Special Issue

Research Progress of Nanomaterials for Photocatalysis

Message from the Guest Editor

Semiconductor nanomaterials and heterojunctions, including those with (noble) metal nanoparticles, are critical to photocatalysis. Over the past several decades, advances have been made to boost photocatalytic performance by designing multicomponent catalysts for a more efficient charge separation. The applications span a wide range of vital areas for the future of human society; the most important among them are solar energy harvesting for water splitting, CO2 reduction, and pollutant and microorganism control. This Special Issue of "Nanomaterials" will address current progress and future perspectives of nanophotocatalysts. We are inviting qualified reviews and progress research papers on the following topics:

- Nanomaterials design for photoelectrocatalysts, including 0D, 1D and 2D nanomaterials and their applications to water splitting;
- Nanophotocatalysts for CO2 reduction;
- Nanophotocatalysts for pollutant and microorganism control;
- Processing methods, including but not limited to chemical, electrochemical and biomimetic methods;
- Nanophotocatalysts support design, processing, and property control.

Guest Editor

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Deadline for manuscript submissions

15 April 2026

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/228844

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Message from the Editor-in-Chief

Nanoscience and nanotechnology are exciting fields of research and development, with wide applications to electronic, optical, and magnetic devices, biology, medicine, energy, and defense. At the heart of these fields are the synthesis, characterization, modeling, and applications of new materials with lower nanometer-scale dimensions, which we call “nanomaterials”. These materials can exhibit unusual mesoscopic properties and include nanoparticles, coatings and thin films, metal–organic frameworks, membranes, nano-alloys, quantum dots, self-assemblies, 2D materials such as graphene, and nanotubes. Our journal, *Nanomaterials*, has the goal of publishing the highest quality papers on all aspects of nanomaterial science to an interdisciplinary scientific audience. All of our articles are published with rigorous refereeing and open access.

Editor-in-Chief

Prof. Dr. Eugenia Valsami-Jones
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