

Special Issue

Novel Desalination Membranes: Material, Mechanism and Property

Message from the Guest Editor

Despite the abundance of seawater as an alternative water resource, seawater desalination is usually limited by relatively low productivity and high energy consumption. Membrane-based desalination technologies including the state-of-the-art reverse osmosis (RO) technology have been demonstrated to be more energy efficient than thermal desalination approaches. However, conventional polymeric RO membranes still suffer deficiencies such as low fouling resistance, poor selectivity, and low stability to resist chemical/heat-induced degradation. Therefore, it has been an ever-continuous endeavor to search and explore novel desalination membranes including materials, mechanism and properties, to further improve their permeability, selectivity, chemical stability, and resistance to fouling simultaneously. Potential topics include, but are not limited to:

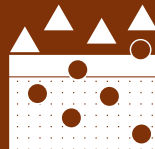
- Membrane-based novel ion-selective mechanism;
- Novel materials for desalination membranes;
- Molecular-level design of desalination membranes;
- Unfouling materials, design, and mechanism;
- Tradeoff between permeability and selectivity;
- Novel membrane-based desalination systems;
- Future perspectives for desalination membranes.

Guest Editor

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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 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.

Editor-in-Chief

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