



## Silicon Carbide: Material Growth, Device Processing and Applications

Guest Editors:

**Dr. Marilena Vivona**

Institute for Microelectronics and  
Microsystems, National Research  
Council of Italy, 95121 Catania,  
Italy

**Prof. Dr. Mike Jennings**

Electronic and Electrical  
Engineering, Swansea University,  
Swansea SA2 8PP, UK

Deadline for manuscript  
submissions:

**closed (20 April 2024)**

### Message from the Guest Editors

Owing to its superior performance and higher energy efficiency with respect to silicon, silicon carbide (SiC) plays a pivotal role in modern power electronics, where it can be used in energy conversion systems, electric vehicles, transportation, etc.

Although commercial SiC (the 4H-SiC polytype) material quality and device technology are already mature and a large variety of devices are already on the market, considerable efforts are still being dedicated to further improving device performance across several application areas. For this purpose, a deeper understanding of the material properties, processing issues and device physics is required, which can also pave the way for the applications in other fields, such as quantum technologies, sensing and detecting.

This Special Issue is aimed at collecting papers on silicon carbide, covering relevant aspects from material growth through to device processing and applications. For more information, please click into the special issue website at:  
[https://www.mdpi.com/journal/materials/special\\_issues/Silicon\\_Carbide\\_Mater\\_Growth\\_Device\\_Process\\_Appl](https://www.mdpi.com/journal/materials/special_issues/Silicon_Carbide_Mater_Growth_Device_Process_Appl)

Dr. Marilena Vivona  
Dr. Mike Jennings  
*Guest Editors*





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)