Phillip C. Desrochers, Ph.D.

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EDUCATION

Michigan State University — East Lansing, MI
Ph.D., Kinesiology | Cognitive and Motor Neuroscience — October 2019

University of Massachusetts Amherst — Amherst, MA
B.S., Psychology — December 2012

RESEARCH AND WORK EXPERIENCE

Boston University | Motor Development Laboratory — Boston, MA
Postdoctoral Fellow — Sep 2019 – Present

- Coordinates research protocols to motor neuroscience, movement disorders and atypical populations (Parkinson's disease, obesity), and gait and balance control
- Uses array of technologies including inertial measurement units, pressure sensitive walkways, and split belt treadmills; uses data analytics and computer coding tools to assess human movement
- Mentors graduate students and undergraduate researchers

Michigan State University | Motor Neuroscience Laboratory — East Lansing, MI
Graduate Teaching Assistant — Aug 2015 – Oct 2019

- Designed and executed neuromotor control research experiments using robotics, motion capture, force plates, and cognitive-motor tasks in healthy and movement disorders populations (dystonia)
- Performed statistical analyses and human biomechanical modeling
- Taught undergraduate lecture courses in Biomechanics, Principles of Human Movement, and Measurement in Kinesiology for the Michigan State Dept. of Kinesiology

University of Massachusetts Amherst | Cognition and Action Laboratory — Amherst, MA
Lab Manager — Sep 2013 – Aug 2015

- Coordinated research protocols funded by National Institutes of Health and managed finances and scheduling
- Designed and executed experiments examining effects of sleep on neurocognition

SELECT PUBLICATIONS

Desrochers, P.C., Brunfeldt, A.T., Kagerer, F.A. (2020). Neurophysiological correlates of adaptation and interference during asymmetrical bimanual movements. *Neuroscience*, 432, 30-43.

Desrochers, P.C., Sidiropoulos, C., Brunfeldt, A.T., Kagerer, F.A. (2019). Sensorimotor control in dystonia. *Brain Sciences*, 9(4), 79-97.

Desrochers, P.C., Kim, D., Keegan, L., Gill, S.V. (2021). Association between the Functional Gait Assessment and spatiotemporal gait parameters in individuals with obesity compared to normal weight controls. *Journal of Musculoskeletal and Neuronal Interactions*.

Desrochers, P.C., Gill, S.V. (under review). Temporal accuracy of gait across multiple levels of practice. *Human Movement Science*.

TECHNICAL SKILLS

Movement quantification: Motion Capture (Motion Analysis Corp), Robotics (Kinarm), Inertial Measurement Units (MotionNode), Force Plates, Dynamometer (Biodex), Pressure walkway (Protokinetics), Neurophysiology (electroencephalography and electromyography)

Biomechanical Modeling: OpenSim

Languages: R/RStudio, Python, MATLAB, Stateflow, Simulink

Data Analytics: SPSS, SAS

Misc. Software: MS-Office, Tracker, Git

Methodologies: Multivariate Analysis, Time-Frequency Analysis, Signal Processing, Automated Reporting, Optimization, Validation

INTERESTS AND HOBBIES

-Drummer for 25 years -Avid Outdoorsman -Amateur homebrewer