Special Issue

Research of Soil Microbial Communities

Message from the Guest Editor

Soil microbial communities are fundamental to terrestrial ecosystems, driving key biogeochemical processes like nitrogen fixation, methane oxidation, and organic matter decomposition. They regulate nutrient cycling, influence climate, and contribute to ecosystem stability. Leveraging microbial functions has improved sustainable agriculture by enhancing crop production, soil fertility, and carbon sequestration. Beneficial microbes promote plant growth, aid nutrient uptake, and protect against pathogens, while microbial-driven processes help mitigate greenhouse gas emissions. Environmental factors and human activities alter microbial composition and function, impacting soil health and biodiversity. Advances in sequencing, metabolomics, and isotope probing offer deeper insights into microbial interactions, enabling precision microbiome management to restore degraded soils and optimize agricultural practices. By harnessing soil microbiomes, we can enhance sustainability, resilience, and environmental conservation.

Guest Editor

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Deadline for manuscript submissions

31 August 2025

Microorganisms

an Open Access Journal by MDPI

Impact Factor 4.2
CiteScore 7.7
Indexed in PubMed

mdpi.com/si/232569

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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.

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