Special Session

Advanced Power Electronics and Motor Drives for renewable energy and sustainable transportation applications

Special Session Organizer
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The global electrical energy consumption is still rising and there is a steady demand to increase the power capacity. The production, distribution and use of the energy should be as technological efficient as possible and incentives to save energy at the end-user should also be set up. The trend is towards replacing the conventional, fossil based energy sources by renewable energy resources; and using high efficient power electronics and motor drives in power generation, power transmission/distribution and end-user application.
This special session focus on state-of-the-art research and development, as well as future trends in the modeling, design, control and optimization of advanced power electronics and motor drives for renewable energy and sustainable transportation systems.

Main topics are but not limited to:

- Efficient converter topologies for renewable energy sources: solar power, wind power, fuel cells, biomass, etc...
- Matrix Converters and Multi Level Inverters,
- Transformer-less single and three-phase converters,
- Power converters for Electric, Hybrid and Fuel Cell Vehicles,
- Power electronics interface for battery management,
- Motors and generators for vehicles and renewable energy applications: Permanent magnet machines, Induction machines, reluctance machines, slow-speed drives and special machines.

Authors are welcome to contact the Organizer for advice.