Special Issue

Microbial Processes for Biomass Conversion to Bioenergy

Message from the Guest Editors

The sustainable conversion of biomass into bioenergy is a key strategy to address global energy demands while reducing environmental impacts. Microorganisms play a central role in this process, driving the transformation of complex biomass components into valuable biofuels through metabolic pathways and enzymatic activities. This Special Issue aims to bring together recent advances in the understanding and application of microbial processes in the conversion of biomass sources—such as lignocellulosic materials, including agro-industrial and forest residues and by-products—into bioenergy. Topics of interest include microbial strain development, metabolic engineering, process optimization, pretreatment strategies, enzyme technology, and integrated biorefinery approaches. Contributions covering fundamental studies, novel bioprocesses, pilot-scale demonstrations, and techno-economic or life-cycle assessments are welcome. Both original research articles and comprehensive reviews are encouraged, fostering interdisciplinary dialogue to accelerate the transition toward a sustainable bio-based energy future.

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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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