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Editorial

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This issue of *Water Utility Journal* presents a collection of 6 papers initially presented at the WASTEnet Program International Conference "*Sustainable Solutions to Wastewater Management: Maximizing the Impact of Territorial Co-operation*". The conference was held from June 19-21, 2015, in Kavala, Macedonia, Greece (http://wastenet2015.org). The conference was the final event of the WASTEnet Program funded by the Joint Managing Authority for the Joint Operational Program "Black Sea Basin 2007-2013".

The scope of the international conference was to explore the potentials of low cost and energy solutions to wastewater management, and to present through the activities carried out by the WASTEnet partnership the state-of-the-art in the field of Sustainable Wastewater Treatment Systems, with emphasis on Natural Treatment Systems, Constructed Wetlands and other small or on-site treatment systems. The ultimate aim was the implementation potential of such wastewater treatment systems in the wider Black Sea Basin area, and generally, in developing countries. The conference also emphasized on the diffusion of the best available knowledge in this field from international experts and the exchange of experiences with an audience composed of key decision makers from the local, the regional and the national level, the EU representation in these Black Sea countries, NGOs, professional associations, the private sector and other major actors, which decisively contributed to starting a process that will lead to tangible results for local communities and foster broader and deeper transnational cooperation in the wider Black Sea Basin region. The conference also helped local and regional authorities and stakeholders to gain insight on the role of innovative and environmentally-friendly technologies, in improving the environment in remote, rural communities of the broader Black Sea region.

A total number of 56 papers and 12 posters were presented at the conference, which was organized under the auspices of the European Water Resources Association (EWRA). Thus, some papers were selected for inclusion in three EWRA journals, *Environmental Processes*, *European Water* and *Water Utility Journal*.

This special issue of *Water Utility Journal* was guest-edited by professors: Georgios Sylaios (Democritus University of Thrace, Xanthi, Greece), Georgios D. Gikas (Democritus University of Thrace, Xanthi, Greece), and Vassilios A. Tsihrintzis (National Technical University of Athens, Athens, Greece). The papers included in this special issue are based on the initial presentations at the conference. However, they have been extended and revised having passed through the regular reviewing process of the journal. The topics dealt in the six papers are briefly presented below:

Raptopoulou et al. (2016) performed a statistical analysis of nutrient concentrations and their relations with the respective removal efficiency of a wastewater treatment plant near Thessaloniki, Greece. Total nitrogen and total phosphorus influent and effluent data were collected during the period March 2014–February 2015. Various statistical tests were applied to the data including the Shapiro-Wilk and Levene tests, one-way ANOVA, and the Kruskal-Wallis test. The results showed that nitrogen concentrations in influent and effluent streams differed significantly in almost all time

periods throughout the year, but removal efficiency was found constantly very high (>80%). Phosphorus influent concentrations were not significantly different, whereas the variability in spring was found significant, when compared to the other seasons, due to additional nutrient loads. Effluent concentrations were found to differ significantly only during the summer period. Finally, the range of phosphorus removal was found between 25-84% and the trend of removal efficiency was associated with the phosphorus loading in the influent, having a relatively strong linear correlation.

Gratziou and Chalatsi (2016) studied the treatment efficiencies of two full-scale wastewater stabilization pond systems situated in Northern Greece, which treat municipal wastewater from rural settlements and comprise in series one facultative pond, two maturation ponds and a rock filter used for algae filtration before the effluent discharge. The study estimated the reaction rate constants K of COD removal based on various models. K was found to have a strong relationship with the hydraulic retention time.

Robescu et al. (2016) propose the continuous improvement strategy (CIS) for the management of a wastewater treatment plant, which is based on the principles of Six Sigma DMAIC (Define, Measure, Analyze, Improve, Control). This procedure is a new approach to reduce the defects and variations encountered in the processes of wastewater treatment plants by increasing the quality of information flow and decreasing quality costs. An application is made in an actual biological treatment plant showing a significant reduction of operational costs.

Kajtazi (2016) presents the description of a pilot wastewater treatment plant constructed by the EU in Skenderaj/Srbica, Kosovo, designed to serve 8,000 inhabitants (p.e). In addition, the EU IPA is funding the construction of four other wastewater treatment plants for small settlements with capacities of 1,500 to 3,500 p.e.

Kiurski et al. (2016) present the application and adsorption efficiency of fired clay pellets, produced from a pozzolanic material, waste glass, suitable surfactant and wooden dust, in removal of copper ion from a printing developer waste. The Freundlich isotherm model was found most suitable to fit the experimental data. The adsorption efficiency of the copper ion removal was found to increase with the increase of the adsorbent mass. Maximum efficiency was 63%.

Dermentzis et al. (2016) evaluated in an experimental setup the electrocoagulation / electrooxidation process combined with photovoltaic solar energy to effectively remove copper and COD from industrial copper electroplating effluents. The photovoltaic panel was connected directly to the electrocoagulation reactor without batteries and the wastewater flow rate was adjusted according to the instantaneous solar irradiation. Operating parameters affecting the efficiency of the proposed process were determined to remove copper by more than 99% and below the permissible limit of 2 mg/L. COD was decreased by 62.2 %. The proposed process was found applicable to small and decentralized facilities in remote and isolated locations without connection to the public electrical system.

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