

Distinguished Leader Series

Organizers: Stacey Gorniak, PhD; Dan O'Connor, PhD; Javed Khan, PhD

Advanced EMG for NeuroRehabilitation



Dr. Ping Zhou, Ph.D.

University of Texas Health Science Center
Dept. of Physical Medicine and Rehabilitation

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5:30 pm – 7:00 pm

University of Houston

Classroom and Business

Building (CBB) - Room 104

Abstract:

Electromyography (EMG) signal is electrical manifestation of a contracting muscle. In this talk, I will first give an overview of different EMG recording and processing techniques. Then, I will present several applications of advanced EMG techniques for neurorehabilitation. These include: (1) examination of motor unit alterations underlying muscle weakness after stroke; (2) exploration of noninvasive surface EMG methods to supplement and replace needle EMG in some specific applications for examination of neuromuscular diseases; and (3) development of advanced myoelectric pattern recognition control of an exoskeleton robot for improving hand function after spinal cord injury.

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