Special Issue

Antibiotic Resistance in the Aquatic Environment: One Health and Environmental Health Perspectives

Message from the Guest Editors

Aquatic ecosystems are central to life on Earth, providing drinking water, food resources, biodiversity, and ecological balance. However, these environments are increasingly recognized as key reservoirs and transmission routes for antibiotic-resistant bacteria (ARB) and antibiotic-resistant genes (ARGs). This issue lies at the critical intersection of environmental microbiology and public health, underscoring the importance of a One Health approach.This Special Issue aims to explore the mechanisms, pathways, and consequences of resistance development and dissemination in water environments. We welcome original research articles and comprehensive reviews addressing themes such as the following:

- Detection and monitoring of ARB and ARGs in diverse aquatic systems.
- Links between environmental stressors, microbial community shifts, and resistance spread.
- Biofilms, symbioses, and horizontal gene transfer as drivers of resistance.
- Ecotoxicological and environmental health risks associated with aquatic resistance.
- Innovative remediation and treatment approaches for safeguarding water quality.

Guest Editors

Dr. Mariana Erasmus
Centre for Mineral Biogeochemistry, University of the Free State, Bloemfontein 9301, South Africa

Prof. Dr. Robert Bragg
Centre for Mineral Biogeochemistry, University of the Free State, Bloemfontein 9301, South Africa

Deadline for manuscript submissions

31 March 2026

Microorganisms

an Open Access Journal by MDPI

Impact Factor 4.2
CiteScore 7.7
Indexed in PubMed

mdpi.com/si/252992

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

mdpi.com/journal/microorganisms

Microorganisms

an Open Access Journal by MDPI

Impact Factor 4.2
CiteScore 7.7
Indexed in PubMed

mdpi.com/journal/microorganisms

About the Journal

Message from the Editor-in-Chief

"Microorganism" merges the idea of the very small with the idea of the evolving reproducing organism is a unifying principle for the discipline of microbiology. Our journal recognizes the broadly diverse yet connected nature of microorganisms and provides an advanced publishing forum for original articles from scientists involved in high-quality basic and applied research on any prokaryotic or eukaryotic microorganism, and for research on the ecology, genomics and evolution of microbial communities as well as that exploring cultured microorganisms in the laboratory.

Editor-in-Chief

Dr. Nico Jehmlich
Department of Molecular Toxicology, UFZ-Helmholtz Centre for Environmental Research, 04318 Leipzig, Germany

Author Benefits

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, PubAg, CAPlus / SciFinder, AGRIS, and other databases.

Journal Rank:

JCR - Q2 (Microbiology) / CiteScore - Q1 (Microbiology (medical))

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 20 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the second half of 2025).

MDPI