Cyber physical systems (CPS) represent close integration and coordination of computation and physical processes. One of the most promising applications of CPS is for smart grid and power electronics; where power electronics is one of the key physical layers of the smart grid. In order to realize the full potential of CPS fundamentally new approaches are needed for real-time computation, controls, and communications, both in terms of theory, analysis and design tools, and new applications.

We seek key contributions that span real-time modeling, simulation, control, estimation, fault-detection and isolation, summarized with following topics:

- Hybrid system modeling, simulation, and control applied to power electronics and smart grid
- Ultra-high fidelity Hardware-in-the-Loop (HIL) simulations
- Integrated tool chain development for CPS
- Fault detection and isolation techniques
- High-performance state estimation and sensorless control
- Modular and distributed converter control (temporally and spatially)
- Advanced controls for grid connected converters
- Embedded system design
- Telemetry and network design for smart grid applications

Submission procedure: The same as for regular papers. Submission deadline: 19th December 2011

All the instructions for paper submission are included on the conference website: http://epe-pemc2012.com/