



materials



an Open Access Journal by MDPI

Reliability and Failure Analysis for Future GaN Technologies

Guest Editors:

Dipl. Phys. Frank Altmann

Fraunhofer Institute for
Microstructure of Materials and
Systems IMWS, Head of Business
Unit Electronic Materials and
Components, Walter-Hülse-
Straße, 106120 Halle (Saale),
Germany

Prof. Dr. Matteo Meneghini

Department of Information
Engineering, University of
Padova, Via Gradenigo 6/B, I-
35131 Padova, Italy

Deadline for manuscript
submissions:

closed (10 October 2022)

Message from the Guest Editors

The topics of saving global resources by increasing energy efficiency, mastering the problems of future digitalization and communication in society, and transforming mobility systems toward green electric cars and autonomous driving are among the most significant problems global society has to address today. A major target consists in developing powerful, efficient, and reliable electronic devices to provide the required high-performing hardware components. In this context, a huge potential for GaN-based semiconductor devices is currently arising, complementing traditional Si-based electronics for many challenging applications, such as 5G high-speed communication systems, and high-frequency power converters for consumer applications, for data centers, for industry and energy technology, as well as for sensors in mobility applications. Current GaN-device research activities are focusing on size reduction, cost effectiveness, and reliability while dealing with several challenges such as:



mdpi.com/si/65722

Special Issue



an Open Access Journal by MDPI

Editors-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

Prof. Dr. Yuguang Ma

State Key Laboratory of Luminescent Materials and Devices, South China University of Technology, Guangzhou 510640, China

Message from the Editorial Board

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 (Materials Science, Multidisciplinary) / 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

mdpi.com/journal/materials
materials@mdpi.com
[X@Materials_Mdpi](https://twitter.com/Materials_Mdpi)