



Third Annual NSF EFRI-MST-GTECH WORKSHOP

August 18 – 19, 2011

**Faculty Lounge
Department of Electrical and Computer Engineering
Missouri University of Science and Technology
301 W. 16th Street, Rolla, MO 65409**



Third Annual NSF EFRI-MST-GTECH Workshop Program

Thursday, August 18, 2011

7:45 am - 8:00 am	Registration
8:00 am - 8:15 am	Welcome and Opening Remarks <i>Dr. Ganesh Kumar Venayagamoorthy Missouri S&T</i>
8:15 am - 9:00 am	Latency of Neuronal Response to Electrical Stimulation as a Computational Readout for Learning Networks <i>Riley T. Zeller-Townson, and Steve M. Potter, Georgia Tech</i> <i>Ganesh K. Venayagamoorthy, Missouri S&T</i>
9:00 am - 9:45 am	Input Coding Optimization, Readout, and Prediction Methods for Living & Simulated Neuronal Networks <i>Robert L. Ortman, and Christopher Rozell, Georgia Tech</i> <i>Ganesh K. Venayagamoorthy, Missouri S&T</i> <i>Steve M. Potter, Georgia Tech</i>
9.45 am - 10:00 am	Coffee Break
10.00 am – 10.45 am	Nonlinear Dynamics Predictions Using Polychronous Spiking Neural Networks <i>Cameron Johnson and Ganesh. K. Venayagamoorthy, Missouri S&T</i>
10:45 am – 11:30 am	Function Approximation and Learning in Polychronous Spiking Network using Adaptive Critic Design <i>Sinchan Roychowdhury and Ganesh K. Venayagamoorthy, Missouri S&T</i>
11:30 pm - 12:30 pm	Lunch
12:30 am - 1:15 pm	Decentralized Asynchronous Learning in Cellular Neural Networks <i>Bipul Luitel and Ganesh K. Venayagamoorthy, Missouri S&T</i>
1:15 pm – 2:00 pm	Power System Identification for Neuro-Control Using Virtual Generators and Recurrent Neural Networks <i>Diogenes Molina & Ronald G. Harley, Georgia Tech</i> <i>Ganesh K. Venayagamoorthy, Missouri S&T</i>
2:00 pm – 2.45 pm	Transient Stability Prediction Using PMU Measurement and Recurrent Neural Networks <i>Paul Olulope and G. K. Venayagamoorthy, Missouri S&T</i> <i>Komla Folly, University of Cape Town</i>
2:45 pm - 3:00 pm	Coffee Break
3:00 pm – 3.45 pm	Adaptive Dynamic Programming for SVC Secondary Voltage Control in a Smart Grid <i>K. Joseph Makasa and G. K. Venayagamoorthy, Missouri S&T</i>
3:45 pm – 4.30 pm	Adaptive Critic Design Based Control for Optimum SOC of SmartParks Subjected to Variable Wind Power Injection <i>Priyam Chakravarty and Ganesh K. Venayagamoorthy, Missouri S&T</i>
4:30 pm - 5:00 pm	Brain2Grid: Face of the EFRI COPN Project <i>S. Dahal - Missouri S&T</i>
5:45 pm - 8:00 pm	Banquet at Zenos

Friday, August 19, 2011

- 8:00 am - 8:45 am Learning and Training of Biologically-Inspired Artificial Neural Networks
Jing Dai, Georgia Tech
Ganesh K. Venayagamoorthy, Missouri S&T
Ronald G. Harley, Georgia Tech
- 8:45 am - 9:30 am Dynamic Stochastic Optimal Power Flow Control and 70-Bus Test Power System for Studying High Penetration of Wind
Jiaqi Liang, Georgia Tech
Ganesh K. Venayagamoorthy, Missouri S&T
Ronald G. Harley, Georgia Tech
- 9:30 am - 10:15 am Integration and Control of Single and Three Phase Energy Sources in Micro-Grid
Prajwal Gautam, G. K. Venayagamoorthy, and Keith Corzine, Missouri S&T
- 10:15 am - 10:30 am **Coffee Break**
- 10:30 am - 11:15 am Intelligent Energy Management and Demand-Response Control for a Photovoltaic-Energy Storage System
Yang Liu and G. K. Venayagamoorthy, Missouri S&T
- 11:15 am - 12:30 pm Project Goals and Next Steps
Dr. Ganesh Kumar Venayagamoorthy
- 12:30 pm - 1:45 pm **Lunch**
- 2:00 pm - 5:00 pm Onondaga Cave State Park