

Presents

# Restoring Motor Function in Amputees with Smart Prosthetics

by

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**Abstract** — As the population of amputees grows to millions, there is an urgent need for new prosthetics technologies that can provide this large population with the best restoration of normal function possible. Advanced robotic prostheses, such as dexterous prosthetic hands and motorized prosthetic legs, have become commercially available. However, the function of these robotic devices is still limited due to lack of neural control, adaptation, and safety mechanisms.

In this talk, I will present our research efforts in developing intelligent control for motorized upper- and lower-limb prostheses to enable limb amputees to use their prosthetic limbs intuitively, efficiently, and safely. Our innovation may lead to true bionic limbs that are seamlessly integrated with human body for daily function and significantly improve the quality of life of individuals with limb amputations.

**Bio** —He (Helen) Huang received her Ph.D. from Arizona State University. She was a post-doctoral research associate in the Center for Bionic Medicine at the Rehabilitation Institute of Chicago/Northwestern University. Currently Dr. Huang is an Associate Professor in the Joint Department of Biomedical Engineering at the University of North Carolina at Chapel Hill (UNC) and North Carolina State University (NCSU), the Director of the Rehabilitation Engineering Core, and an adjunct Associate Professor at UNC Department of Physical Medicine and Rehabilitation.

Dr. Huang's research interest lies in design and control of robotic prosthetics and exoskeletons, neural-machine interface, virtual reality in physical rehabilitation, and modeling and analysis of neuromuscular control of movement in normal and neurologically disordered humans.

From Noon to 1PM on April 22, 2016

Tsurumai Campus: Central Consultation Building

7F Special Conference room

Higashiyama Campus: IB Building South No.462 Seminar room