

Special issue on the 7th International Conference on Sustainable Solid Waste Management 26–29 June 2019, Heraklion, Crete Island, Greece

Editorial

This special issue of *Desalination and Water Treatment* includes 16 water and wastewater related papers, which were selected from the agendas of two successive conferences taken place at the same venue in the beautiful city of Heraklion, Crete, Greece in June 2019.

The first was the 2nd ADAPTtoCLIMATE Conference (<http://conference.adapt2clima.eu>) on 24th and 25th June, 2019, while the 2nd conference was the HERAKLION 2019 7th International Conference on Sustainable Solid Waste Management (<http://www.heraklion2019.uest.gr>) that took place from 26th to 29th June 2019.

The participants of the first conference had the opportunity to exchange knowledge, views and ideas on climate change impacts, vulnerabilities and adaptation. It was organized in the framework of the LIFE ADAPT-2CLIMA project (<http://www.adapt2clima.eu>) coordinated by the National Observatory of Athens with the active involvement of the National Technical University of Athens, the Region of Crete, the Agricultural Research Institute, the Institute of Biometeorology of the national Research Council and the Region of Sicily. Its aim was to increase knowledge on the vulnerability of EU Mediterranean agriculture to climate change and to support decision making for adaptation planning. The methodology was based on the deployment of a set of climate, hydrological and crop simulation models for the assessment of climate change impacts on agriculture, as well as on the development of a decision support tool for the elaboration of adaptation strategies for the agricultural sector.

Climate change constitutes one of the main global threats we must face this century. Significant climate change impacts are already visible globally and are expected to become more pronounced in the future. The aim of the ADAPT2CLIMA Decision Support tool is to enhance understanding of climate change and its impacts on agriculture in order to support farmers, policy makers and other relevant stakeholders (agronomists, agribusiness industry, etc.) in adaptation planning.

Regarding the 2nd Conference, as in the cases of the previous international conferences:

- ATHENS 2012 (<http://athens2012.uest.gr>),
- ATHENS 2014 (<http://www.athens2014.biowaste.gr>),
- TINOS 2015 (<http://www.tinos2015.uest.gr>)
- CYPRUS 2016 (<http://www.cyprus2016.uest.gr>)
- ATHENS 2017 (<http://www.athens2017.uest.gr>)
- NAXOS 2018 (<http://www.heraklion2019.uest.gr>)

the HERAKLION 2019 7th International Conference actually made a further step forward in the field of waste management and circular economy through the promotion of advanced practices and innovative technologies.

We were very satisfied to confirm that the series of our conferences on sustainable waste management keeps attracting the attention of the academics, private and public sector local authorities and businesses. This is proven by the gradual increase in the numbers of attendees, the participating countries and the abstracts received and papers presented in the conference.

Significant effort is made to keep high standards in scientific papers and increase the visibility of the work, as proven by the increase of the papers finally published in the collaborating high reputation journals. At the same time, efforts are continuous so as to achieve high quality services for the conference participants.

The HERAKLION 2019 Conference aimed to stimulate the interest of the scientific community, competent authorities of public and private sector and inform them about the latest developments and achievements in the field of waste management with special emphasis on circular economy and biorefineries. Waste reduction, biological treatment (composting and anaerobic digestion), advances in thermal management technologies and biotechnology, separation at source and recycling also constitute priority subjects of the HERAKLION 2019 agenda. Attention was drawn to plastic waste and marine litter, biowaste and food waste, zero-waste initiatives, new technologies.

The HERAKLION 2019 Conference provided an opportunity to bring together scientists and professionals from governmental departments, municipalities, private institutions, research and education institutions, industry, being a forum for the exchange of the most recent ideas, techniques and experiences in all areas of waste management.

The HERAKLION 2019 agenda was very rich and dense, offering considerable variety of topics presented through more than 450 presentations within the twenty-six different oral sessions and an extensive poster session throughout the conference duration at the conference venue.

The 16 water and wastewater related papers included in this Special Issue cover several different subjects starting with drought-alert decision support system for water resources management and environmental hydrodynamic modelling applied to extreme events in Mediterranean and Caribbean Countries. The third paper is related to biodegradable hydrogel materials for water storage in agriculture, while the next refers to the deterioration of shallow coastal environments using synthetic aperture radar data. The next three papers focus on climate changes in rivers and lakes, namely Paiva River in Portugal, Lake Vegoritida in Greece, Baysh Dam Lake in Saudi Arabia. The 8th paper compares different mass transfer models for direct contact membrane distillation flux evaluation.

The next papers deal with wastewater treatment. More specifically, the 9th paper discusses the use of side stream-based MgSO_4 as a chemical precipitant in the simultaneous removal of nitrogen and phosphorus from wastewater, while the next one deals with the study on the characteristics of biochar from Yak Dung in Tibet focusing on adsorption of arsenic and fluoride in geothermal water. Next, the 11th paper examines Thorium adsorption by oxidized biochar pine needles with emphasis on the effect of particle size, while the following one caters sulfate removal from aqueous solutions using esterified wool fibers. After that, the 13th paper discusses the removal of chloridazon pesticide from waters by Fenton and photo-Fenton processes and the 14th article handles 3,4-dihydroxybenzoic acid removal from water by Goethite modified natural sand column fixed-bed. Finally, the last papers are related to sludge. More specifically, the 15th article deals with pilot-scale water hyacinth bed for dewatering of sewage sludge, while the last paper is entitled "The use of calcined paper mill sludge as a chemical precipitant in the simultaneous removal of ammonium and phosphate – paper mill waste recycling and reuse".

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