



Multifunctional Polymer Nanocomposites

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Message from the Guest Editors

Dear Colleagues,

Polymer nanocomposites have attracted considerable interest in both academia and industry, owing to their outstanding properties. The main advantages of nanocomposites, compared to conventional microcomposites, are the formation of a strong interfacial area and polymer/filler adhesion at interface. Adding nanoparticles to a polymer matrix not only increases the mechanical properties, like elastic stiffness and strength, but also provides novel functional properties, such as barrier resistance, flame retardancy, scratch resistance, and thermal and electrical conductivity, among others. It is possible to develop tunable materials for specific structural and functional applications.

The scope of this Special Issue is to address the recent developments and applications of multifunctional nanoparticle/polymer nanocomposite, including fundamental structure/property relationships, processing techniques, and numerical modeling. Special emphasis will be placed on the development of nanocomposites for transport and energy applications.





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