Special Issue

Host–Microbiome Interactions: Genomic Analysis of Microbial Community Dynamics in AMR and Immunity

Message from the Guest Editors

Recent work has provided valuable insights into the dynamics and intricate interactions involved in the assembly of microbial communities. Large-scale studies are increasingly focused on characterizing taxonomic shifts at the interface of host–microbiome interactions. Network analyses of co-occurring microbes help to reveal the underlying taxonomic dependencies within these communities. Furthermore, the in-depth exploration of microbiome expression patterns is shedding light on gene-level interactions between host and microbes.

The Special Issue will use host–microbiomes genomic analysis to examine the microbiota as an expression of the underlying functional relationships of its components with the host. We welcome original research articles, reviews, or brief reports on topics including: characterization of antimicrobial resistance (AMR) and host–microbiome interactions, evolution of AMR mediated by microbiomes, microbiome resilience to antibiotic disruption, characterization of microbiomes' roles in facilitating defense against pathogens, and understanding host–microbiome interactions in stress responses.

Guest Editors

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Prof. Dr. Mariana Carmen Chifiriuc

Prof. Dr. Veronica Lazar

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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.

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manuscripts are peer-reviewed and a first decision is provided to authors approximately 15.2 days after submission; acceptance to publication is undertaken in 2.9 days (median values for papers published in this journal in the first half of 2025).

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