Special Issue

Applications of Graphitic Carbon Nitride in Photocatalysis

Message from the Guest Editors

Graphitic carbon nitride (g-C3N4) has emerged as a promising photocatalyst due to its tunable bandgap, chemical stability, and cost-effectiveness. This Special Issue will explore the advancements in graphitic carbon nitride's design, synthesis, and applications in photocatalysis and photothermal catalysis, focusing on their synergistic integration with photothermal conversion and graphene doping to enhance solar energy utilization. We encourage contributions addressing key challenges, such as charge carrier separation, visible-light absorption, and catalytic efficiency, using novel synthesis strategies, heterojunction engineering, and in situ characterization techniques.

The key topics will include the following:

(1) Photothermal conversion mechanisms in graphitic carbon nitride composites for dual-energy applications.

(2) Graphene doping to improve the conductivity and electron transport in photocatalytic systems.

(3) The design of graphitic carbon nitride hybrids containing transition metals or organic linkers for pollutant degradation and hydrogen production.

(4) The design of optically controlled phase change materials for solar energy storage.

Guest Editors

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Deadline for manuscript submissions

closed (26 February 2026)

Nanomaterials

an Open Access Journal by MDPI

Impact Factor 4.3
CiteScore 9.2
Indexed in PubMed

mdpi.com/si/249878

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

Editor-in-Chief

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