

# Neural Prosthesis Seminar

## “Learning, Reward and Brain Stimulation in Neurorehabilitation”

Friday, March 20<sup>th</sup>, 2015 • 8:30 AM

Biomedical Research Building 105  
Case Western Reserve University



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### Abstract

Exercise and training have long been used to improve motor function after stroke. Better training strategies and therapies based on motor learning principles to enhance the effects of these rehabilitative protocols are currently being developed for poststroke disability. Improvement in our understanding of the neuroplastic processes associated with poststroke motor impairment and understanding of the mechanisms of neuroplasticity is crucial to this effect. Reward has proven an influential factor in neuroplasticity and as a tool to enhance training effects. Pharmacological, biological and electrophysiological interventions that enhance neuroplasticity are explored to further expand the boundaries of poststroke rehabilitation. This presentation aims to provide a focused overview of neuroplasticity associated with motor learning and reward in health and after injury and its interactions. Experimental interventions are being developed to manipulate neuroplasticity to enhance motor rehabilitation in humans. Possible differences in motor skill learning affected after stroke will be discussed.

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