

Special Issue

Synthesis and Application of Photocatalysts

Message from the Guest Editors

This Special Issue on “Synthesis and Application of Photocatalysts” seeks to offer perspectives on addressing existing challenges and propelling the field toward more efficient, scalable, and eco-friendly solutions. Topics include, but are not limited to, the following:

- Recent advances in photocatalyst synthesis methods, innovations and challenges
- Designing high-performance photocatalysts for solar hydrogen production
- Photocatalytic water splitting: new materials and mechanisms
- Applications of photocatalysts in environmental remediation and wastewater treatment
- Photocatalytic CO₂ reduction: strategies for efficient carbon capture and conversion
- Heterostructured photocatalysts for enhanced charge separation and reactivity
- Metal–organic frameworks (MOFs) in photocatalysis: synthesis, functionality, and applications
- Nanoarchitectures for photocatalysis: tailoring size, shape, and surface for enhanced performance
- Biodegradable and green photocatalysts for sustainable chemical processes
- Computational approaches in photocatalyst design: predicting performance and identifying new materials

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