



## Advanced Design, Synthesis, and Industrial Applications in Diamond Materials

Guest Editor:

**Dr. Guojiang Fan**

PDC Engineering LLC, Salt Lake  
City, UT 84121, USA

Deadline for manuscript  
submissions:

**closed (10 November 2023)**

### Message from the Guest Editor

Dear Colleagues,

The first synthetic diamond was made by GE in 1954 using high pressure and high temperature (HPHT) techniques and by simulating the formation conditions of natural diamonds well below the Earth's crust, requiring several gigapascal pressure to stabilize the diamond phase at high temperatures. Since then, research activities on synthetic diamonds have drawn tremendous attention worldwide. Following the development of HPHT technologies, other synthetic technologies, including chemical vapor deposition (CVD), have been developed as well.

In this Special Issue, recent advances covering basic research and industrial applications of diamond and diamond-related materials will be addressed. Both original research papers and review articles are welcome. The specific topics include but are not limited to the following: (1) diamond synthetic technologies; (2) processing and characterization; (3) diamond-related materials, i.e., cBN, graphene, etc.; and (4) various industrial applications, i.e., rock drilling for the oil/gas exploration, etc.

Thanks for your contributions.





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)