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Special Session on

"Power Electronics for Fuel Cell System in Transportation Applications"

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Call for Papers

In recent years, fuel cell energy generation system has become a very active research field and has been given a lot of attentions from academic and industry in the domain of electrified transportation, such as automotive, aircraft, marine and railway. Since fuel cell system can couple electrochemical, thermal and fluidic phenomena, the energy power generation needs to be controlled properly for satisfying high efficiency. The integration and control of fuel cell system into the powertrain of electrified transportation could be challenging and complicate. It is essential to investigate the control strategy applied to a fuel cell system and the corresponding power electronic interfaces. This special session focuses on latest progresses and developments in design and control methods of power electronics in fuel cell applications to improve the lifespan and the robustness of the electrified system.

Topics of interest include, but are not limited to:

- Advanced control techniques to improve fuel cell system robustness
- Energy management control strategies for fuel cell power generation systems
- DC-DC converters, DC-AC inverters stability analysis for fuel cell applications
- Fuel cell electric vehicle / aircraft powertrain topologies design and analysis
- Fault identification, isolation techniques, and stability analysis of fuel cell systems
- Fuel cell system modeling and Hardware-in-the-loop applications
- Fuel cell power system prognostics and state of health analysis