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Preparation and Microstructural Analysis of Polymer-Based Nanocomposites

Guest Editor:

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Message from the Guest Editor

The exploration and application of nanomaterials to customize the properties of various polymer types, whether conventional or bio-based, have yielded highly promising outcomes. These advancements encompass enhanced mechanical properties, improved electrical conductivity, captivating optical properties, antimicrobial capabilities, and more, where these properties are typically unattainable by the pristine polymer alone.

The transformative potential of nanomaterials covers a wide spectrum, encompassing metallic and ceramic nanoparticles, carbon-based wonders such as carbon nanotubes and graphene, and bio-inspired nanomaterials such as chitosan nanoparticles and cellulose nanocrystals. This diverse repertoire of nanomaterials propels innovations, driving significant advancements in the development of polymer nanocomposites across various advanced applications.

The interdependence between microstructure morphology and the final properties of the developed polymer nanocomposites is significant. This Special Issue focuses on the examination and study of microstructure tailored to both macro and nano levels in prepared polymer nanocomposites for achieving desired end-properties.





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Message from the Editor-in-Chief

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