

# Special Issue

## Integrated Bioenergy Systems: Process Optimization and Sustainable Fuel Production

### Message from the Guest Editors

Transitioning to a low-carbon energy future requires the development of efficient, integrated bioenergy systems capable of converting biomass and waste resources into sustainable fuels. Such systems play a pivotal role in reducing greenhouse gas emissions, diversifying energy supply, and enhancing energy security. This Special Issue aims to provide a platform for innovative research and technological advances in bioenergy systems, with an emphasis on process optimisation, system integration, and sustainability assessments. Research areas may include, but are not limited to, the following: thermochemical, biochemical, and hybrid conversion pathways; co-production of biofuels, bioproducts, and energy; carbon capture and utilisation in bioenergy systems; digital tools and modelling approaches for process optimisation; and policy frameworks supporting sustainable fuel production. We look forward to receiving your contributions to advance the science and implementation of integrated bioenergy systems.

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### Guest Editors

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### Deadline for manuscript submissions

18 May 2026





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## Editor-in-Chief

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