

## Special Issue

# Theoretical Studies and Application of Energy Materials

### Message from the Guest Editor

In today's scenario, our society is facing challenges regarding the hastily growing global energy demands, limited resources of fossil fuels, and associated alarming environmental issues. The finding of sustainable green energy sources is one of the primary environmental concerns associated with overcoming energy crises. The optimization and development of new low-cost and energy-efficient "advanced energy materials" for applications in clean energy technologies are the cornerstones of new-generation energy research. This Special Issue is a platform used to showcase the original articles and comprehensive reviews on interdisciplinary energy research devoted to developing and optimizing applied energy materials, connecting through theoretical and conventional experimental approaches. The topic of interest includes the theoretical methods and technologies for energy applications, such as artificial intelligence in modeling and simulation or quantum technologies for energy applications, the development of materials for energy conversion and storage, energy-efficient technologies and devices, and waste-to-energy materials.

### Guest Editor

Dr. Chanchal Chakraborty

Department of Chemistry, Birla Institute of Technology and Science,  
Hyderabad Campus, Hyderabad 500078, India

### Deadline for manuscript submissions

closed (10 July 2023)



## Materials

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 6.4  
Indexed in PubMed



[mdpi.com/si/147111](https://mdpi.com/si/147111)

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

---

### Editor-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

---

### 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)