

# BIOENGINEERING

PRESENTS

## Implantable Microdevices



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12:00 PM – 1:00 PM

2101 ENGINEERING V

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#### ABSTRACT:

The Biomedical Microsystems Laboratory at the University of Southern California focuses on developing novel translational microtechnologies and microdevices for biomedical applications, in particular medical implants. Often the last line of defense for combating a wide range of challenging medical conditions, implants help extend and improve the quality of life for many. This industry continues to be fueled by the growing number of elderly and increased prevalence of chronic diseases. The application of microelectromechanical systems technology and medical polymer micromachining will enable the next generation of advanced medical implants that are needed to address urgent unmet clinical needs. This talk will present an overview of current research topics ranging from neural interfaces to sensors for hydrocephalus to electrochemical drug infusion pumps. The relevant clinical conditions and need addressed by each technology will be also introduced.

#### BIOGRAPHY:

**Ellis Meng** is Professor of biomedical and electrical engineering in the Viterbi School of Engineering at the University of Southern California. She is also Dwight C. and Hildagarde E. Baum Chair of the Department of Biomedical Engineering. She received the B.S. degree in engineering and applied science and the M.S. and Ph.D. degrees in electrical engineering from the California Institute of Technology (Caltech), Pasadena, in 1997, 1998, and 2003, respectively. She directs the Biomedical Microsystems Laboratory founded in 2004 which conducts research on biocompatible polymer technology and micromachining, sensors and actuators, microfluidics, and implantable and biomedical microelectromechanical systems (MEMS). Her honors include the NSF CAREER award, Wallace H. Coulter Foundation Early Career Award, 2009 TR35 Young Innovator Under 35, Viterbi Early Career Chair, and ASEE Curtis W. McGraw Research Award. She is on the editorial board of the Journal of Micromechanics and Microengineering and is co-chair of the 2017 IEEE MEMS conference. She is also an active educator and authored a textbook on bioMEMS.