Special Issue

Next-Generation Membranes for Enhanced Membrane Distillation Performance

Message from the Guest Editors

In an era marked by increasing environmental concerns and the urgent need for sustainable resource management, the demand for innovative water treatment solutions has never been greater. Water scarcity, exacerbated by climate change, population growth, and pollution, presents significant challenges to communities and ecosystems worldwide. This Special Issue focuses on innovative advancements in membrane distillation through the development of novel membranes specifically designed to enhance MD's efficiency, selectivity, and durability. New membrane materials and structures play a key role in overcoming traditional limitations of MD processes, such as hydrophobic instability, wetting, fouling, and low permeability, while improving operational stability and extending membrane life. Such innovations are essential for advancing MD's feasibility in large-scale applications and in regions where sustainable water production is critical.

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Deadline for manuscript submissions

20 January 2026

Materials

an Open Access Journal by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed

mdpi.com/si/225092

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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