

Special Issue

Nanostructured Photocatalysts for Hydrogen Production

Message from the Guest Editors

As the limitations of fossil fuels become increasingly evident, the development of photocatalysts for hydrogen production has emerged as a crucial step in our quest for clean and sustainable energy solutions. Nanostructured materials offer a promising path forward through solar-driven water splitting, owing to their exceptional light absorption, charge separation efficiency, and catalytic performance. Despite these advantages, challenges such as optimizing performance, stability, and cost-effectiveness persist. To address these challenges, innovative strategies are being actively pursued, including the development of hybrid materials, precise engineering of nanostructures, and advanced computational modeling. This Special Issue aims to highlight the latest research and breakthroughs in nanostructured photocatalysts for hydrogen production. We invite submissions of original research articles and reviews that explore novel synthesis techniques, comprehensive characterization, insightful studies on structure–property correlations, and pioneering applications.

- H₂ evolution
- photocatalysis
- water splitting
- nanocrystals
- hybrid

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