



*materials*



an Open Access Journal by MDPI

## **Fabrication, Characterization, and Application of High-Temperature Materials and Coatings**

Guest Editors:

**Dr. Mi Zhao**

School of Aerospace Engineering,  
Huazhong University of Science  
and Technology, 1037 Luoyu  
Road, Wuhan, 430074, China

**Dr. Yong Deng**

School of Civil Aviation,  
Northwestern Polytechnical  
University, Xi'an, China

Deadline for manuscript  
submissions:

**20 September 2024**

### **Message from the Guest Editors**

Recent decades have witnessed rapid development in high-temperature industries such as energy conversion systems of land-based power plants or nuclear operations as well as propulsion systems of aircraft or rockets. There are a variety of high-temperature materials such as metals, intermetallic compounds, and ceramics as well as their composites. These materials need to be “strong” enough to withstand heat flux, radiation, corrosive atmosphere and, of course, complex stress. However, one should recognize that the pursuit of higher thermal efficiency never stops acting as the driving force for increasing the operating temperature of the high-temperature components. As a result, a series of advanced ultrahigh-temperature materials have stepped onto the stage. Key questions to be addressed include: why do these materials work at high temperatures? What happens to the microstructure of these materials when serving in such severe conditions? How do we design novel high-temperature or ultrahigh-temperature materials? You are welcome to contribute to this Special Issue, which is dedicated to revealing the mysteries of these materials.



[mdpi.com/si/181097](https://mdpi.com/si/181097)

# Special Issue



an Open Access Journal by MDPI

## 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

## 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.

## 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 & Metallurgical Engineering*) / CiteScore - Q2 (*Condensed Matter Physics*)

## Contact Us

Materials Editorial Office  
MDPI, St. Alban-Anlage 66  
4052 Basel, Switzerland

Tel: +41 61 683 77 34  
[www.mdpi.com](http://www.mdpi.com)

[mdpi.com/journal/materials](http://mdpi.com/journal/materials)  
[materials@mdpi.com](mailto:materials@mdpi.com)  
[X@Materials\\_Mdpi](https://twitter.com/Materials_Mdpi)