



Recent Advances in Biorefinery Approaches for Sustainable Development

Guest Editors:

Dr. Karthik Rajendran

Department of Environmental Science, School of Engineering and Sciences, SRM University-AP, Amaravati 522502, India

Dr. Deepak Kumar

Department of Chemical Engineering, SUNY College of Environmental Science and Forestry, Syracuse, NY 13210, USA

Dr. V.S. Vigneswaran

Department of Environmental Science, School of Engineering and Sciences, SRM University-AP, Amaravati 522502, India

Deadline for manuscript submissions:
closed (10 January 2024)

Message from the Guest Editors

Biorefinery is a sustainable process that converts biomass into energy and bio-based products. In order to advance sustainable development, biorefinery approaches must include economic and environment aspects. Techno-economic and environmental analysis tools have been used to assess the sustainability of different biorefinery processes. Recent developments in artificial intelligence and machine learning techniques have provided new opportunities for biorefinery approaches to parameter optimization and enabled biofuel production prediction. The comprehensive analysis of biorefineries is similar to the life cycle assessment, which is a tool helping to ensure the sustainability of biorefineries. Sustainable biorefinery approaches contribute to establishing a stronger bioeconomy.

This Special Issue covers the following areas:

- Application of AI and ML in biorefinery;
- System analysis and biorefiner;
- Biorefinery with carbon capture;
- Life cycle assessment;
- Policy analysis of biorefinery;
- Advancements in biorefinery;
- Low-carbon biorefinery and related areas.

We invite you to contribute articles or comprehensive reviews to this Special Issue.





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Marc A. Rosen

Faculty of Engineering and
Applied Science, University of
Ontario Institute of Technology,
Oshawa, ON L1G 0C5, Canada

Message from the Editor-in-Chief

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.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE and SSCI (Web of Science), GEOBASE, GeoRef, Inspec, AGRIS, RePEc, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q2 (*Environmental Studies*) / CiteScore - Q1 (*Geography, Planning and Development*)

Contact Us

Sustainability Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/sustainability
sustainability@mdpi.com
[X@Sus_MDPI](https://twitter.com/Sus_MDPI)