

Special Issue

Advanced Functional Materials for Water Treatment: Challenges and Opportunities

Message from the Guest Editor

Water treatment is central to overcoming global water scarcity and pollution challenges. This Special Issue focuses specifically on the role of advanced functional materials—such as nanomaterials, polymers, catalytic composites, and smart membranes—in transforming water purification, desalination, and wastewater reuse processes. We invite the submission of original research articles, reviews, and communications that explore the design, application, and mechanistic insights of functional materials relevant to water treatment. Topics include, but are not limited to the following:

- Novel materials for catalytic and photocatalytic degradation of pollutants;
- Advanced membranes for filtration and desalination;
- Adsorbents and hybrid systems for contaminant removal;
- Materials enabling water reuse and recycling;
- Sustainable and anti-fouling material technologies;
- Functional material-based sensors for water quality monitoring.

This Issue aims to gather cutting-edge research that bridges material innovation and practical implementation, supporting progress toward efficient and sustainable water treatment systems worldwide.

Guest Editor

Dr. Xiaoyuan Zhang

State Key Laboratory of Chemical Resource Engineering, Beijing Key Laboratory of Advanced Functional Polymer Composites, Beijing University of Chemical Technology, Beijing 100029, China

Deadline for manuscript submissions

20 September 2026



Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/254837

Materials
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
materials@mdpi.com

[mdpi.com/journal/
materials](https://mdpi.com/journal/materials)





Materials

an Open Access Journal
by MDPI

Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



[mdpi.com/journal/
materials](https://mdpi.com/journal/materials)



About the Journal

Message from the Editorial Board

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.

Editors-in-Chief

Prof. Dr. Maryam Tabrizian

1. Department of Biomedical Engineering, Faculty of Medicine and Health Sciences, McGill University, Montreal, QC H3A 2B6, Canada
2. Faculty of Dentistry and Oral Health Sciences, McGill University, 3640 Rue University, Montreal, QC H3A 0C7, Canada

Prof. Dr. Yuguang Ma

State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China

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), PubMed, PMC, Ei Compendex, CaPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Metallurgy and Metallurgical Engineering) /
CiteScore - Q1 (Condensed Matter Physics)