Special Issue

Nanomaterials for the Photocatalytic Degradation of Pollutants, Hydrogen Evolution and Ammonia Production

Message from the Guest Editor

Photocatalytic degradation, hydrogen production, and the synthesis of ammonia have been developed over the course of decades and are considered green and advanced technologies in the environmental and energy fields. Now, efficient visible light absorption and the rapid separation of photogenerated electron–hole pairs are the main factors used to improve their photocatalytic efficiency. Therefore, the generation, transfer, and reaction of photogenerated carries has become the core focus of photocatalytic research. In general, photogenerated electrons and holes can be modulated by controlling their composition, morphology, surface defects, surface coordination environment, and composite catalysts. This Special Issue of *Nanomaterials* aims to delve deeper into the mechanisms and processes involved in photocatalytic degradation, hydrogen production, and the synthesis of ammonia. The relationship between the surface properties of photocatalysts and their catalytic performance is of particular interest. With this Special Issue, we invite contributions from leaders in this field, with the aim of presenting the latest developments in the discipline.

Guest Editor

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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

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