



Polymer Electrolytes Membranes

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Message from the Guest Editors

Rapid industrialization and population explosion are the main reasons for the current energy crisis and resources shortage. Fossil fuels are our major sources of energy. The combustion of these fuels results in the emission of greenhouse gases, and threatens human health. Fuel cells are a promising clean energy technology since they are not limited by heat-engine thermodynamics and can operate at low temperature without combustion byproducts.

As an alternate energy carrier, hydrogen generate power for domestic, industrial, and transportation sectors. Hydrogen production by water electrolysis at low temperature is most promising because of the purity of produced hydrogen ($>99.9\%$) and its compatible nature with all electricity sources. Polyelectrolyte membranes, namely, anion exchange membranes (AEMs) and proton exchange membranes (PEMs), are a critical component of fuel cells, water electrolysis, redox flow batteries, electrodialysis, CO₂ electroreduction, etc.

This Special Issue welcomes contributions focused on the Synthesis and Characterization of Polymer Electrolyte Membranes for electrochemical devices and CO₂ electroreduction to produce value-added chemicals.





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Message from the Editor-in-Chief

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I would like to invite you to contribute to the success of the journal by sending us your high quality research papers. We would be pleased to welcome you as one of our authors.

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