



**Special Session on**  
**Nonlinear-Based Control for Power Converters in Microgrids**  
**organized and co-chaired by:**

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**Call for Papers**

**Outline of the Session:**

Advanced control techniques play a crucial role in optimizing the performance and efficiency of power converters in microgrid systems. These converters, such as those used in renewable energy systems and electric vehicles, require precise control to ensure reliable power conversion and seamless integration with the grid. Advanced control algorithms, including sliding mode control, model predictive control, and adaptive control, enable dynamic response, enhanced power quality, and improved stability. Furthermore, these control strategies facilitate grid-friendly operations, grid synchronization, and power flow control, enabling seamless integration of renewable energy sources and effective management of energy storage systems. Overall, advanced control techniques empower power converters to deliver higher efficiency, better performance, and increased flexibility in emerging energy systems.

Topics of the session include, but are not limited to:

- Adaptative control methods for energy conversion system.
- Model Predictive Control (MPC) for power converters in microgrids.
- Sliding Mode Control (SMC) for power converters in microgrids.
- Model-based and non-model based control of power converters in microgrids.
- High order and super-twisting sliding mode control for power converters in microgrids.
- Utilization of Sliding Mode Control in microgrids.
- Combination of Flatness based control and sliding mode methods.
- Adaptive control methods for handling varying system parameters and uncertainties.

**Author's schedule:**

Deadline for submission of special session papers	September 15, 2023
Notification of acceptance	October 15, 2023
Deadline for submission of final manuscripts	November 15, 2023

All the instructions for paper submission are included in the conference website:

<http://www.sgre-qa.org/>