Modeling Methods for Fermentation Processes

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Since the advent of modern biotechnology initiated scientific research towards quantitative analysis of fermentation processes, various modeling tools have been applied and newly devised. This started around 50 years ago with the transfer of knowledge from chemical engineering to describe bioreactors, using mainly empirical equations, accompanied by unstructured models for the biological reactions. Beyond empirical and mechanistic models, a third approach to fermentation modeling is evolving, which is data-driven (e.g., machine learning).

This Special Issue aims to collect state-of-the-art publications on all modeling methods and their hybrid variants, from basic research to applications in industry, to provide an overview and initiate the creation of new approaches. Strengthening modeling will improve the efficiency, sustainability, and profitability of fermentation-based industries by understanding the underlying mechanisms of the system, optimizing the process parameters, and minimizing waste generation and resource consumption.

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Guest Editor

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Special Issue

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Message from the Editor-in-Chief

Welcome to a new open access journal, Fermentation, which meets the growing need for a high quality peerreviewed international journal with easy access to all researchers globally. We hope that you will share our enthusiasm for this new journal and look forward to working with you to make Fermentation a leader in its field. Your contributions are vital for the success of this new journal. Proposals for editing a special issue for a particular topical area are always welcome.

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