

Special Issue

Advances in Magnetotactic Bacteria

Message from the Guest Editor

Magnetotactic bacteria are a group of Gram-negative bacteria uniquely characterized by their ability to synthesize magnetosomes through intracellular biomineralization. These magnetosomes are arranged in chains, forming a "biological compass" that enables the bacteria to orient themselves along Earth's magnetic field, thereby efficiently navigating to optimal habitats. Despite their near-ubiquitous ecological distribution and remarkably versatile ecological functions, numerous unresolved mysteries persist regarding these microorganisms. This special issue highlights multidisciplinary advances in magnetotactic microorganisms (encompassing bacteria and unicellular eukaryotes), including but not limited to:

- Isolation, cultivation, and genomic characterization of novel species;
- Molecular regulatory mechanisms governing magnetosome biomineralization;
- Ecological studies on their roles in natural ecosystems;
- Evolutionary origins reconstructed through fossil records and comparative genomics.

We cordially invite scholars in related fields to contribute original research articles or review papers to collectively advance breakthrough understanding in this interdisciplinary domain.

Guest Editor

Dr. Hongmiao Pan

CAS Key Laboratory of Marine Ecology and Environmental Sciences,
Institute of Oceanology, Chinese Academy of Sciences, Qingdao
266071, China

Deadline for manuscript submissions

closed (30 April 2026)



Microorganisms

an Open Access Journal
by MDPI

Impact Factor 4.2
CiteScore 7.7
Indexed in PubMed



mdpi.com/si/240515

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).