

IEEE Technical Committee on Power Generation

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The IEEE-CSS Technical Committee on Power Generation was created in July 2010. The Technical Committee addresses all aspects of modeling, simulation, control and optimization of energy generation and energy utilization systems, and is organized around four thrusts: Nuclear Energy Generation, Fossil Energy Generation, Renewable Energy Generation and Efficient Energy Utilization. We summarize below our activity during the last few months.

LEADERSHIP GROUP

Nuclear Energy Generation: Didier Mazon, Alfredo Pironti, Eugenio Schuster, Michael Walker
Fossil Energy Generation: Joseph Bentsman, Hao Lei, Xinsheng Lou
Renewable Energy Generation: Kathryn Johnson, Rush Robinett III, Cecilia Mazzaro
Efficient Energy Utilization: Alessandro Beghi, Luca Cecchinato

WEB-PAGE DEVELOPMENT

The description of the mission and scope of the newly created IEEE-CSS Technical Committee on Power Generation has been uploaded to the IEEE-CSS web-page. In addition, a dedicated web-page has been created to cover the activities by the technical committee:

<http://www.lehigh.edu/~intcpgc/ieeetcpge.html>

The web page summarizes the mission, scope, organization and activities of the technical committee. The web page also lets people interested in the technical committee register as members. Users also have the possibility to submit announcements that are posted on the web and disseminated by e-mail among the members of the technical committee in the form of an electronic newsletter.

CONFERENCES

- Two invited sessions on “Control of Energy Systems” were organized by Prof. Alessandro Beghi and Prof. Eugenio Schuster during the 2010 IEEE Multi-conference on Systems and Control, September 8-10, 2010, Yokohama, Japan.
- One tutorial session on “Environmental and Energy Control Systems” was organized by Prof. Toru Namerikawa, Prof. Eugenio Schuster and Prof. Tomohisa Hayakawa during the 2010 IEEE Multi-conference on Systems and Control, September 8-10, 2010, Yokohama, Japan. The IEEE-CSS Technical Committee on Power Generation was officially introduced during this session. Presentations were given by Eugenio Schuster (Lehigh University – “Power Generation and Control”), Tomohisa Hayakawa (Tokyo Institute of Technology – “Output Optimization of Wind Energy Generation Systems via Extremum Seeking Control”), Rush D. Robinett III and David Wilson (Sandia National Laboratory – “Renewable Energy Grid Integration”), Toru Namerikawa (Keio University – “Electric Demand Prediction and Predictive Control of Micro Grid”), Toshifumi Takaoka (Toyota Motor Corporation – The Newly Developed Toyota Plug-in Hybrid System”), Alessandro Beghi (University of Padua – “Energy-efficient Control of Building Heating/Cooling Systems”).

OUTREACH ACTIVITY

We are actively working on letting the Controls/Energy community know about the creation of the IEEE-CSS Technical Committee on Power Generation as well as on integrating researchers around the world in the activities organized by the technical committee.

MEETINGS

The Technical Committee will have its first meeting during the coming IEEE Conference on Decision and Control, Atlanta, GA, Dec. 15-17, where the activities for 2011 will be discussed. The Technical Committee is already working on the organization of special sessions and workshops for the coming year.