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## Advances in Polymer Nanocomposite Films

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### Message from the Guest Editors

Polymer nanocomposite films enable the development of improved batteries and fuel cells for cleaner energy production and storage, nanogenerators capable of harvesting energy, novel membranes or coatings for biomedical devices with both diagnostic and therapeutic capabilities, membranes for water purification, etc., that are biodegradable and sustainable, compatible with the implementation of a circular economy. This Special Issue aims to highlight the relevance of the polymer matrix structure on polymer-filler and filler-filler interactions at different structural levels ranging from the atomic to the nano/micro scale, and their impact on the resulting properties of the polymer nanocomposites. Special attention is focused on interface and surface effects and their modification induced by external actuation.

We are pleased to invite you to present your research related to the characterization, synergistic effects, synthesis routes and high-level performance of polymer nanocomposite films. We look forward to receiving your contributions.



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# Special Issue



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## Editor-in-Chief

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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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