

Intelligent Techniques for Power System Generation Control (panel)

Tuesday, 20 June, 2:00 PM–5:00 PM Room 512f

*Sponsored by: Power System Analysis, Computing, and Economics Committee
Energy Development and Power Generation*

*Chairs: G. K. Venayagamoorthy, University of Missouri-Rolla
K. Y. Lee, The Pennsylvania State University*

Power system control essentially requires a continuous balance between electrical power generation and a varying load demand, while maintaining system frequency, voltage levels and the power grid security. The power grid is a highly complex and non-linear dynamic system. As the demand for electric power grows closer to the available sources, the complex systems that ensure the stability and security of the power grid are pushed closer to their edge. Thus, the need arises for advanced intelligent modeling and control techniques for the power system. This panel session focuses on various intelligent techniques for power system generation control.

PRESENTATIONS AND PANELISTS:

- 06GM1257, Toward a Self-Healing Energy Infrastructure
M. AMIN, *University of Minnesota*
P. AMIN, *University of Minnesota*

- 06GM1265, Excitation Systems: The Current State of the Art
M. BASLER, *Basler Electric Co.*

- 06GM0642, Artificial Intelligence Techniques Applied to Adaptive Power System Stabilizer Design
O. MALIK, *University of Calgary*

- 06GM1137, Tuning of Generator Excitation Systems Using Meta-Heuristics
E. VIVEROS, *Federal University of Rio de Janeiro*
G. TARANTO, *Federal University of Rio de Janeiro*
D. FALCÃO, *Federal University of Rio de Janeiro*

- 06GM1094, Intelligent Optimal Control of Excitation and Turbine Systems in Power Networks
G. VENAYAGAMOORTHY, *University of Missouri-Rolla*
R. HARLEY, *Georgia Institute of Technology*

- 06GM1259, Intelligent Techniques Applied to Power Plant Control
K. LEE, *Penn State University*