Special Issue

Advanced Biofuel Production Processes and Technologies

Message from the Guest Editor

Innovative methods such as thermochemical processes, catalytic conversion, and enzymatic hydrolysis have significantly enhanced fuel yield, efficiency, and cost-effectiveness. These technologies are continuously evolving to improve process efficiency and resource utilization. Automation and advanced processing technologies are pivotal in streamlining biofuel production, enhancing scalability, and ensuring environmental sustainability. These innovations align with global goals to reduce greenhouse gas emissions, mitigate climate change, and transition toward renewable energy systems. Topics include, but are not limited to, the following:

- Advanced technologies for the characterization of biomass for biofuels;
- Innovative physicochemical methods for biofuel production;
- Processing and upgradation technologies for biofuels;
- Enzymatic or bioenhanced biofuel production;
- Mathematical modelling for efficient biofuel production;
- Life cycle analysis of biofuel production processes;
- Integration of biofuel in sustainable and circular economy;
- Biofuels for the mitigation of climate change;
- Novel/next-generation biomass for advanced biofuels.

Guest Editor

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Editor-in-Chief

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