Special Issue

Green and Sustainable Preparation Techniques of Polymeric Membranes

Message from the Guest Editors

The demand for sustainable membrane technologies is rapidly growing, driven by the need to minimize environmental impact while maintaining high separation performance across various industrial sectors. The production of conventional polymeric membranes typically utilizes petroleum-based polymers and harmful solvents, posing risks to both the environment and human health. Key topics include the use of bio-based and renewable polymers, the replacement of hazardous solvents with green alternatives, and the development of new platform chemicals tailored for membrane preparation. Emphasis is also placed on advanced characterization techniques to assess membrane structure, morphology, porosity, and surface properties, ensuring optimal performance in applications such as water treatment, gas separation, membrane contactors, and bioprocessing. Contributions highlighting circular economy approaches, safe-and-sustainable-by-design methodologies, and life cycle assessments are highly encouraged. This Special Issue aims to provide a valuable platform for researchers and industry members to promote the transition towards environmentally friendly membrane manufacturing.

Guest Editors

Dr. Francesca Russo

Dr. Alessandra Criscuoli

Dr. Alberto Figoli

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Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Maryam Tabrizian
1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

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