Editorial for the special issue: "Ariston men hydor – Ἄριστον μὲν ὕδωρ"

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The present Special Issue in the Water Utility Journal entitled "Ariston men hydor – Ἄριστον μὲν ὕδωρ" consists of four (4) selected papers from the 15th Conference of the Hellenic Hydrotechnical Association. The Conference took place in June 2022 in Thessaloniki, Greece, and was hosted by Aristotle University of Thessaloniki at the premises of the "Aristotle University Research Dissemination Centre".

The Conference was co-Chaired by Professors Dimitrios Karpouzos and Konstantinos Katsifarakis from Aristotle University of Thessaloniki. The Conference covered twelve (12) thematic areas, ranging from hydrology to underground hydraulics, from river hydraulics to maritime hydraulics, and from water resources management to urban hydraulics, water quality and wastewater treatment, attracting one hundred and twenty (120) fundamental research papers, applied research papers and technical study papers in the above topics. The papers presented in this Special Issue are among the ones identified as relevant to the Scope of the Journal while also standing out in their thematic areas. Their respective authors were requested to significantly expand their conference manuscripts in order for them to be considered for publication and, after doing so, the papers passed through blind peer-review before being accepted for publication.

Starting from urban hydraulics, Antoniou et al. (2023) investigate the reduction of pump energy consumption in existing water distribution networks through selective pipes' replacement using Genetic Algorithms. The authors run the EPANET model by the U.S. Environmental Protection Agency through the Water Network for Resilience (WNTR) Python package, and propose a novel optimization method which they apply to a District Meter Area (DMA) in the city of Thessaloniki, Greece. The presented work is deemed to be of particular interest for Water Companies and hydraulic engineers involved in the design, maintenance and upgrading of water distribution networks.

Expanding the focus to water consumption in urban areas, Zafeirakou et al. (2023) present a Water Footprint Calculation Tool for Greece. The authors analyse relevant literature in order to identify consumption characteristics in Greece in comparison with global trends, and develop a questionnaire-based tool that analyses user data and calculates personalised water footprint values through well-established methods, while also providing recommendations for footprint reduction. The presented work is deemed to be of general usefulness for raising citizen awareness regarding water consumption and of particular interest for managers and engineers involved in water resources management and distribution.

Moving beyond urban areas but still on the general topic of water resources management, Koukouli et al. (2023) investigate water use indicators for effective on-farm water management and irrigation optimization. The authors use a series of relevant well-founded water use indicators and implement the Cropping Systems Simulation (CropSyst) Model in order to test the performance of different irrigation management practices at two experimental sites in Greece for cotton crop. The presented work provides valuable insights on the specific crop's irrigation practices and is deemed

to be useful beyond the particular interest of scientists and end-users (farmers), for professionals and authorities involved in agricultural water management.

The final paper of this Special Issue expands focus to a larger scale, as Taoukidou et al. (2023) investigate flood hazard assessment using G.I.S. and multicriteria analysis. The authors combine the Analytical Hierarchy Process (A.H.P.) with G.I.S. tools and apply their approach to extract the Flood Hazard Index (F.H.I.), the Revised Flood Hazard Index (R.F.H.I.) and the Flood Susceptibility Map for the Chalkidiki Region in Greece. The authors validate their results through comparison with historical data of flood events in the study area and provide valuable insights on the dynamics of the wider region. The presented work is of interest for natural scientists, engineers and policy-makers, as flood risk is both observed and projected to be exacerbated in a changing climate.

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