



an Open Access Journal by MDPI

Mixed-Matrix Membranes: Characterization and Applications

Guest Editors:

Dr. Juhyeon Ahn

Energy Storage and Distributed Resources Division, Lawrence Berkeley National Laboratory, Berkeley, CA 94720, USA

Dr. Ngoc T. Bui

Sarkeys Energy Center, The University of Oklahoma, 100 East Boyd St., Room T301, Norman, OK 73019, USA

Deadline for manuscript submissions:

30 September 2024

Message from the Guest Editors

Mixed-matrix membranes, characterized by the incorporation of fillers into polymeric matrices, have found extensive applications in the field of molecular transport and separation. In this Special Issue, we aim to broaden the concept, covering a diverse array of fillers, substrates, and the versatile utilization of both polymeric and inorganic raw materials. This includes solid and gel polymers, ion-conductive, and flexible electrolytes, as well as porous transport layers.

Our primary focus in terms of material discovery revolves around the intricate consideration of micro- and nanostructures, as well as the architectural aspects of membranes. We are particularly keen on developing robust characterization methods for membrane materials across a spectrum of chemical, structural, physical, and mechanical properties, including factors such as flexibility, hardness, and modulus. Furthermore, our emphasis extends to a wide range of energy storage applications, such as batteries, especially solid-state batteries, CO₂ capture, fuel cells, and separation. This Special Issue will provide an interdisciplinary approach to sustainable energy technologies using mixed-matrix membranes.



mdpi.com/si/189281

Special Issue



an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Spas D. Kolev

School of Chemistry, The
University of Melbourne,
Melbourne, VIC 3010, Australia

Message from the Editor-in-Chief

You are cordially invited to contribute a research article or a comprehensive review for consideration and publication in *Membranes* (ISSN 2077-0375).

Membranes is an international, peer-reviewed open access journal of membrane technology published monthly online by MDPI. The journal covers the broad aspects of the science and technology of both biological and non-biological membranes, including membrane dynamics and the preparation and characterization of membranes and their applications in water, environment, energy, and food industries. Articles contributing to better understanding of transport processes in all types of membranes are also welcome. The scientific community and the general public have unlimited and free access to the content as soon as it is published. We would be pleased to welcome you as one of our authors.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Ei Compendex, PubMed, PMC, CAPlus / SciFinder, Inspec, and other databases.

Journal Rank: JCR - Q2 (*Chemistry, Physical*) / CiteScore - Q2 (*Chemical Engineering (miscellaneous)*)

Contact Us

Membranes Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/membranes
membranes@mdpi.com
[X@Membranes_MDPI](https://twitter.com/Membranes_MDPI)