Special Issue

Conductive Polymer Nanocomposites: From Synthesis to Applications

Message from the Guest Editors

This Special Issue invites high-quality contributions on conductive polymer *nanocomposites—materials* that combine the flexibility and processability of conjugated polymers with the superior electrical, mechanical, and functional properties of *nanoscale* fillers. With rapid advances in flexible electronics, energy storage, smart sensing, biomedical engineering, and electromagnetic shielding, traditional conductive materials can no longer meet the growing demands for tunable conductivity, stability, and scalable production. This Issue will bridge fundamental research and industrial translation by covering the full lifecycle of these *nanocomposites—from* controlled, green, and scalable synthesis and *nanoscale* interface engineering to structural characterization, property optimization, and real-world applications. **Core objectives:**

- Highlight breakthroughs in synthesis and fabrication mechanisms
- Clarify *nanoscale* structure–property and charge-transport relationships
- Showcase innovative applications in energy, biomedical, and environmental fields

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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. We are proud of our increasing impact factor and ability to provide rapid decisions to authors.

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