



Department of
Biomedical Engineering
UNIVERSITY OF WISCONSIN-MADISON

Fall 2018 Seminar Series



Neuromechanics of Balance: from Flamingos to Dancers

Lena H. Ting, Ph.D.;
Professor, W.H. Coulter Department
of Biomedical Engineering at Georgia
Tech and Emory

Our ability to move in the world, and even to stand upright depend on complex and flexible multiscale sensory and motor interactions. Our experimental and computational studies of balance in one-, two-, and four-legged stance have revealed many ways that the brain and body interact and influence each other in the control of movement.

I will illustrate multi-scale effects of muscle and neural properties on proprioception and sensorimotor control of balance. I will further demonstrate how individual differences in how we move arises from neuromechanical interactions shaped by evolutionary, developmental, and learning processes.

Dr. Ting studied mechanical engineering at the University of California at Berkeley (BS) and at Stanford University (MSE, PhD). Her postdoctoral training was in neurophysiology at the University of Paris V and Oregon Health and Sciences University.

Her research in neuromechanics focuses on complex, whole body movements such as walking and balance in healthy and neurologically impaired individuals, as well as skilled movements involved in dance and sport. By drawing from neuroscience, biomechanics, rehabilitation, computation, robotics, and physiology her lab has discovered exciting new principles of human movement.

Her work has revealed principles of sensorimotor control for gait and balance and how they change in stroke, spinal cord injury, Parkinson's disease, and with rehabilitation and training. Her work forms a foundation that researchers around the world are using to understand normal and impaired movement control in humans and animals as well as to develop better robotic devices that interact with people.



Monday, September 24, 2018
12 PM in Tong Auditorium (1003 Engineering Centers)