Annual Conference of the IEEE Industrial Electronics Society (IECON 2021)

Special Session on

"Advanced Control of Grid-Connected Converters for Distributed Generation and Power Quality"

Organized by

Principal Organizer: Hadi Y. KANAAN (hadi.kanaan@usj.edu.lb)
Affiliation: Saint-Joseph University of Beirut, Faculty of Engineering – ESIB, Lebanon
Background: Modeling and control of switch-mode converters, power quality, grid-connected inverters for renewable sources

Organizer 1: Mohammad SHARIFZADEH (mohammad.sharifzadeh@ieee.org)
Affiliation: Ecole de Technologie Supérieure, Montreal, Canada
Background : Multilevel inverters, active filters
Organizer 2: Hasan KOMURCUGIL (hasan.komurcugil@emu.edu.tr)
Affiliation: Eastern Mediterranean University, Turkey
Background: Control of power electronics, sliding-mode control
Organizer 3: Fadia SEBAALY (fadia_sebaaly@hotmail.com)
Affiliation: Ecole de Technologie Supérieure, Montreal, Canada
Background: Multilevel inverters, sliding-mode and predictive control

Call for Papers

Theme:

Renewable sources, such as photovoltaic panels, wind generators and fuel cells, are usually connected directly to the grid for cogeneration. This connection is made through power electronics interfaces that should ensure high stability, voltage regulation, power flow control, and low electromagnetic emission, along with high power density, low cost and high reliability. In some applications where high power level is required, the switching frequency of the power semiconductors is limited and the use of multilevel or interleaved converters becomes mandatory in order to get an acceptable power quality. This session addresses the issues of advanced control techniques applied to such converters to improve their performance, efficiency, reliability and cost-effectiveness.

Topics of interest include, but are not limited to:

- Advanced control of multilevel inverters
- Advanced control of power electronics in DC grids
- Grid-connectivity control requirements
- Control of paralleled or interleaved topologies
- Modeling and model-based control of switch-mode power converters
- Optimal control in hybrid cogeneration systems
- Predictive control of power converters
- Intelligent control of power converters
- Direct power control of power converters
- Power quality control in renewable energy systems
- New PWM techniques for power electronics control
- Real-time control and simulations of high power converters

Submissions Procedure: All the instructions for paper submission are included in the conference website**: https://attend.ieee.org/iecon-2021/**

Deadlines:

Full paper submission:	June 25, 2021
Paper acceptance notification:	July 30, 2021
Camera-ready paper submission	Aug. 27, 2021

Sponsoring IES Technical Committees:

Technical Committee on Power Electronics (TCPE) Subcommittee on Control in Power Electronics

Good quality papers may be considered for publication in the IEEE Trans. on Industrial Electronics, subject to further rounds of review.