



Department of Biomedical Engineering
Graduate Seminar



Dr. Jongsang Son, Ph.D.

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Title: Muscle weakness and altered neuromechanical properties after hemispheric 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 measures. Future directions to better understand muscle mechanics under pathophysiological conditions and to develop potential intervention tools for treating muscle weakness will be discussed as well.

Bio:

Jongsang Son is 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. He obtained his Ph.D. in Biomedical Engineering from Yonsei University, Wonju, South Korea. His research priorities are to understand the underlying neuromuscular mechanisms of motor impairments in broad clinical populations and to investigate neuromuscular adaptations to 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 disease improve motor functions.

Date and time: Monday Feb 1st, 2021 @ 12:30 P.M.

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