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

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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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