

Special Issue

Emerging Chemical and Microbial Threats in Aquatic Systems: From Microplastics to Antimicrobial Resistance

Message from the Guest Editors

Aquatic environments are increasingly challenged by a wide range of emerging contaminants that exert complex interactions at chemical, biological, and ecological levels. Once introduced into aquatic systems, these contaminants can act not only as pollutants themselves but also as catalysts of microbial transformation, influencing nutrient cycles, microbial diversity, and the dissemination of antimicrobial resistance (AMR) genes. This Special Issue invites original research articles, reviews, and perspectives addressing the interactions between emerging chemical pollutants, microbial communities, and antimicrobial resistance in aquatic systems. Topics of interest include, but are not limited to: The environmental behavior, fate, and transformation of microplastics and EDCs;

Their effects on aquatic microbiota, resistomes, and biofilm formation;

Metagenomic, transcriptomic, or proteomic insights into pollutant–microbe interactions;

Mechanistic studies linking pollutant exposure to microbial adaptation or horizontal gene transfer;

Risk assessment and innovative mitigation strategies.

Guest Editors

Dr. Paulina Cholewińska

Dr. Konrad Wojnarowski

Prof. Dr. Naresh Singhal

Deadline for manuscript submissions

closed (20 May 2026)



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

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About the Journal

Message from the Editor-in-Chief

Environmental issues are quickly becoming central political, economic and academic topics of the twenty-first century. A large number of modern challenges are directly or indirectly caused by complex interactions between environmental issues. Such issues require interdisciplinary research, knowledge and insights to understand and, ultimately, for solutions to be found. Through the journal *Environments*, we strive to create a platform for meaningful discourse by accepting contributions from a wide range of fields. We sincerely hope you will consider publishing your distinguished work in this highly-accessible, peer-reviewed journal.

Editor-in-Chief

Prof. Dr. Sergio Ulgiati

1. Department of Science and Technology, Parthenope University of Naples, Centro Direzionale, Isola C4, 80143 Napoli, Italy

2. School of Environment, State Key Joint Laboratory of Environment Simulation and Pollution Control, Beijing Normal University, No. 19 Xijiekouwai Street, Beijing 100875, China

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 19.2 days after submission; acceptance to publication is undertaken in 2.8 days (median values for papers published in this journal in the second half of 2025).