# **Special Issue**

# Biorefining and Circularity Towards Absolute Sustainability: Design, Modelling, and Optimization of Emerging Technologies and Flagship Biorefineries

# Message from the Guest Editors

Here's a reduced version of your text, not exceeding 1000 characters: The rising demand for energy, materials, and chemicals, coupled with climate change and resource depletion, underscores the need for sustainable solutions. Biorefineries offer a promising approach, evolving from biomass conversion to broader sustainable practices. By leveraging renewable feedstocks (e.g., biomass, captured CO2) and efficient strategies, biorefineries can drive a circular bioeconomy, reduce emissions and deforestation, minimize waste, and enhance resource recovery. This Special Issue invites research on biorefinery design, modeling, and optimization, focusing on innovative concepts and technologies that support the transition to a sustainable bioeconomy and mitigate environmental impacts. Topics include:

- Renewable feedstock conversion into fine and bulk chemicals.
- Biofuels and bioenergy (e.g., biodiesel, SAF, biochar).
- Biofertilizers (e.g., inoculants).
- CO2 capture and utilization in biorefineries.

### **Guest Editors**

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# Deadline for manuscript submissions

closed (27 October 2025)



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# 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. The journal publishes original research articles, reviews, conference proceedings (peer reviewed full 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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