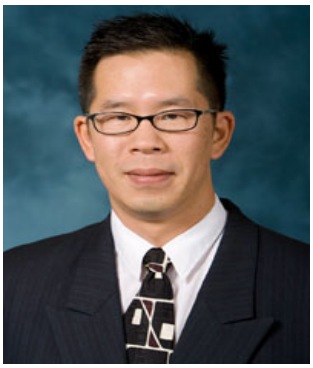
The Udall Center of Excellence for Parkinson's Disease Research Update



January 27, 2016
1:30 pm – 2:30 pm
4130 Undergraduate Science Building

Aging and Parkinson's Disease in the Real World

Arthur D. Kuo, Ph.D.

Professor of Mechanical Engineering
Professor of Biomedical Engineering
Co-Director, Biomechanics Research Laboratory
University of Michigan

Gait and balance performance in older adults and Parkinson's patients is often assessed in the laboratory or clinic, as a means to gauge fall risk or to prescribe interventions or medications. But the standard tests are not necessarily representative of real-world mobility, nor can they approximate the actual challenges of daily living. New technology has therefore been developed to quantify and assess gait and other activities of daily living. However, despite great progress in activity monitors and other sensors, there remains the problem of how to extract clinically useful information. We have addressed this issue by developing methods to reconstruct the motions of the feet throughout daily living, using body-worn sensors. Our data show that in the real world, context is crucial, to differentiate the accidental from the purposeful. Yet context has been ignored in nearly all studies of real-world motion to date. In this talk I will review our efforts to address mobility tracking beyond counting of steps, and to understand and record real-world context, followed by possible applications to aging and Parkinson's research and treatment.