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Mixed Matrix Membranes for Energy and Environmental Applications

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Message from the Guest Editors

Membrane processes have been widely applied in water treatment and gas separation. As organic–inorganic hybrid membranes, mixed-matrix membranes (MMMs) have the potential to maximize the advantages of both polymeric matrix and inorganic filler, and have attracted increasing interest in desalination, wastewater treatment, hydrogen separation and CO_2 separation. To advance the industrial application of MMMs, scientific gaps in membrane fabrication, configuration, filler development, characterization, mechanism analysis, modeling and the exploration of MMMs in different areas should be filled.

The purpose of this Special Issue, is to focus on recent advancements in MMMs development and application in both water treatment and gas separation. Topics include but are not limited to: novel MMM development, structural adjustment and optimization, novel additive and filler development, upgrade of current MMM fabrication methods and separation processes, characterization techniques, transport and separation mechanisms, membrane fouling mitigation, process modelling and simulation, energy and economic analysis, and the exploration of new application areas.

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Message from the Editor-in-Chief

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