Special Issue

Development of Structure and Barrier Properties of Polymer Nanocomposite Films

Message from the Guest Editor

This Special Issue (SI) publishes original research articles, review articles, and short communications regarding the preparation and development of original polymer-based nanomaterials with particular morphology and performance in terms of thermal, mechanical, and transport properties by vapor or gas sorption and water and gas permeation processes. The morphology data can be through hierarchical and multigrade approaches. We aim to present a collection of papers that reflect relationships between the design of nanocomposite films, their morphology, and microstructure with barrier performance. Articles with a focus on biopolymer-based nanocomposites with layered structures and/or incorporating unusual, grafted, and mixed fillers that may be applied in various fields such as medicine, packaging, automotive, transportation, sports, energy storage, water purification, gas separation, and sensors are of interest. In addition, studies on synthetic polymers that fit the scope of the Special Issue are also welcome.

Guest Editor

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Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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