Engineering Neuroscience & Health

Department of Biomedical Engineering Division of Biokinesiology and Physical Therapy

ENH SEMINAR SERIES

Presents:

Dr. Ganesh Kumar Venayagamoorthy

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Monday

May 09, 2011

4:00 p.m.

Refreshments served: 3:30— 4 pm

"Neuroscience and Neural Networks for Engineering the Future Intelligence Electric Power Grid"

Dr. Ganesh Kumar Venayagamoorthy
Associate Professor of Electrical and Computer Engineering
Director: Real-Time Power and Intelligent Systems Laboratory
Missouri University of Science and Technology
http://web.mst.edu/~ganeshv/Index.htm

The objective of this multi-disciplinary collaborative research is to infuse more neurobiology into control systems, to make them more brain-like and better able to carry out real-time control of complex systems. This project has two research thrusts: neuro-biology and neuro-engineering. On the neuro-biology side, a novel in vitro neural system is used to explore new learning mechanisms that may underlie the massively parallel real-time control capabilities of the brain. Brains are exquisitely good at adaptive real-time interaction with the world. This requires spatially and temporally coordinated activity of many neurons to accomplish. The neuro-engineering activity takes advantage of advances in the neurobiology thrust to develop technologies for real-time control and decision making, aimed at revolutionizing nonlinear adaptive optimal control of large complex critical infrastructures such as, but not limited to, the smart electric power grid. This presentation will focus on the neuro-engineering aspects with emphasis on the application of advanced neural networks in addressing some of the smart grid challenges.

Keywords — computational methods, intelligent systems, neurocontrol, situational awareness,

Locations: *Seminar is simultaneously presented*

UPC: HNB 100 — LIVE
Hedco Neurosciences Building
UPC Campus Map/Directions:
http://www.usc.edu/about/visit/upc/

HSC: CHP 147 – Video Conference
Center for the Health Professional
HSC Campus Map/Directions:
http://www.usc.edu/about/visit/hsc/

Organized by Professor Francisco Valero-Cuevas http://bme.usc.edu/valero/

Web Cast
http://capture.usc.edu/college/Catalog/pages/catalog.aspx?catalogId=946350f1-ca84-40e7-b867-e16adba01e4e

Information about all seminars can be found at
http://bbdl.usc.edu/ENH-Schedule.php