



Matthew Petrucci

Postdoctoral Research Fellow, Neurology and Neurological Sciences

Bio

BIO

Matt obtained a MS in mechanical engineering and PhD in neuroscience from the University of Illinois at Urbana-Champaign, and a BS/BA in mechanical engineering from the University of San Diego. His dissertation research primarily focused on improving gait initiation in people with Parkinson's disease (PD) and freezing of gait (FOG) using a powered ankle foot orthosis. During his graduate career, he also worked on projects that examined the application of a powered ankle foot orthosis for gait assistance in persons with multiple sclerosis and perception vs. action coupling in firefighters wearing protective gear. He was awarded a MnDRIVE Neuromodulation Postdoctoral Fellowship in 2016 to develop quantitative measures of the mechanical and neurophysiological components of rigidity in PD. In 2017, he was awarded the Parkinson's Study Group Mentored Clinical Research Award to evaluate an automated closed-looped algorithm to rapidly optimize deep brain stimulation settings for people with PD.

PROFESSIONAL EDUCATION

- Bachelor of Arts, University of San Diego (2007)
- Master of Science, University of Illinois at Urbana Champaign (2016)
- Bachelor of Science, University of San Diego (2007)
- Doctor of Philosophy, University of Illinois at Urbana Champaign (2016)

Publications

PUBLICATIONS

- **Modulation of anticipatory postural adjustments using a powered ankle orthosis in people with Parkinson's disease and freezing of gait.** *Gait & posture*
Petrucci, M. N., MacKinnon, C. D., Hsiao-Weckler, E. T.
2019; 72: 188–94
- **A Neuromechanical Model of Reduced Dorsiflexor Torque During the Anticipatory Postural Adjustments of Gait Initiation** *IEEE TRANSACTIONS ON NEURAL SYSTEMS AND REHABILITATION ENGINEERING*
Petrucci, M. N., DiBerardino, L. A., MacKinnon, C. D., Hsiao-Weckler, E. T.
2018; 26 (11): 2210–16