

## Special Issue

# Applications of Membrane Distillation in Water Treatment and Reuse

### Message from the Guest Editors

The shortage of freshwater resources has long been a major constraint on the economic development of many countries. Developing novel water treatment technologies to convert seawater and wastewater into freshwater resources is one of the most promising solutions. Owing to the achievement of ultra-high water recovery while treating wastewater, the thermally driven membrane distillation process has received great attention in recent years. The membrane distillation process rejects all non-volatile inorganic salts and organic pollutants on the feed side through a hydrophobic porous membrane. Driven by the vapor pressure difference resulting from the temperature difference between the feed and permeate sides, the water vapor continues to pass through the membrane pores to the distillation side, where it is condensed and recovered, achieving an exceedingly high water recovery rate. In the research related to membrane distillation, how to fabricate membranes with outstanding anti-fouling and anti-wetting capacity to obtain high water flux has been the focus. Meanwhile, the mechanism of mass and heat transfer in the membrane distillation process has been constantly investigated.

### Guest Editors

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### Deadline for manuscript submissions

closed (30 June 2025)



## Membranes

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CiteScore 7.9  
Indexed in PubMed



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## About the Journal

### 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.

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### Editor-in-Chief

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