

Special Issue

Advanced Catalysts and Integrated Strategies for the Selective Electrooxidation and Valorisation of Biomass/Biofuels

Message from the Guest Editors

The selective electrooxidation and valorisation of biomass and biofuels represent a sustainable pathway for producing high-value chemicals, fuels, and energy carriers, contributing to a circular bioeconomy. This Special Issue aims to showcase the latest advances in catalyst design, reaction engineering, and integrated strategies that enhance the efficiency, selectivity, and stability of electrochemical and catalytic processes for biomass conversion. We welcome contributions on novel heterogeneous, homogeneous, and hybrid catalysts, as well as mechanistic studies that provide insights into reaction pathways and active sites. Topics of interest include, but are not limited to, selective electrooxidation of platform molecules, coupled electrocatalytic and thermocatalytic systems, biomass-derived feedstock valorisation, and process intensification approaches. Interdisciplinary studies combining experimental and computational methodologies, in situ characterization techniques, and sustainability assessments are highly encouraged.

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