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EDITORIAL

Sustainable technologies for recycling and reuse: an overview

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Recycling and reuse of water, air and soil pollutants, and wastes has been an emerging issue during the recent decade to protect natural resources and the environment (Corder et al. 2015; Colling et al. 2016). A number of national and international environmental programs and projects have been increasingly performed. The most recent outcomes of those projects/research have been published referring to mostly favor sustainable technologies for recycling and reuse of various resources that include energy recovery from organic fraction of municipal solid wastes (Cesaro et al. 2016), from food wastes (Karmee 2016), from wastewater treatment plant sludge (Batstone et al. 2015; Colmenar-Santos et al. 2016), compost recovery from organic fraction of municipal solid waste (Cesaro et al. 2015), and fertilizers from wastewater (Hukari et al. 2016; Puchongkawarin et al. 2015; Shepherd et al. 2016). Various industrial wastes have been recycled to produce new products or reuse in the process purposes such as vehicle recycling processes (Li et al. 2016), recycling schemes for waste dry batteries (Lin and Chiu 2015), of waste aggregate in cement bound mixtures for road pavement bases and sub-base (Pasetto and Baldo 2016), of waste automotive laminated glass and valorization of polyvinyl butyral (Swain et al. 2015), of blast furnace sludge (Drobíková et al. 2016), and recycling of electronic wastes (Awasthi et al. 2016). Besides advanced treatment technologies among which membranes are the common ones, have been applied for recycling and reuse of urban (Bunani et al. 2013) and industrial wastewaters (Zheng et al. 2015). Additionally, valorization of renewable energy sources has been a pioneering recycling and reuse sector (Byrnes et al. 2016; Sahoo 2016) that is somewhat discussed for not being green (Keramitsoglou et al. 2016) and causing environmental impact (Sokka et al. 2016).

This special issue is composed of a number of scientific works presented at the 2nd *International Conference on Recycling and Reuse*, held on 4–6 June 2014 in Istanbul, Turkey. The biennial *Conference* was jointly organized by Bogazici University, Environmental Sciences Institute and Istanbul University, Environmental Engineering Department, Turkey. The purpose of the *Conference* was to provide an advanced platform for researchers and practitioners to exchange emerging ideas and to investigate key issues on whole and progressive aspects of recycling and reuse.

The Conference program included a wide spectrum of important topics in recycling and reuse concerns of wastewaters and wastes, advanced wastewater treatment, and membrane technologies for recycling and reuse. A total number of 90 oral and 155 poster presentations were given in the topics of advanced oxidation technologies, waste reduction, water and wastewater management, solid waste treatment and management, hazardous waste management, resource use, renewable energy technologies, current and future recycling markets, public health issues, and legislations and policies of recycling and reuse.

This special issue, specifically named "*Sustainable Technologies for Recycling and Reuse*" includes 4 papers that were selected among 25 invited papers submitted to an essential peer-review process. Three of the accepted papers present examples for removal of emerging pollutants using different advanced treatment options before reuse, and the other gives a case study on mercury containing substances flow in Turkey that would be a good example for policy decision support in developing countries as well.

The guest editors expect that this issue should provide an overview of recent works done in "Recycling and Reuse" fields and fulfills scientific gaps to provide an important contribution to scientific and technological communities.

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