Special Issue

Photofunctional Nanomaterials and Nanostructure, Second Edition

Message from the Guest Editor

This Special Issue focuses on progress in the design, synthesis, photophysics, photochemistry, and applications of photoluminescent, photothermal, photovoltaic, photocatalytic, and photoresponsive nanomaterials. Research on light–matter interactions, photolithography, laser fabrication, optical metamaterials, nonlinear optics, light-induced structural transformation, and ultrafast carrier dynamics is also included. As such, we welcome contributions that address, but are not limited to, the following themes:

- Design and synthesis of novel photoluminescent, photothermal, photovoltaic, photocatalytic, and photoresponsive nanomaterials;
- Applications of photofunctional nanomaterials in optoelectronics, energy, and biomedicine, such as solar cells, light-emitting diodes, photodetectors, photonic synapses, nano/micro-lasers, photonic integration, optical sensing, bioimaging, biosensing, phototherapy, etc.;
- Fundamental photophysics, photochemistry, and ultrafast carrier dynamics underlying photon conversion and utilization;
- Interactions of photofunctional nanomaterials with metamaterials/photonic crystals/surface plasmonics/optical cavities;
- Laser fabrication of photofunctional nanomaterials.

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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