *Environmental Engineering and Management Journal* were selected from lectures and posters of the scientific and technical conferences hosted by *Ecomondo 2014* held in Rimini, Italy, 5–8 November, 2014 (<http://en.ecomondo.com>).

Ecomondo is the most recognized platform for the Mediterranean basin, in terms of materials exploitation and recycling for the large industry of the future, which will be part of *Green Economy*, ensuring a weighted and rewarding balance between sales dimension and technical-scientific dimension, with extensive room dedicated to innovation.

As with the previous editions, the aim of *Ecomondo 2014* was to explore recent industrial advances and opportunities in waste production reduction, waste collection, fractionation, recycling, exploitation; biomass and biowaste exploitation via integrated biorefinery scheme, bioplastics, biobased products and biomethane; green and sustainable chemistry; water resources monitoring and protection; wastewater treatment and valorization with nutrients recovery and marine resources protection; sustainable remediation of contaminated sites and marine ecosystems; and indoor and outdoor air monitoring and clean up.

A special emphasis was given to European Eco Innovation in the broad field of green economy. Horizon2020 priorities and relevant innovation funding opportunities have been presented by delegates of the EU commission. Other initiatives were dedicated to the promotion of industrial symbiosis and networking i.e.

the creation of partnerships between industries working in the complementary sectors or different countries and to the presentation of the most prominent international and EU RTD and industrial projects.

The areas of particular interest addressed within *Ecomondo 2014* are:

- waste characterization, management, recycling and exploitation (*Waste*),
- monitoring, management and treatment/ exploitation of industrial and civil wastewaters (*blue gold*)
- the sustainable and biomass-based chemical industry, with a special focus on the Joint Technology Initiative Bio Based Industry (JTI BBI) and biomethane production (*Biobased Industry*)
- the monitoring and clean-up of contaminated sites, soils and sediments (*Reclaim Expo*)
- monitoring and treatment of air pollution (*Air*)
- smart cities and communities (*Sustainable City*)

Ecomondo 2014 hosted over than 100 conferences, more than 500 oral communications and over than 150 papers. This special issue provides some of the key information presented and discussed in the frame of some of such conferences. Over 100,000 delegates from 80 different nations were participating in the event.

We believe that this collection of papers will be useful to people who could not able to participate directly. It is primarily towards those individuals that it is directed, but it also aspires to provide permanent records in process of turning environmental problems and challenges into new opportunities for a green economy with a bright future.

Guest editors:

Prof. Fabio Fava

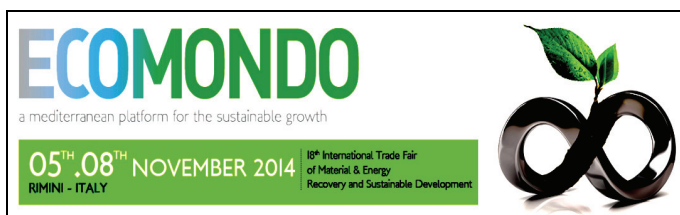
Alma Mater Studiorum - Università di Bologna
(University of Bologna), Bologna, Italy

Dr. Grazia Totaro

Alma Mater Studiorum - Università di Bologna
(University of Bologna), Bologna, Italy

Prof. Maria Gavrilescu

„Gheorghe Asachi” Technical University of Iasi, Romania



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

Dr. Fava is the coordinator of the FP7 projects NAMASTE (on the integrated exploitation of citrus and cereal processing by-products with the production of ingredients and new food products) and BIOCLEAN (aiming at developing biotechnological processes and strategies for the bioremediation and the tailored depolymerization of major oil-deriving plastics). He also coordinates the Unit of the University of Bologna participating in the FP7 projects ECOBIOCAP and ROUTES (on the production of microbial 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 decontamination and valorization of wastewater of the food processing industry and of biorefineries), and ULIXES and KILL-SPILL (on the development of strategies for intensifying the in situ bioremediation of marine sediments polluted by (chlorinated)hydrocarbons and for the isolation and industrial exploitation of microbes from those matrices). He is vice-chairman of the “Environmental Biotechnology” section of the European Federation of Biotechnology (EFB). He is member of the “Task Force on Industrial Biotechnology” of the Working Party on Biotechnology of the Organisation for Economic Co-operation and Development (OECD, Paris). Further, he is joining the “High Level Group on Key Enabling Technologies” and the “Expert Group on biobased products” of the DG-GROW of European Commission (Brussels), as well as the “Expert Group on eco-industries” of the JRC Directorate at the European Commission. Finally, he is the Italian Representative for Bioeconomy in the Horizon2020 Programme Committees (DG RTD, EU commission).



Grazia Totaro, born in 1976, has a degree in Chemistry (University of Ferrara), a Master’s Degree in Science, Technology & Management with a specialization in Environmental Chemistry (University of Ferrara) and a PhD in Materials Engineering, about modification, characterization and applications of technopolymers (University of Bologna).

She worked at the R&D Centre of Basell Polyolefins in Ferrara for 2 years in the frame of a project addressed to the development of a novel methodology for qualitative and quantitative analysis of additives in polymers. She also worked at ARPA, Regional Agency for Environment in Ferrara, division Water Analysis. Then she started working at the school of Engineering of the University of Bologna for a Ph.D. in Materials Engineering (2007-2010). After that she had a scholarship “Spinner 2013” in cooperation with Reagens spa (San Giorgio di Piano) on novel PVC nanocomposites. Now she is post doc fellow at the same school on new polymer-based nanocomposites from renewable sources and inorganic fillers. She also worked at the laboratoire de Chimie et Biochimie Pharmacologique et Toxicologique (Université René Descartes) in Paris in 2001 and was visiting professor at the Ecole Nationale Supérieure de Chimie (Université Blaise Pascal, Clermont Ferrand, FR) in 2012.

Dr. Totaro has about 13 scientific papers and several participations at conferences and scientific schools.



Maria Gavrilescu (born in 1956) is professor at the Department of Environmental Engineering and Management–Faculty of Chemical Engineering and Environmental Protection of the „Gheorghe Asachi” Technical University of Iasi, Romania, where she teaches courses in Chemical and Biological Process Engineering, Process Synthesis and Analysis, Integrated Pollution Prevention and Control, Sustainable Industrial Production, Environmental Risk Assessment and Management. She supervises doctoral programs in the fields of Chemical and Environmental Engineering. Prof. Gavrilescu has authored more than 350 books and articles in the fields of chemical and environmental engineering, pharmaceutical and environmental biotechnology, pollution prevention and cleaner production, and risk assessment and management. Prof. Gavrilescu has also managed or participated in 18 national and 7 international research projects and 25 research projects with industrial companies. The scientific visibility is illustrated by over 2000 citations (WOS h-index 22, Scopus h-index 22). The professional memberships includes the followings: 2012-Founder of the *Romanian Society of Environmental Science and Engineering*; Member of: the Editorial Advisory Board of six international journals; Romanian Society of Chemistry; European Federation of Biotechnology-member of *Experts Board* of the Environmental Biotechnology Section.

Prof. Gavrilescu is the Editor-in-Chief of the *Environmental Engineering and Management Journal* edited by the *Gheorghe Asachi* Technical University of Iasi, Romania; Editor-in-Chief of *Procedia-Environmental Science, Engineering and Management*, edited by the *National Society of Environmental Science and Engineering*, Romania; Series Editor of *Annals of the Academy of Romanian Scientists – Series of Chemistry Sciences*.