Special Issue

Recent Advancements in Fermentation Technology: Biofuels Production

Message from the Guest Editors

Fermentation technology remains central to the advancement of next-generation biofuels, particularly bioethanol, which stands as a leading sustainable alternative to fossil fuels. Recent breakthroughs in microbial engineering, synthetic biology, and bioprocess optimisation have significantly improved the efficiency, yield, and feedstock flexibility of bioethanol production. Techniques such as metabolic pathway engineering, adaptive laboratory evolution, and co-culture systems are expanding the use of non-food biomass, including lignocellulosic materials and industrial residues.
This Special Issue aims to highlight cutting-edge innovations in fermentation with a special focus on their application in bioethanol production. It will explore current challenges, practical implementation strategies, and future outlooks. By bridging biology and engineering, this collection will showcase how modern fermentation technologies are driving progress in the biofuels sector and accelerating the global energy transition.

Guest Editors

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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.

Editor-in-Chief

Dr. Badal C. Saha
Retired, National Center for Agricultural Utilization Research, USDA-ARS, Peoria, IL, USA

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