



## New Advances in Magnetic Materials for Power Electronics Applications

Guest Editors:

**Prof. Dr. Thierry A. Meynard**

Laboratoire Plasma et  
Conversion d'Énergie, Université  
de Toulouse, ENSEEIHT, CEDEX 7,  
31071 Toulouse, France

**Dr. Jaime W. Zapata**

Infineon Technologies,  
Neubiberg, Germany

Deadline for manuscript  
submissions:

**closed (31 December 2021)**

### Message from the Guest Editors

Thanks to the recent advances in optimization algorithms, magnetic materials study and powerful simulation tools, the design of passive devices has been greatly improved. This not only increases the accuracy of the mathematic models, it also reduces the time of design consumption. Nowadays, passive components rule over the size, weight, and loss of many power electronics systems, with magnetics being the most challenging devices to design. Therefore, the academic and industry research challenge is focused on:

- The selection of proper magnetic materials to construct inductors that can achieve an efficiency increment through magnetic permeability and hysteresis improvements;
- Modelling and designing improved high-frequency power magnetics, addressing skin and proximity effects.

where both high-frequency magnetic materials and designs can yield improved performance.

The main aim of this Special Issue is to seek high-quality submissions that highlight contributions in new magnetic materials' selection, and its design for power electronic applications.





## 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 and Metallurgical Engineering) / CiteScore - Q1 (Condensed Matter Physics)

## Contact Us

Materials Editorial Office  
MDPI, Grosspeteranlage 5  
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)  
[@Materials\\_Mdpi](https://twitter.com/Materials_Mdpi)