

Special Issue

Heterogeneous Photocatalysis for Green and Sustainable Chemistry

Message from the Guest Editors

As a green technology featured with the advantages of operating in mild conditions and using solar energy as the driving force, heterogeneous photocatalysis represents a particularly effective approach to achieving these objectives. This process generally involves the use of semiconductors or metal nanoparticles which become energised by light to activate the adsorbed molecules. Recently, significant advances have been made in heterogeneous photocatalysis, particularly for the valorisation of biomass and waste plastics, CO₂ fixation, and selective organic transformations. These advances have opened new opportunities to address the energy- and environmental-related challenges. This Special Issue aims to explore the latest advances in both the fundamental and the applied aspects of heterogeneous photocatalysis. Topics of interest include (but are not limited to) the following:

- New photocatalytic reaction mechanisms;
- New photocatalysts and characterisation techniques;
- Valorisation of waste biomass;
- Recycling and upcycling of waste plastics;
- CO₂ fixation, water splitting, and selective organic transformations;
- Environmental photocatalysis.

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