Special Issue

Rumen Microorganisms

Message from the Guest Editors

The rumen of ruminants—nature's most efficient bioreactor—harbors a complex ecosystem composed of trillions of bacteria, archaea, protozoa, and fungi. This unique microbial fermentation system transforms low-quality plant fibrous materials—inedible by humans—into high-quality animal protein for human consumption, while its reservoir of natural enzyme resources provides disruptive solutions for bioenergy and green industry.

This Special Issue aims to gather cutting-edge research regarding the rumen microbiome. We welcome original research articles, reviews, or brief reports on topics including:

1. Composition and functional evolution of rumen and intestinal bacteria, archaea, fungi, and protozoa under dietary interventions and environmental stresses.
2. Genetic background–microbiome synergistic regulatory mechanisms.
3. Inhibitor development and microbial targeted regulation.
4. Isolation and functional characterization of uncultivated microorganisms; application of extremophilic enzymes in feed/biomanufacturing.
5. Microbial interaction networks and metabolic flux in the rumen microenvironment.

Guest Editors

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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.

Editor-in-Chief

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Journal Rank:

JCR - Q2 (Microbiology) / CiteScore - Q1 (Microbiology (medical))

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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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