Special Issue

Multifunctional Nanomaterials Based on Oxide Nanocrystals: Synthesis, Properties and Applications

Message from the Guest Editors

Centrosymmetric and non-centrosymmetric oxide nanocrystals are known as multifunctional nanomaterials because of their structure-induced properties that may include magnetism, catalytic activity, piezoelectricity and harmonic generation. On the other hand, the extremely rich physicochemical properties of oxide nanocrystals and their capacity to undergo surface chemical modification have paved the way to new proof-of-concepts in the nanomedicine field. This special issue of Nanomaterials will highlight different aspects of oxide nanocrystals spanning from their chemical preparation and surface post-functionalization to their specific physicochemical properties and to their potential to new applications. Potential topics include, but are not limited to:

- Wet-chemical routes leading to morphology control;
- Formation mechanisms with identification of the transient species;
- Preparation of new centrosymmetric and non-centrosymmetric hosts;
- Multiphoton microscopy and multimodal imaging;
- Incorporation of luminescent species;
- Surface functionalization for bio-related applications;
- Drug delivery.

Guest Editors

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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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