

## Special Issue

# Advanced Design, Monitoring, and Operation for Reliable Power Electronics

### Message from the Guest Editors

This Special Issue targets advances that turn reliability into a measurable, optimizable attribute across design, monitoring, and operation, bridging theory and field deployment.

Topics of interest include, but are not limited to, the following:

- Integration of artificial intelligence for design optimization of power electronics.
- Reliability considerations of emerging wide-bandgap devices, including new packaging materials and interconnection technologies.
- Test methods, platforms, and failure-mechanism analysis of device and converter levels.
- Degradation modeling and analysis that leverage data-driven, physics-informed, and hybrid (test and simulation) approaches.
- Thermal modeling, sensing, and characterization for temperature estimation and lab-to-field transferability.
- Fault diagnosis and remaining-useful-life estimation, with explicit uncertainty handling for robust decision-making.
- Reliability-oriented control and thermal management for converter operation.

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### Guest Editors

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### Deadline for manuscript submissions

1 August 2026



## Electronics

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Impact Factor 2.6  
CiteScore 6.1



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## About the Journal

### Message from the Editor-in-Chief

*Electronics* is a multidisciplinary journal designed to appeal to a diverse audience of research scientists, practitioners, and developers in academia and industry. The journal is devoted to fast publication of latest technological breakthroughs, cutting-edge developments, and timely reviews of current and emerging technologies related to the broad field of electronics. Experimental and theoretical results are published as regular peer-reviewed articles or as articles within Special Issues guestedited by leading experts in selected topics of interest.

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### Editor-in-Chief

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