



SPECIAL SESSION

**ADVANCED RESEARCH IN MICROGRIDS CONTROL, MANAGEMENT,
APPLICATIONS AND IMPLEMENTATIONS**

ORGANIZED AND CO-CHAIRIED BY:

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OBJECTIVE AND TOPICS:

Microgrids yield the potential to overcome the main challenges deriving from the integration of distributed generators (DGs) and, more properly, of non-programmable renewable energy sources (RESs) into distribution networks. Nonetheless, their development is still delayed by several issues mainly related to their dynamic stability, operation, protection and control. This makes serious challenges in design, control and operation of these small-scale systems.

The purpose of this Special Session is to collect the research contributions of recent technical and control solutions adopted to address the issues related to the design, implementation and operation of microgrids so as to provide to researchers and practitioners the necessary information for the design, protection, control and management of a microgrid.

Topics

The topics to be covered may include but are not limited, to the following topics:

- ❖ Real case studies outlining the main technical and control solutions adopted
- ❖ Dynamic models for full microgrid or its components
- ❖ Static as well as dynamic studies for security assessments of microgrids
- ❖ Protection control schemes
- ❖ Microgrids integration and their impact on the utility grid
- ❖ Real-time operation of microgrids in grid-connected and/or isolated mode
- ❖ Economic dispatch strategies for day-ahead programming and/or on-line operation
- ❖ Advanced control techniques for seamless transition from on-grid to off-grid mode operation
- ❖ Advanced resynchronization control strategies
- ❖ Reserve management control strategies
- ❖ Energy management and power flow control between the MG and the main grid
- ❖ Integration of electric vehicles in microgrids and their operation
- ❖ Experimental tests on real case studies.

All the instructions for paper submission are included in the conference website: <https://www.eeeic.net/eeeic>