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Polymer Based Nanocomposites: Experiment, Theory and Simulations

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Message from the Guest Editor

Dear Colleagues,

Polymer-based nanocomposites have emerged as particularly promising materials for a wide range of applications in industry, environmental processes, biomedicine, energy production and storage, and electronics. The possibility of combining polymer and nanofiller properties in order to produce new materials with desirable physicochemical behavior, as well as controllable thermal, mechanical, and electrical responses, in a cost-effective manner is based on our ability to understand the structure-property relation stemming from the fundamental interactions at the nanoscale. It is necessary that analytical theory, simulations, and experimental studies are utilized in a synergistic manner towards the establishment of well-defined protocols to predict static, dynamic, and thermodynamic properties under different physicochemical environments and external stimuli. This Special Issue encourages the submission of manuscripts which present new developments on the fabrication procedures, analytical descriptions, and computational models of such materials. Efforts which follow complementary experimental and/or theoretical/simulation approaches are particularly welcome.



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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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