

Engineering Neuroscience & Health

Department of Biomedical Engineering

Division of Biokinesiology and Physical Therapy



Presents:

Dr. Ellis Meng

University of Southern California

ellis.meng@usc.edu

Monday

March 2, 2009

4:00 p.m.

Refreshments will be served 3–4 pm

“Polymer BioMEMS for Hybrid Neural Interfaces and Implantable Drug Delivery Systems”

Ellis Meng, PhD, Assistant Professor
Viterbi Early Career Chair
Department of Biomedical Engineering

Novel micro- and nanotechnologies enable translational engineering solutions for next generation therapies to address vital unmet medical needs. In particular, the Biomedical Microsystems Laboratory is interested in the integration of multiple modalities (e.g. electrical, mechanical, and chemical) in miniaturized devices measuring no more than a few millimeters for use in fundamental scientific research, biomedical diagnostics, and therapy. Our approach focuses on the investigation of novel microelectromechanical systems (MEMS) fabricated from bio-compatible polymers for *in vitro*, *ex vivo*, and *in vivo* use. This talk will describe efforts to produce polymer-based microsystems with emphasis on Parylene C technology. Parylene C is well known historically as a coating material but has gained popularity as a structural material in MEMS in a wide variety of applications. In particular, its biocompatibility and chemical inertness are extremely attractive in microfluidics and bioMEMS. Current efforts on novel hybrid neural interfaces and implantable drug delivery systems for management of incurable ocular diseases and small animal research will be discussed.

BioSketch

Ellis Meng received her Bachelor's degree in Engineering and Applied Science from the California Institute of Technology in 1997. She pursued her graduate studies in Electrical Engineering and received her M.S. in 1998 and Ph.D. in 2003 at the same institution. While at Caltech, she was a recipient of the Intel Women in Science and Engineering Scholarship, Caltech Alumni Association Donald S. Clark Award, and Caltech Special Institute Fellowship. She joined the Biomedical Engineering Department at USC in the summer of 2004. Dr. Meng is a researcher in the Biomimetic Microelectronic Systems (BMES) National Science Foundation (NSF) Engineering Research Center (ERC) in which she is a thrust leader for interface technology and the Associate Director of Education and Student Diversity. She is a member of Tau Beta Pi, IEEE, ASME, ASEE, BMES, and SWE. Dr. Meng is a recipient of the NSF CAREER and Wallace H. Coulter Foundation Early Career Awards and holds the Viterbi Early Career Chair in the Viterbi School of Engineering.

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/?cid=af180d48-ceff-42b9-a35c-eb199daed320>

Information about all seminars can be found at
<http://www.clmc.usc.edu/~heiko/ENH>

ENH SEMINAR SERIES