

Special Issue

Microbial Responses, Pollutant Toxicity Mechanisms, and Human Health Implications

Message from the Guest Editors

This Special Issue focuses on molecular, physiological, and ecological responses of organisms across microbiology, plant and algal physiology, aquatic biology, environmental chemistry, computational biology, and human health implications. Key areas include microbial tolerance and detoxification mechanisms, especially in response to heavy metals, and comparative/pangenomic approaches to uncover functional diversity and evolutionary patterns in bacteria and algae. The issue also highlights advances in algal and plant physiological responses under abiotic stress, microalgae cultivation, algal-microbial interactions, and their biotechnological applications. Additionally, it invites studies on aquatic organisms' responses to environmental stressors, emerging pollutants exposure, environmental toxicity, and climate-induced impacts. Research on human health implications of environmental stressors, including the role of microbiota in health and disease, is also welcome. Contributions employing machine learning and deep learning to analyze complex biological data and integrative approaches combining high-throughput data, experimental biology, and ecological modeling are encouraged.

Guest Editors

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Deadline for manuscript submissions

10 July 2026



Biology

an Open Access Journal
by MDPI

Impact Factor 3.5
CiteScore 7.4
Indexed in PubMed



mdpi.com/si/247593

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Message from the Editorial Board

A major strength of biological science is the diversity of approaches that biological scientists apply to their research problems. *Biology* reflects this diversity and brings together studies employing the varied experimental and theoretical approaches that are fueling biological discovery. *Biology*, the journal, is a fully peer-reviewed publication with a rapid and economical route to open access publication and is listed on PubMed. All articles are peer-reviewed and the editorial focus is on determining that the work is scientifically sound rather than trying to predict its future impact.

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