



Soft Nanocomposites in Electronic and Optical Devices

Guest Editor:

Prof. Linda S. Hirst
UC Merced, School of Natural
Sciences, Merced, USA

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Message from the Guest Editor

The ability to controllably combine conventional hard nanoscale materials with a soft host phase opens up an enormous range of possibilities for innovation in electronic and optical materials and devices. In recent years, there has been a surge of interest in developing polymer and liquid crystal nanocomposites that incorporate the functionality of included nanoparticles into a complex fluid base material such that the composite is amenable to device manufacture in a variety of geometries. To achieve the necessary spatial control of nanoparticles for use in devices, researchers must gain expertise in particle dispersion and controlled assembly in complex solvents. This has largely been achieved by novel approaches to ligand design and the development of advanced assembly methods, focusing in detail on the nanoscale interactions between surface-modified particles and the host phase. In this Special Issue, suitable topics include fundamental ligand design and synthesis, nanoparticle/host phase interactions, defect and phase transition-based assembly methods, mesoscale structural assembly and device design and evaluation.





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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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