

## Special Issue

# Low Dimensional Topological Magnetic and Multiferroic Materials

### Message from the Guest Editors

Low-dimension topological materials have aroused growing and intensive research interest in recent years due to their high theoretical efficiency and potential applications in modern technology. Topological spin textures in magnetic materials, such as skyrmions and vortices, are believed to be mainly induced by Dzyaloshinskii–Moriya interactions, which are attributed to the inversion symmetry breaking at the surfaces or interfaces. Combined with strong spin–orbit couplings, they can be generated, manipulated, deleted, or driven by applied magnetic fields and/or electric spin currents. However, skyrmions in insulators cannot be manipulated by the latter means. Fortunately, there exist magneto–electric couplings in insulating multiferroic materials, which makes it possible to control spin textures by means of electric fields. In addition, the coexisting magnetic and ferroelectric orders in these materials are promising for applications in microelectronics and optoelectronics. Though extensive theoretical and experimental work has been devoted to studying multiferroic materials, many problems are yet to be solved, such as the fundamental interactions [...]

### Guest Editors

Prof. Dr. Guoping Zhao

Prof. Dr. Yan Zhou

Dr. Hao Wu

### Deadline for manuscript submissions

closed (10 November 2022)



## Materials

an Open Access Journal  
by MDPI

Impact Factor 3.2  
CiteScore 6.4  
Indexed in PubMed



[mdpi.com/si/111212](https://mdpi.com/si/111212)

*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)