Special Issue

Sustainable Bioconversion of Biomass and Waste

Message from the Guest Editor

The increasing global demand for sustainable energy and materials has intensified the need for efficient, eco-friendly utilization of biomass and waste resources. Bioconversion offers a promising route to transform organic substrates—including agricultural residues, food waste, sewage sludge, and lignocellulosic biomass—into valuable bio-based products such as biogas, biohydrogen, bioethanol, organic acids, and other biofuels. This Special Issue presents recent research advances in biomass and waste bioconversion, with a focus on sustainable strategies and novel biotechnological approaches. Topics include anaerobic digestion, dark fermentation, microbial electrochemical technologies, integrated biorefinery systems, and process intensification techniques. Studies addressing environmental impacts, life cycle assessment (LCA), and techno-economic analyses are also encouraged. We particularly welcome interdisciplinary research and innovative solutions that improve conversion efficiency, reduce emissions, and support circular bioeconomy development. Original research and comprehensive reviews are invited.

Guest Editor

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I encourage you to contribute a research or comprehensive review article for consideration for publication in *Sustainability*, an international Open Access journal which provides an advanced forum for research findings in areas related to sustainability and sustainable development. *Sustainability* publishes original research articles, review articles and communications. I am confident you will find the journal contributes to enhancing understanding of sustainability and fostering initiatives and applications of sustainability-based measures and activities.

Editor-in-Chief

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