Special Issue

Progress and Potential Applications in Biomimetic and Bioinspired Membranes

Message from the Guest Editors

Biomimetic and bioinspired membranes (BBMs) are synthetic membranes that mimic biological transport mechanisms and functions. They either incorporate biological protein/artificial selective channels or are modified with biological responsive molecules. BBMs possessing precise pore-forming structures (i.e., pore size, shape, and functional groups) or molecules endowed with bioinspired functionality provide a promising platform to achieve highly selective separations or show response to the environment, such as in sensing and antifouling. Nevertheless, incorporating protein channels or synthetic/bioinspired porous frameworks-based membranes or other bioinspired concepts into current membrane manufacturing technology for separations and other applications remains a challenge, including designing bioinspired selective pores, developing scalable fabrication strategies, and ensuring chemical/mechanical stability. The scope of this Special Issue is to discuss the state-of-the-art research on the design, fabrication, characterization, processing, and applications of BBMs for developing energy-efficient separations and sustainable technologies.

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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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