

Special Issue

Advances in Gut Microbiota–Host Interactions: Microbial Mechanisms, Modulators, and Translational Perspectives

Message from the Guest Editors

This Special Issue aims to provide an updated and integrative overview of gut microbiota–host interactions, with particular emphasis on microbial mechanisms, functional traits, and translational perspectives. We welcome original research articles, reviews, and conceptual papers exploring host–microbe interactions at molecular, cellular, metabolic, immunological, and neurobiological levels, with a specific focus on microbial functions and strain-specific activities.

Topics of interest include, but are not limited to, the following: microbial resilience and resistance to external perturbations (e.g., antibiotics, diet, environmental stressors); intrinsic and functional microbial traits; host genetic and epigenetic factors influencing microbiota composition; microbiota-derived metabolites and signaling pathways; and rational strategies for microbiota modulation. Particular attention will be given to mechanistically grounded frameworks that move beyond descriptive associations, offering biologically informed models capable of guiding experimental, clinical, and translational research.

Guest Editors

Dr. Maria Rosaria Matera

Department of Pediatric Emergencies, Misericordia Hospital, Grosseto, Italy

Dr. Lorenzo Drago

Department of Biochemical Sciences for Health, University of Milan, Milan, Italy

Deadline for manuscript submissions

31 July 2026



Microorganisms

an Open Access Journal
by MDPI

Impact Factor 4.2
CiteScore 7.7
Indexed in PubMed



mdpi.com/si/267683

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

[mdpi.com/journal/
microorganisms](https://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](https://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).