

Special Issue

Synthesis and Application of Polymer-Based Membranes

Message from the Guest Editors

Polymer-based membranes are employed in myriad applications involving transport processes. These applications include membrane gas separation; water purification processes, including reverse osmosis and nano-, ultra-, and microfiltration; electrodialysis; dialysis; hemodialysis; protective coatings (paint); and barrier properties for packaging films. In the field of gas and liquid separation and purification, polymer-based membrane technologies can compete with conventional separation and purification processes (such as pressure swing adsorption, cryogenic distillation, and distillation) because polymer-based membrane technologies can be more energy efficient, more environmentally friendly, and technically simpler to implement. This Special Issue aims to bring together research papers, short communications, and review articles focused on the novel synthesis, device designs, fabrication, and advanced characterization of polymer-based membranes for several different applications in order to provide a comprehensive overview of the state of the art in the field.

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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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