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Solution Synthesis, Processing, and Applications of Semiconducting Nanomaterials

Guest Editor:

Prof. Dr. Julia W. P. Hsu

Department of Materials Science
and Engineering, University of
Texas at Dallas, Richardson, TX
75080, USA

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Message from the Guest Editor

Semiconducting nanomaterials synthesized using solution methods have played important roles in a wide variety of electronic and optical applications, such as solar cells (SCs), light emitting diodes (LEDs), photodetectors, and sensors. The frontiers in synthesis include new compounds, reducing the size of nanomaterials, increasing the crystallinity of nanocrystals, alternative green synthesis methods to reduce waste and energy, and surface functionalization and characterization. Furthermore, great challenges are encountered in processing nanomaterials from suspensions to uniform thin films on different substrates for optoelectronic device applications. While many publications focus on synthesis and applications of solution-based nanomaterials, issues related to processing, e.g., solvent choice, surface compositions and ligands, and deposition methods, are addressed infrequently. This Special Issue solicits submissions on processing of solution-based semiconducting nanomaterials in addition to their synthesis and applications.



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Special Issue



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Editor-in-Chief

Prof. Dr. Shirley Chiang

Department of Physics, University
of California Davis, One Shields
Avenue, Davis, CA 95616-5270,
USA

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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Nanomaterials Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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