Special Issue

Advanced Membrane Materials for CO_2 Capture and Separation

Message from the Guest Editors

Climate change caused by anthropogenic CO2 emissions is a global challenge that we are all facing. To mitigate the CO2 emissions, CO2 must be captured for utilization or sequestration. Membrane-based separation offers an effective approach for CO2 capture (carbon capture), due to its high energy efficiency, small footprint, and simplicity of operation and maintenance. However, advanced membrane material designs are needed to achieve superior CO2 separation performance and reduce the cost of carbon capture. The purpose of this Special Issue is to publish recent advances in novel or emerging materials for membrane-based carbon capture. The topics of interests include, but are not limited to, novel membrane materials (polymers, metal–organic frameworks, 2D materials, and mixed matrix materials) for various capture schemes (such as post-combustion capture, pre-combustion capture, carbon capture from industrial sources, direct air capture, etc.), techno-economic analysis, preparation and characterization of thin-film composite membranes or hollow fiber membranes, etc.

Guest Editors

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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

Prof. Dr. Spas D. Kolev
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