Special Issue

Advanced Nanoporous Materials and Membrane Technologies for Separation Applications

Message from the Guest Editors

The increasing demand for efficient and selective separation technologies in fields such as environmental remediation, energy conversion, pharmaceutical purification, and water treatment has driven the development of functional materials with high structural precision. Among them, mesoporous materials and membrane systems have emerged as powerful platforms due to their high surface areas, tunable pore structures, and customizable surface chemistries. This Special Issue of *Applied Sciences* invites original research articles and comprehensive reviews focused on the design, synthesis, characterization, and application of mesoporous materials and membrane-based technologies for selective separation. Topics may include, but are not limited to, ion-selective membranes, molecular recognition, gas separation, membrane fabrication strategies, hybrid porous structures, and simulation or modeling of transport phenomena. We particularly welcome interdisciplinary work that bridges materials science, chemistry, and engineering to solve practical separation problems.

Guest Editors

Dr. Yanan Huang
Faculty of Science, Macquarie University, Sydney, Australia

Prof. Dr. Jianming Pan
School of Chemistry and Chemical Engineering, Jiangsu University, Zhenjiang 212013, China

Deadline for manuscript submissions

20 March 2026

MDPI

About the Journal

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal *Applied Sciences* has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo
Dipartimento di Fisica, Politecnico di Milano, Piazza L. da Vinci 32, 20133 Milano, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), Ei Compendex, Inspec, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q2 (Engineering, Multidisciplinary) / CiteScore - Q1 (General Engineering)