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Structural and Functional Nanocrystalline (NC) Materials

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Message from the Guest Editors

In recent decades, tremendous efforts have been spent on the development of high-performance nanocrystalline (NC) materials. One of the most intriguing features of NC materials is their potential to obtain outstanding mechanical properties. In addition to the mechanical aspect, NC materials have also exhibited unique behaviors in their optical, magnetic and chemical properties. Recently, a wide variety of applications in chemical sensing, catalysis and energy harvesting has been demonstrated with the use of novel NC materials.

The present Special Issue of *Nanomaterials* aims to deliver state-of-the-art in the field of NC materials. Researches from both traditional and interdisciplinary fields are welcome. Potential topics include, but are not limited to:

1. Novel preparation methods for NC materials.
2. Advanced characterization techniques for NC materials.
3. Fabrication of NC-material-based functional devices.
4. Theory on scale effects on the properties of NC materials.
5. Studies on the thermal and structural stabilities of NC materials.
6. Data-driven design of new-type NC materials.
7. Additive and subtractive manufacturing of NC materials.



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Special Issue



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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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