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## Computational Modeling and Digitalisation in Membranes Process: Simulation, Design and Application

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Deadline for manuscript submissions:  
**closed (5 April 2022)**

### Message from the Guest Editor

Computational modelling is an important tool for both fundamental and applied research. At the fundamental level, it provides insights into the mechanisms of transport phenomena in membrane separation processes. It is also critical to the transformation of innovations from laboratories to industry applications and has been widely used for design, scale-up, optimisation and process integration.

This Special Issue follows recent advancements in using computational modelling techniques on membrane technologies in water and wastewater treatment, gas separations and bioseparations. Topics will range from mathematic models to study local transport phenomena to process design, simulation and optimisation.

### Keywords

- Computational Fluid Dynamics
- Mass transfer
- System design
- Optimization
- Digital twin
- Model validation



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# Special Issue



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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.

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