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Recent Advances of Upconversion Nanoparticles

Guest Editor:

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Deadline for manuscript submissions:
closed (30 June 2022)

Message from the Guest Editor

Dear Colleagues,

Lanthanide-doped upconversion nanoparticles (UCNPs) can convert multiple low-energy near infrared (NIR) photons into high-energy visible and ultraviolet (UV) light. Due to NIR light (650–950 nm and 1000–1350 nm) being able to efficiently pass through thick tissue, known as the "biological transparent window", UCNPs are highly attractive as nanoprobes for biomolecular detection and imaging and as NIR photon transducers to deliver localized visible and UV emissions in live cells.

This Special Issue aims to provide an overview of the recent developments in upconversion nanosystems, including but not limited to:

1. Synthesis and morphology control of upconversion nanoparticles;
2. Optical properties of upconversion nanoparticles;
3. Single particle characterization of upconversion nanoparticles;
4. Hybrid upconversion nanoparticles;
5. Surface function of upconversion nanoparticles;
6. Application of upconversion nanoparticles.

Dr. Shihui Wen
Guest Editor

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Editor-in-Chief

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

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