



International Symposium on Power Semiconductor Devices and Wide-Bandgap Electronics

SiC MOSFETs • GaN HEMTs • High-Voltage Power Devices

This international symposium will be organized within the scope of SEMIMATER 2026 and aims to bring together researchers, device engineers, and industry experts working on power semiconductor devices and wide-bandgap electronic technologies for high-efficiency and high-reliability energy systems.

Scope: This symposium focuses on advanced power semiconductor devices based on wide-bandgap materials, addressing both fundamental device physics and system-level integration challenges. It covers silicon carbide (SiC) and gallium nitride (GaN) technologies, with particular emphasis on high-voltage operation, thermal management, and long-term reliability in demanding applications such as electric vehicles and power conversion systems.

Topics of interest include, but are not limited to:

- Silicon carbide (SiC) MOSFETs and high-voltage power devices
- Gallium nitride (GaN) HEMTs and vertical GaN device architectures
- Wide-bandgap materials for high-power and high-frequency electronics
- Thermal management, reliability, and device degradation mechanisms
- Power modules, converters, and integration for electric vehicle (EV) applications

Applications

Research presented in this symposium is expected to contribute to a wide range of applications, including electric vehicle power modules, fast chargers, renewable energy inverters, power converters, industrial motor drives, and next-generation high-efficiency power electronics systems.

Symposium Organization Opportunity: Researchers and industry professionals with strong expertise in power semiconductor devices, wide-bandgap materials, or power electronics systems are warmly invited to take an active role in the organization of this symposium. Interested participants may serve as Symposium Chair or Co-Chair, contribute to shaping the technical program, invite keynote and invited speakers, and lead focused discussions connecting device-level innovation with system-level performance.

How to Apply as Symposium Chair: Researchers who wish to organize or chair this symposium are kindly invited to contact the Conference Chair with a brief statement of interest, including their research background, proposed focus areas within the symposium scope, and potential invited speakers. All applications will be evaluated by the SEMIMATER 2026 Organizing Committee.

Contact Information

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SEMIMATER 2026 Website

<https://www.semimater.org>