

# The International Multi-Conference on Systems, Signals and Devices

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## Special Session On Diagnosis and Fault Tolerant Control of Power Electronics Converters

### Organized by

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### Call for Papers for Special Session

Nowadays, power electronics converters plays a crucial role in almost recent and innovative industrial technologies and their applications such as; Electrical Machine Control (EMC), Electrical Vehicles (EV), Energy Conversion Management (ECM), Grid Tied Renewable Energy Sources (GTRES), Flexible AC Transmission Systems (FACTS), High voltage Direct Current (HVDC) power transmission system, Multi-level Inverters for high power application and new and innovative converter topologies. This special session is dedicated to two main topics, which are required to be applied on the aforementioned power electronics converter applications. The first topic is the diagnosis of faults, failures and malfunction based on the identification, localisation and isolation of faults during mode operation. The second topic is the fault tolerant control technique that aims in ensuring continuous operation under faults, especially in sensitive and high power industrial processes. Indeed, these topics have attracted more attention in the last recent years from researchers and industries due to its importance in fulfilling the requirements of the new topologies and technologies of power electronics converters such as their lifespan and healthy operation mode. The innovative researches conducted within these topics for achieving real-time diagnosis and fault tolerant control are expected to ensure an improved capability in terms of performances, power quality, costs saving and to overcome the drawbacks found in the basis topologies and new topologies of power electronics converters.

#### Topics of interest include, but are not limited to:

- Power electronics convert for electrical machines
- Multi-level converters
- Multi-phase multi-level converters
- Conventional topologies of power electronics converters

- New and innovative topologies of power converter
- Grid tied converter for renewable energy sources
- Converters in energy management systems
- Electrical Vehicles
- FACTs
- HVDC electric power transmission system.
- Inter-connection in power systems power electronics based.
- Other power electronics applications

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