Engineering Neuroscience & Health

Department of Biomedical Engineering Division of Biokinesiology and Physical Therapy

ENH SEMINAR SERIES

Presents:

Dr. Brad Sutton

University of Illinois at Urbana-Champaign

BSutton@illinois.edu

Monday

November 16, 2009

4:00 p.m.

Refreshments will be served 3—4 pm

"Multimodal imaging of the neuromuscular system with magnetic resonance imaging"

Brad Sutton, PhD
Assistant Professor
Department of Bioengineering
University of Illinois at Urbana-Champaign

Magnetic resonance imaging provides several contrast mechanisms to examine structural and functional properties of the brain, axon bundles, and muscles involved in the neuromuscular system. Many of these modalities are used independently to assess different aspects of the system during pathology or healthy aging processes. In this seminar, I will discuss our efforts to create an imaging-based model of the motor control system for the oral muscles used in speech and swallowing. Novel acquisitions have been developed to probe this system at different levels, including: simultaneous functional MRI and dynamic structural acquisitions, cerebral microvascular blood flow, and high-resolution diffusion tensor imaging of axon bundles. The information from these imaging modalities will be used to customize a model of the muscular system, providing component-level characterizations and useful biomarkers for disease progress or biofeedback.

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://bme.usc.edu/valero/ENH/ENH-Schedule.html