Special Issue

Polymers and Plastic Waste: Properties, Mechanics, Chemical and Thermal Recycling

Message from the Guest Editors

The aim of this Special Issue is to present research papers that focus on the characteristics and thermomechanical processes of polymers and their composites with various materials. Recognizing the role of different fillers in polymer composites is crucial for developing new composites and enhancing existing ones. Progress in the engineering of polymer materials, particularly in the quest for innovative polymer composites with tailored properties, has broadened their application scope, especially in automotive, construction, energy, packaging, and healthcare sectors. The effective use of new polymer materials necessitates an understanding of their mechanical and thermal properties, as well as awareness of how these properties change during use and degradation. Environmental considerations are also significant, encompassing the pyrolysis and combustion of polymers, the thermal recovery of energy from polymer waste, and other applications of recycled polymer materials. It is essential to carry out model studies on the property changes of polymer materials and to employ computer simulations to analyze the exploitation and thermal behavior of polymers.

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Message from the Editor-in-Chief

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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