

April 29th (Friday)
11:30am – 1:00 pm
[WebEx \(Click here\)](#)

Dr. Jongsang Son, PhD.

Assistant Professor
New Jersey Institute of Technology



Altered neuromuscular properties after chronic stroke

Abstract

Muscle weakness is one of the severe motor impairments that are very commonly observed in broad clinical populations including stroke. While this paresis has been explored in terms of disrupted neural signals (e.g., a loss of descending excitatory neural drive from the brain to the spinal cord, altered motor neuron behavior to excite muscle), there is a gap in our current knowledge of the potential contribution of progressive, secondary changes in muscle intrinsic mechanical properties (e.g., muscle size, muscle architecture, muscle material properties). In this seminar, we will discuss what muscular factors change following stroke and how these changes are associated with muscle performance-related measures. Future directions to better understand muscle mechanics under pathophysiological conditions will be discussed as well.

About the Speaker

Jongsang Son is an Assistant Professor in the Department of Biomedical Engineering at the New Jersey Institute of Technology (NJIT). His research priorities are to understand the underlying neuromuscular mechanisms of motor impairments in broad clinical populations, to quantify neuromuscular properties in a non-invasive, practical way, and to investigate neuromuscular adaptations in response to various sensorimotor stimulations. Ultimately, he hopes to translate his discoveries into practical interventions that can prevent the development of motor impairments and help people with chronic diseases improve motor function. He obtained his Ph.D. in Biomedical Engineering from Yonsei University, Wonju, South Korea. Before joining NJIT, he was an Associate Research Scientist at Shirley Ryan AbilityLab and a Research Assistant Professor in the Department of Physical Medicine & Rehabilitation at Northwestern University, Chicago, United States.