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Luminescent Nanomaterials and Their Applications

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Message from the Guest Editor

In the past two decades, luminescence nanomaterials have attracted a considerable amount of interest because of their unique physicochemical, structural, and spectroscopic characteristics. Apart from their applications in classic phosphor technologies such as in fluorescent lamps, light emitting diodes, emission displays, X-ray detectors, and tomography, luminescent nanomaterials continue to provide breakthroughs in the areas of security (banknotes, identification documents, etc.), biological labeling (e.g., in research and for non-invasive medical diagnosis), sensing, and photovoltaics.

The topics of the issue tentatively include but are not limited to:

- Synthesis of novel luminescent nanomaterials;
- Nanostructured optical materials for biomedical applications, such as biological imaging, biosensors, and photothermal therapy;
- Luminescent nanoparticles for lighting, imaging, security, and sensing applications from UV to mid-infrared spectral regions;
- New inorganic and organic nanomaterials for spectral conversion;
- Quantum cutting, upconversion, and luminescence downshifting nanomaterials;
- Transition metal dichalcogenide single-photon emitters such as WSe₂, hBN, etc.



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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.

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