



## Silicon Carbide: From Fundamentals to Applications

Guest Editor:

**Prof. Dr. Sergey Kukushkin**

Institute for Problems in  
Mechanical Engineering, Russian  
Academy of Sciences, St.  
Petersburg, Russia

Deadline for manuscript  
submissions:

**closed (31 December 2020)**

### Message from the Guest Editor

Silicon carbide is the only binary compound of silicon and carbon that exists in the solid phase under normal conditions. The topic of this issue covers a wide range of questions devoted to the study of fundamental and applied aspects of the nucleation and growth mechanisms of crystals and thin films of silicon carbide, to the formation of growth defects, and transport mechanisms of charge carriers. Particular attention will be paid to the growth of silicon carbide layers on silicon, since the combination of these two materials allows integration of silicon carbide, as well as films of wide-bandgap materials (such as GaN, AlN, Ga<sub>2</sub>O<sub>3</sub>) grown on its surface, with silicon—the main material of modern micro- and optoelectronics.

Particular attention will also be paid to the growth processes and properties of crystals, thin films, nanocrystals, and nanostructures of wide-bandgap semiconductors (such as GaN, AlN, and Ga<sub>2</sub>O<sub>3</sub>) grown on SiC. These materials are especially relevant due to the wide range of applications of semiconductor structures based on them that are relevant in the world industry.

It is my pleasure to invite you to submit a manuscript for this Special Issue.





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### 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

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Materials Editorial Office  
MDPI, St. Alban-Anlage 66  
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