Special Issue

Membrane Materials for Next-Generation Fuel Cells

Message from the Guest Editor

Are nafion-like structures the ultimate solution for the design of polymer electrolyte membranes (PEMs)? In order to answer the question, in this Special Issue we report new concepts, materials and procedures that are different from conventional PEM development to achieve the high efficiency and high durability of PEMs. The spread of fuel cell devices in the general public is important to realize the hydrogen energy society. In particular, polymer electrolyte fuel cells (PEFCs), which are used for FCVs and stationary FCs, need to improve their efficiency and durability in order to reduce the cost of PEFC and stack space. Therefore, the development of higher performance PEMs than the current PEMs, which are one of the key components of PEFCs, are strongly required. In this Special Issue, we welcome membrane research that uses unique and novel approaches to develop high-performance PEMs. **Keywords**

- Polymer electrolyte membranes (PEMs)
- PEFC
- Preparation process
- Composite materials
- Proton conductivity
- Fuel cell performance
- Durability

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Deadline for manuscript submissions

closed (15 November 2019)

Membranes

an Open Access Journal by MDPI

Impact Factor 3.6
CiteScore 7.9
Indexed in PubMed

mdpi.com/si/19570

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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 accessjournal 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.

Editor-in-Chief

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