Special Issue

Novel Supported Membranes for Syngas Generation and Hydrogen Separation

Message from the Guest Editors

This issue will deal with new approaches to the design of asymmetric supported membranes for oxygen and hydrogen separation based on fundamental studies of the structural/transport properties of mixed ionic-electronic conducting nanocomposites and these materials supporting as the functionally graded layers on robust macroporous/foam substrates. Different approaches to the spatial arrangement of catalysts (either porous layers or honeycombs) in membrane reactors and problems of their composition and design optimization. Operation of catalytic membrane reactors in syngas generation by oxidation of fuels with oxygen separated from the air as well as in hydrogen separation from syngas generated from biofuels by partial oxidation, steam/autorhermal reforming including mathematical modeling of membranes and membrane reactors performance.

- Hydrogen and syngas generation
- Hydrogen or oxygen separation membranes
- Nanocomposites with high oxygen/hydrogen mobility
- Design of asymmetric supported permselective membranes
- Catalytic membrane reactors
- Performance in biogas/biofuels transformation into syngas and hydrogen
- Modeling of catalytic membrane reactors performance

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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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