

## Special Issue

# MAX Phases and MXenes: Synthesis and Applications

### Message from the Guest Editors

MAX phases are novel structural and functional ceramics with a layered structure. MXenes are 2D materials with graphene-like structures made by exfoliating MAX phases. MAX phases represent a new class of solids that combine some of the best attributes of metals and ceramics that result in fascinating properties. As such, MAX phases are creep, fatigue, fracture, thermal-shock and corrosion resistant, in addition to displaying good machinability, high electrical conductivity and ultra-low friction. These ceramics can find applications in nuclear research, metallurgy, mining and spaceflight fields. Similarly, MXenes are endowed with the rare combination of good electronic conductivity and hydrophilicity which render them particularly suitable for a wide range of potential applications, such as energy storage, polymer nanocomposite fillers, water purification, transparent optical conductive coatings, electromagnetic shielding/absorption, and electronic devices. It is our pleasure to invite you to submit a manuscript for this Special Issue. Full papers, communications, and reviews that cover all aspects of MAX phases, MXenes, and their composite materials are all welcome.

---

### Guest Editors

Prof. Dr. It-Meng (Jim) Low

Department of Applied Physics, Curtin University, GPO Box U1987,  
Perth, WA 6845, Australia

Prof. Dr. Aiguo Zhou

School of Materials Science and Engineering, Henan Polytechnic  
University, 2001 Century Avenue, Jiaozuo 454003, Henan, China

---

### Deadline for manuscript submissions

closed (30 November 2018)



## Materials

---

an Open Access Journal  
by MDPI

---

Impact Factor 3.7  
CiteScore 7.0  
Indexed in PubMed



[mdpi.com/si/12908](https://mdpi.com/si/12908)

*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 3.7  
CiteScore 7.0  
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)