

Special Issue

Thermoplastic Nanocomposites

Message from the Guest Editor

Thermoplastic nanocomposites are a class of materials combining the low density, good processability and low cost of thermoplastic polymeric matrices with the functional properties imparted by dispersed nanostructured fillers. In the last few years, some undeniable and important advances concerning the improvement of mechanical, barrier and thermal properties of such nanomaterials have been achieved by optimizing the morphological and topological structure of composites, by tuning the segregation of nanoparticles in amorphous/crystalline domains or at the interfaces of immiscible polymer blends. At the same time, new and interesting research leanings have been exploited to transfer features of modified nanofillers, used as carriers of peculiar functionalities, to polymer matrices. This is generally aimed at designing polymer hybrids that exhibit the specific viscoelastic behavior of the thermoplastic materials together with optical, electrical, and bioactive characteristics suitable for semiconductor devices and sensing platforms for packaging and biomedical applications.

Guest Editor

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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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