



8th Global Power, Energy and Communication Conference
Naples/ITALY
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Special Session on **Intelligent Fault Diagnosis and Condition Monitoring of Electrical Machines and Power Systems**

The reliability and availability of electrical machines and power systems are critical challenges in modern industrial and energy applications. Unexpected failures may lead to significant economic losses, safety risks, and performance degradation. In this context, the integration of intelligent systems for fault diagnosis, condition monitoring, and predictive maintenance has become increasingly essential.

This special session aims to bring together researchers and practitioners to present recent advances in intelligent fault diagnosis, condition monitoring, and prognostics of electrical machines and power systems. Particular emphasis is placed on the application of artificial intelligence techniques, intelligent signal processing, communication technologies, and digital twin frameworks to enhance system reliability, resilience, and sustainability.

Topics of interest include, but are not limited to:

- Fault modeling and analysis of electrical machines
- Intelligent condition monitoring of motors, generators, and drive systems
- Electrical, mechanical, and thermal fault diagnosis using AI-based methods
- Fault diagnosis and condition monitoring of electrical machines used in robotics
- Edge-AI architectures for real-time condition monitoring in embedded power electronics
- Hybrid model-based and data-driven diagnostics for smart grid components
- AI-driven health monitoring of power converters in renewable energy systems

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Deadlines of the special session:

Full paper submission (maximum 6 pages):	March 15, 2026
Notification of acceptance:	April 12, 2026
Final submissions due:	April 26, 2026

All the instructions for paper submission are included at the conference website.
<https://gpecom.org/2026/guidelines/>