Special Issue

Renaissance of Kinetic Studies in Modern Microbiology

Message from the Guest Editor

Kinetic studies deal with process rates, aiming for a better understanding of underlying mechanisms and developing optimal control. It implies a combination of experimental studies with mechanistic mathematical models. This approach is widely accepted in enzymology; as a result, enzymologists can distinguish between different types of inhibition or activation, test various hypotheses, and confidently predict reaction progress. This Special Issue is open to a wide range of contributions, including but not limited to the following:

- Development of a methodology to monitor microbial growth dynamics in various cultivation systems, from nano-devices to industrial bioreactors.
- Mathematical simulations of microbial growth using simple and comprehensive models, including genome-scale dynamic reconstructions.
- Experimental dynamic studies of microbial growth in batch or continuous cultures, accompanied by transcriptomic, proteomic, and other omics data.
- Opinion-style commentaries discussing the philosophy and modern trends in fundamental biokinetic research and its applications.

Guest Editor

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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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