

CALL FOR PAPERS

Special Session on Modeling and Simulation of Cyber-Physical Energy Systems

to be held in the frame of
IECON 2013 - The 39th Annual Conference of the IEEE Industrial Electronics Society
10th - 13th of November 2013, Austria Center, Vienna, Austria



TOPIC OF THE SPECIAL SESSION

Modern energy systems combine information technology, electrical and thermal infrastructure, autonomous roles and interact with other systems like markets and regulations. Existing modeling and simulation tools are not capable to cover such systems in all of their aspects, new languages, methods and tools are necessary. A combination of universal modeling languages like Modelica and established, specialized tools like grid simulators and telecommunication simulators is necessary. This leads to modeling and co-simulating hybrid systems where for instance a multi-agent framework and an electric grid simulator are combined to investigate smart electric vehicle charging algorithms. It is especially the potential size of such systems that constitute a challenge for modeling and simulation. Implementing these future CPS are another substantial challenge. The designed algorithms need to be compact, computationally inexpensive, potentially self-organizing and intrinsically stable if applied to real energy systems.

This workshop is a platform for researchers and developers to exchange ideas to the following (not exhaustive) list of topics:

SPECIAL SESSION ORGANISATION

Edmund Widl
edmund.widl@ait.ac.at

Sebastian Lehnhoff
lehnhoff@offis.de

M. Stifter
matthias.stifter@ait.ac.at

The organizers look forward to welcoming you to Vienna, Austria from 10th to 13th November 2013.

Important Dates

Regular Paper submission:	April 01, 2013
Notification of acceptance:	June 15, 2013
Final submission:	August 01, 2013



- Hybrid modeling and simulation
- Co-Simulation
- High-performance computing
- Analytics of system data
- Ontologies for energy systems
- Applications of cyber-physical energy systems
- Distributed algorithms and control
- Standards in interfacing components
- Numerics for hybrid and co-simulation
- Formal languages for energy systems
- Smart Grid modeling
- Information and communication technology for intelligent energy systems

SUBMISSION OF PAPERS

The working language of the conference is English. Submit the full paper as PDF following the IEEE layout requirements by using the templates given at the conference web page. Accepted and presented papers will be published in an IEEE Proceedings volume and will be sent to IEEE Xplore. In addition, selected authors are encouraged to submit their papers for publication in the IEEE Transactions on Industrial Electronics or in the IEEE Transactions on Industrial Informatics.

THE CONFERENCE

IECON 2013 is the 39th Annual Conference of the IEEE Industrial Electronics Society, focusing on industrial and manufacturing theory and applications of electronics, controls, communications, instrumentation and computational intelligence. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology, and fellowship.

Papers with new research results are encouraged for submission. IECON 2013

will be held concurrently with the 7th IEEE International Conference on E-Learning in Industrial Electronics (ICE-LIE 2013). Participation in any of these events just requires a single conference registration fee. The world's industry, research, and academia are cordially invited to participate in the wealth of presentations, tutorials, special sessions and social activities, and furthermore, enjoy beautiful Vienna.