Special Issue

Synthesis, Characterization, and Application of Nanostructure Membrane Materials in Water Treatment

Message from the Guest Editors

As global water scarcity and contamination continue to pose significant challenges, the need for more efficient, sustainable, and cost-effective water remediation and recovery technologies has never been more urgent. Nanostructured membranes, with their unique properties, such as high surface area, enhanced permeability, electrochemical and photocatalytic activity, and potential selective separation. This Special Issue covers a range of topics, including novel synthesis methods for creating advanced cost-effective and sustainable membrane nanomaterials, characterization techniques to understand their structural and functional properties, and their practical applications in desalination, wastewater treatment, and purification processes. The papers presented in this compilation highlight both theoretical insights and experimental advancements, shedding light on the potential of nanostructured membranes to revolutionize the field of water treatment. Through interdisciplinary collaboration, this Special Issue aims to contribute to the ongoing development of more efficient, environmentally friendly, and economically viable membrane-based water treatment solutions.

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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