

Special Issue

Wastewater and Waste Treatment: Overview, Challenges and Current Trends (3rd Edition)

Message from the Guest Editors

The aim of this Special Issue is to explore how innovative wastewater and waste treatment approaches can be harmonized into broader systems and industry practices, and also addresses upcoming environmental challenges. Topics include, but are not limited to, the following:

- Integrated Systems:
 - Synergies between biological, advanced oxidation, and physicochemical treatment methods.
 - Development of hybrid systems for addressing complex or mixed waste streams.
 - Decentralized versus centralized waste treatment approaches: opportunities and challenges.
- Emerging Challenges in Waste Treatment:
 - Addressing novel pollutants, including microplastics, pharmaceuticals, and nanomaterials.
 - Treatment solutions for high-salinity or otherwise extreme waste streams.
- Future Horizons in Wastewater and Waste Management:
 - The role of AI, machine learning, and big data in optimizing waste treatment processes.
 - Nanotechnology applications in pollutant removal and resource recovery.
 - Speculative technologies and their potential to revolutionize waste management.

Guest Editors

Dr. Dimitris Zagklis

Department of Industrial Engineering and Management, International Hellenic University (IHU), GR-57400 Thessaloniki, Greece

Dr. Georgios Bamos

Department of Chemical Engineering, University of Patras, 26504 Patras, Greece

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Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
processes@mdpi.com

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Prof. Dr. Giancarlo Cravotto
Department of Drug Science and Technology, University of Turin, Via P.
Giuria 9, 10125 Turin, Italy

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