

Special Issue

Polymer Electrolytes: Fundamentals, Approaches and Applications

Message from the Guest Editors

This Special Issue aims to compile cutting-edge research and comprehensive reviews that explore the multifaceted aspects of polymer electrolytes. It will delve into the fundamental principles governing the behavior of these materials, including ion transport mechanisms, phase behavior, and interfacial phenomena. This Special Issue seeks contributions that highlight innovative approaches in material design, synthesis, and characterization techniques that enhance the performance and stability of polymer electrolytes.

Moreover, it will emphasize applications across diverse fields such as batteries, fuel cells, supercapacitors, and sensors, where polymer electrolytes play a crucial role in advancing energy storage and conversion technologies. We welcome studies on both solid and gel polymer electrolytes, with a focus on emerging trends like biodegradable materials, self-healing polymers, and nanocomposites. The goal is to bridge the gap between theoretical understanding and practical implementation, fostering interdisciplinary collaboration and accelerating the development of next-generation devices powered by efficient and sustainable polymer electrolyte systems.

Guest Editors

Dr. Yunsong Li

Zhejiang Lab, Hangzhou, China

Dr. Yuxiao Lin

School of Physics and Electronic Engineering, Jiangsu Normal University, Xuzhou 221116, China

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

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Message from the Editorial Board

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.

Editors-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

Prof. Dr. Yuguang Ma

State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China

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