

## Special Issue

# Micro-nano Optical Structure Materials and Their Applications

### Message from the Guest Editor

Micro-nano optical structures—which rely on local resonance, electromagnetic field enhancement, the slow-light effect, and so on—could effectively manipulate the interaction characteristics between light and matter. This concept finds extensive applications in photon integration, sensitive signal detection and recognition, biochemical sensing, super-resolution microscopic imaging, efficient solar cell and light-emitting device development, advancements in disease diagnosis and treatment, environmental monitoring practices, and many other crucial domains. As an underlying component in solar cells or other optoelectronic devices, micro-nano structural materials give these devices unique optical, electrical, and mechanical properties, and provide a way to develop new and functional flexible photonic and electronic devices. This way of optimizing the structure of photoelectric devices can result in a change in the refractive index gradient at their window layer, which can effectively inhibit reflection and generate surface plasmon resonance near the metal structure.

---

### Guest Editor

Prof. Dr. Yanxia Cui

College of Physics and Optoelectronics, Taiyuan University of Technology, Taiyuan 030024, China

---

### Deadline for manuscript submissions

closed (20 July 2024)



## Materials

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.2  
CiteScore 6.4  
Indexed in PubMed



[mdpi.com/si/193869](https://mdpi.com/si/193869)

*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)