

Intelligent Techniques for Power System Transmission Control (*panel*)

Sponsored: Power System Analysis, Computing, and Economics Committee

Chair: Ganesh Kumar Venayagamoorthy, Real-Time Power and Intelligent Systems Laboratory, University of Missouri-Rolla

The electric power grid is a great example of the most complex man-made machine ever built. It consists of power generation plants, transformers, transmission lines, switches and relays, active/reactive compensators, loads and controllers. Among the attributes of this complexity are inadequate power flow control, inadequate reactive power management, power angle and voltage instabilities, inadequate planners/operators training, transmission line protection, inefficient use of collected data, etc. This panel presents a number of intelligent techniques to address the challenges in the transmission system control.

Presentations and Panelists:

- 07GM1156 Addressing Transmission Grid Complexity using Advanced Technological Concepts
A. Edris, *EPRI*
- 07GM1143 Swarm Intelligence for Transmission System Control
G. Venayagamoorthy, *University of Missouri-Rolla*
R. Harley, *Georgia Institute of Technology*
- 07GM1151 FACTS Technology - State of the Art, Current Challenges and the Future Prospects
N. Hingorani
- 07GM1382 Hybrid of Analytical and Heuristic Techniques for FACTS Devices in Transmission Systems
K. Lee, *The Pennsylvania State University*
- 07GM1148 Adaptive Critic Design Based Neuro-Fuzzy Controller for a Static Compensator in a Multimachine Power System
S. Mohagheghi, *Georgia Institute of Technology*
G. Venayagamoorthy, *University of Missouri-Rolla*
R. Harley, *Georgia Institute of Technology*
- 07GM1361 Application of neural networks in transmission line protection
O. Malik, *University of Calgary*