Special Issue

Membrane Separation Technology for Water Purification and Power Generation Using Water

Message from the Guest Editors

For water purification and power generation using water, membrane separation technologies have gained widespread popularity, due to the advantages of nearly zero emissions, low occupied area and high automation. Microfiltration and ultrafiltration membranes can efficiently separate colloid particles and macromolecular substances from water. Nanofiltration and reverse osmosis processes have high efficiency in desalination and removing organics with low molecular weight. For desalination, electrodialysis, forward osmosis and membrane distillation are also attractive processes. To capture salinity-gradient energy, pressure-retarded osmosis and reverse electrodialysis are the most promising methods. For energy generation from organic matter in waste waters and biomass, microbial fuel-cell technologies have drawn more attention. This Special Issue is devoted to the sustainable application of membranes to satisfy the demand of high-quality water and to generate green energy using water.

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In the context of global changes, the sustainable management of water cycles, going from global and regional water cycles to urban, industrial and agricultural water cycles, plays a very important role on the water resources and on their relationships with food, energy, biodiversity, ecosystem functioning and human health. *Water* invites authors to provide innovative original full articles, critical reviews and timely short communications and to propose special issues devoted to new technological and scientific domains and to interdisciplinary approaches of the water cycles. We ensure a critical review process and a quick turnaround between submission and final decision.

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