

## Special Issue

# Membrane Technologies in Hydrogen Separation and Purification

### Message from the Guest Editor

The increasing strategic relevance of hydrogen as a clean energy vector, driven by ambitious decarbonization roadmaps and the necessity of developing hydrogen-based industrial value chains, has intensified global interest in advanced separation and purification technologies. Among these, membrane-based systems have consolidated their role as a central enabling technology, offering highly efficient, compact, and energy-intensified solutions critical to ensuring hydrogen delivery at suitable grades for fuel cells, synthesis pathways (e.g.,  $\text{NH}_3$ ,  $\text{MeOH}$ ), or advanced catalytic processes. In this context, this Special Issue aims to provide an updated and comprehensive overview of current breakthroughs and future directions in membrane science and engineering for hydrogen purification. The scope encompasses fundamental materials development, innovative fabrication approaches, and system-level integration of membrane units across the hydrogen value chain, from primary production (reforming, gasification, pyrolysis) to process intensification via membrane reactors, or independent downstream purification and upgrading units for industrial off-gas streams.

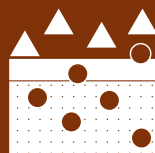
### Guest Editor

Prof. Dr. David Alique

Department of Chemical, Energy and Mechanical Technology, Rey Juan Carlos University, 28933 Móstoles, Spain

### Deadline for manuscript submissions

30 November 2026



## Membranes

an Open Access Journal  
by MDPI

Impact Factor 3.6  
CiteScore 9.4  
Indexed in PubMed



[mdpi.com/si/262425](https://mdpi.com/si/262425)

*Membranes*  
Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[membranes@mdpi.com](mailto:membranes@mdpi.com)

[mdpi.com/journal/  
membranes](https://mdpi.com/journal/membranes)





# Membranes

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.6  
CiteScore 9.4  
Indexed in PubMed



[mdpi.com/journal/  
membranes](https://mdpi.com/journal/membranes)



## 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.

---

### Editor-in-Chief

Prof. Dr. Spas D. Kolev  
School of Chemistry, The University of Melbourne, Melbourne, VIC  
3010, Australia

---

### 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 (Polymer Science) / CiteScore - Q1 (Chemical Engineering (miscellaneous))