

Special Issue

Sustainable Application and Functional Roles of Microbial Communities in Soil, Sludge and Sediments

Message from the Guest Editors

This Special Issue aims to highlight cutting-edge research on the ecological functions, environmental adaptations, and sustainable applications of microbial communities in soil, sludge, and sediments. We welcome original research articles and comprehensive reviews from the fields of environmental microbiology, soil ecology, and bioremediation. Topics of interest include, but are not limited to, the following: (1) microbial diversity, community dynamics, and ecological interactions in soil, sludge, and sediments, with a focus on community composition, succession, and functional roles; (2) mechanisms underlying microbial degradation of heavy metals and organic pollutants, as well as strategies to enhance bioremediation efficiency; (3) microbial contributions to biogeochemical cycling, particularly in carbon, nitrogen, and phosphorus dynamics; (4) applications of microbial communities in soil health assessment, soil amendment, and plant–microbe interactions, with implications for sustainable agriculture; (5) advances in microbial ecological engineering, bioaugmentation, and synthetic biology approaches for environmental restoration and sustainability.

Guest Editors

Dr. Ke Dong
Dr. Guanlin Li
Dr. Lingling Shi

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

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Message from the Editor-in-Chief

I encourage you to contribute a research or comprehensive review article for consideration for publication in Sustainability, an international open access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full articles) and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

Prof. Dr. Steve W. Lyon

School of Environment and Natural Resources, Ohio State University,
Columbus, OH 43210, USA

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