

CURRICULUM VITAE

Phillip Carl Desrochers

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Boston, MA 02215
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EDUCATION

- | | |
|-------------------------|---|
| Aug 2015 – October 2019 | DOCTOR OF PHILOSOPHY
<i>Kinesiology - Cognitive and Motor Neuroscience</i>
Michigan State University
East Lansing, MI

Dissertation: Desrochers, P.C. (2019). Bimanual Interference and Neuromotor Control in Healthy Individuals and Those with Cervical Dystonia. Ph.D. Michigan State University. |
| Sept 2008 - Dec 2012 | BACHELOR OF SCIENCE
<i>Psychology</i>
University of Massachusetts Amherst
Amherst, MA |

EMPLOYMENT

- | | |
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| Sept 2019 – Present | POST-DOCTORAL FELLOW
Sargent College of Health and Rehabilitation Sciences
Boston University
Boston, MA
PI: Dr. Simone Gill, Ph.D., OTR |
| Aug 2015 – Aug 2019 | GRADUATE TEACHING ASSISTANT
Department of Kinesiology
PI: Dr. Florian Kagerer, PhD
Michigan State University
East Lansing, MI |
| Jan 2013 - Jul 2015 | LAB MANAGER
Cognition and Action Laboratory
PI: Dr. Rebecca Spencer, PhD
University of Massachusetts Amherst
Amherst, MA |
| May 2011 - Dec 2012 | LAB MANAGER
Learning Laboratory
PI: Dr. Jennifer McDermott, PhD
University of Massachusetts Amherst
Amherst, MA |

RESEARCH EXPERIENCE

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| Aug 2010 - May 2011 | RESEARCH ASSISTANT
UMass Eyetracking Laboratory
PI: Dr. Adrian Staub, PhD
University of Massachusetts Amherst
Amherst, MA |
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FELLOWSHIPS AND AWARDS

Clinical & Translational Science Institute Mini-Sabbatical Award (\$4,460) – March 2020, *Boston University*

Research Enhancement Award (\$1,200) – August 2019, *Michigan State University*, Graduate School

Summer Research Fellowship (\$6,000)– April 2018, *Michigan State University*, Dept. of Kinesiology

Dykstra Family Research Endowment in Education Fellowship (\$5,000) – March 2017, *Michigan State University*, College of Education

Summer Research Support Fellowship (\$2,500; runner up) - April 2016, *Michigan State University*, Dept. of Kinesiology

Kinesiology Practicum Support Fellowship (\$2,915) – March 2016, *Michigan State University*, Dept. of Kinesiology

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.

Cremone, A., de Jong D.M., Kurdziel, L.B.F. **Desrochers, P.C.**, Sayer A., Spencer, R.M.C. & McDermott, J. (2017). Sleep Tight, Act Right: Negative Affect, Sleep, and Behavior problems during Early Childhood. *Child Development*, 00(0), 1-18.

de Jong, D., Cremone, A., Kurdziel L., **Desrochers P.C.**, LeBourgeois, M., Sayer A., Ertel K., Spencer, R.M.C. (2016). Maternal depressive symptoms and household income in relation to sleep in early childhood. *Journal of Pediatric Psychology*, 41(9), 961-970.

Spencer R.M.C., Campanella, C., de Jong, D.M., **Desrochers, P.C.**, Root, H., Cremone, A., Kurdziel, L.B.F. (2016). Sleep and behavior of preschool children under typical and nap-promoted conditions. *Sleep Health*, 2(1), 35-41.

Desrochers, P.C., Kurdziel L.B.F., Spencer, R.M.C. (2015). Delayed benefit of naps on motor learning in preschool children. *Experimental Brain Research*, 234(3), 763–772.

PUBLICATIONS UNDER REVIEW

Desrochers, P.C., Brunfeldt, A.T., Kagerer, F.A., (under review). Visuomotor information drives interference between the hands more than dynamic motor information during bimanual reaches. *European Journal of Neuroscience*.

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

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Desrochers, P.C., Kim, D., Keegan, L., Gill, S.V. (under review). Association between the Functional Gait Assessment and spatiotemporal gait parameters in individuals with obesity compared to normal weight controls. *Gait and Posture*.

Shin, D., Keegan, L., Desrochers, P.C., Gill, S.V. (under review). Employing Therapeutic Use of Self in Recruitment and Retention in Rehabilitation Research. *American Journal of Occupational Therapy*.

PUBLICATIONS IN PREPARATION

Torgimson, S.J., **Desrochers, P.C.**, Helm, A.F., McDermott, J.M. (under review). Neural correlates of executive function in young children: Differences in alpha modulation as a function of task demands.

RESEARCH TALKS

Desrochers, P.C. (2019). *Bimanual interference and neuromotor control in healthy individuals and those with cervical dystonia*. Dissertation presented to Department of Kinesiology, East Lansing, MI.

Desrochers, P.C. (2019). *Neuromotor control and interference during asymmetrical bimanual movements in healthy and impaired individuals*. Dissertation proposal presented to Department of Kinesiology, East Lansing, MI.

Desrochers, P.C. (2016). Electrophysiological correlates of interference during discrete bimanual coordination. Research talk presented at MSU Kinesiology departmental practicum meeting, East Lansing, MI.

Desrochers, P.C. (2015). Delayed benefit of naps on motor learning in preschool children. Research talk presented at the New England Sequencing and Timing Annual Meeting, Amherst, MA.

POSTER PRESENTATIONS

Desrochers, P.C., Keegan, L., Kim, D., Shin, D., Ayoub, M., Gill, S.V. (2020). Association between the Functional Gait Assessment and spatiotemporal gait parameters in individuals with obesity compared to normal weight controls. *Video presentation for the 2020 North American Society for the Psychology of Sport and Physical Activity Virtual Conference*.

Desrochers, P.C., **Desrochers, P.C.**, Brunfeldt, A.T., Irwin, K.G., Kagerer, F.A. (2019). Concurrent visuomotor and dynamic perturbations of one hand and contralateral interference in a bimanual task. Poster presented at the Neural Control of Movement Annual Meeting, Toyama, Japan.

Desrochers, P.C., Brunfeldt, A.T., Irwin, K.G., Kagerer, F.A. (2018). Simultaneous visuomotor and kinetic perturbations of one hand and their effects in a bimanual interference task. Poster presented at the Society for Neuroscience Annual Meeting, San Diego, CA.

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POSTER PRESENTATIONS (CONTINUED)

- Desrochers, P.C.**, Brunfeldt, A.T., Kagerer, F.A. (2018). Quantitative assessment of sensorimotor control in humans with GNAO1 gene mutations: a case study. Poster presented at the Progress in Clinical Motor Control I: Rehabilitation meeting, State College, PA.
- Brunfeldt, A.T., **Desrochers, P.C.**, Haughn, A., Kagerer, F.A. (2018). Effects of symbolic and direct cuing on interference in a bimanual reaching task. Poster presented at the Society for Neuroscience Annual Meeting, San Diego, CA.
- Brunfeldt, A.T., **Desrochers, P.C.**, Kagerer, F.A. (2018). The contribution of motor adaptation on interference in asymmetrical hand movements. Poster presented at Progress in Clinical Motor Control I: Rehabilitation, State College, PA.
- Kagerer, F.A., Brunfeldt, A.T., **Desrochers, P.C.** (2018). Deep brain stimulation in a patient with dystonia modulates spatiotemporal control within hands, but not between hands: a case study. Poster presented at the Neural Control of Movement Annual Conference, Santa Fe, NM.
- Desrochers, P.C.**, Brunfeldt, A.T., Kagerer, F.A. (2017). Interactions between hands after force field perturbation of one hand. Poster presented at the Society for Neuroscience Annual Meeting, Washington, D.C.
- Brunfeldt, A.T., **Desrochers, P.C.**, Kagerer, F.A. (2017). Bimanual task dynamics affect spatial but not temporal movement characteristics. Poster presented at the Society for Neuroscience Annual Meeting, Washington, D.C.
- Desrochers, P.C.**, Brunfeldt, A.T., Kagerer, F.A. (2016). Electrophysiological correlates of interference during discrete bimanual coordination. Poster presented at the Society for Neuroscience Annual Meeting, San Diego, CA.
- Brunfeldt, A.T., **Desrochers, P.C.**, Kagerer, F.A. (2015). Interference in a bimanual task is not reflected in intercortical inhibition. Poster presented at the Society for Neuroscience Annual Meeting, Chicago, IL.
- Desrochers, P.C.**, Cremone, A.M., Peterson, B., Spencer, R.M.C. (2015). Novel actigraphic measures demonstrate greater sleep disturbances in young children with symptoms of ADHD. Poster presented at American Association of Sleep Meeting, Seattle, WA.
- Desrochers, P.C.**, Kurdziel, L., Spencer, R. (2015). Benefits of naps on procedural memories in preschool children are evident after overnight sleep. Poster presented at Society for Research on Child Development Biennial Meeting, Philadelphia, PA.
- McDermott, J., Torgrimson, S.J., Anzuoni, K., **Desrochers, P.C.** (2014). Alpha suppression and action monitoring in young children. Poster presented at the Cognitive Neuroscience Society annual meeting, Boston, MA
- Desrochers, P.C.**, Lugo, W., Kurdziel, L., Ertel, K., Alhassan, S., Spencer, R. (2013). The relationship between sleep and daytime activity in preschool children. Poster presented at the International Conference on Ambulatory Monitoring of Physical Activity and Movement, Amherst, MA.

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POSTER PRESENTATIONS (CONTINUED)

Lugo, W, **Desrochers, P.C.**, Kurdziel L., Spencer, R. (2013). The relationship between sleep and behavior in preschool children. Poster presented at the annual UMass Amherst Postbaccalaureate Research Education Program Meeting, Amherst, MA.

MANUSCRIPT REVIEWER

Neuroscience *Journal of Neurophysiology*

PROFESSIONAL SOCIETIES

North American Society for the Psychology of
Sport and Physical Activity: 2020-Present
Society for the Neural Control of Movement: 2018-
Present
Movement Disorders Society: 2018-Present

Society for Neuroscience: 2016-Present
Cognitive Neuroscience Society: 2014-2015
American College of Sleep Medicine: 2014-2016
Sleep Research Society: 2014-2016

TEACHING EXPERIENCE

Lecturer

Michigan State University

Fall 2018 – Spring 2019: Biomechanics of Physical Activity (KIN 330)
Fall 2016 – Spring 2019: Principles of Human Movement (course designer; KIN 251)
Spring 2018: Measurement in Kinesiology (KIN 250)
Summer 2017: Measurement in Kinesiology (Online)
Fall 2016: Foundations of Kinesiology (KIN 173)
Spring 2016, Spring 2017: The Healthy Lifestyle (KIN 121)

Honors Thesis/Student Advising and Mentoring

Michigan State University

Jennifer Brand: Spring 2018, “Motor assessment of GNAO1 mutation in humans”
Spring 2017, “Movement related cortical potentials during a bimanual coordination task”
Bradley Miller: Spring 2019, “Effects of a bimanual interference task on EEG brain dynamics”
Spring 2018, “Coherence between brain regions in a bimanual interference task”
Spring 2016, “Joystick kinematics influence interference between the hands during bimanual movements”
Lexi Janson: Spring 2019, “Interference resulting from the manipulation of reference frames in a reaching task”
Spring 2018, “Motor learning in visuomotor adaptation tasks across the lifespan”

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TEACHING EXPERIENCE (CONTINUED)

- Kayley Irwin: Spring 2019, “Visuomotor perturbation plays a greater role than dynamic perturbation during a bimanual interference task”
Spring 2018, “Does simultaneous visuomotor and force perturbation affect interference in bimanual movements?”
- Kate Cavataio: Spring 2018, “How deep brain stimulation affects deterioration and recovery of motor performance in dystonia: A case study
- Julia Porter: Spring 2016, “Joystick kinematics influence interference between the hands during bimanual movements”

University of Massachusetts Amherst

Sean O'Connor, Spring 2015, “Sleep-Related Changes in Delay Discounting”

SERVICE

- 2018-2019 Faculty Advisory Committee – MSU Kinesiology Graduate Student Organization
2016-2018 Teaching Committee Chair - MSU Kinesiology Graduate Student Organization
2013 Volunteer - International Conference on Ambulatory Monitoring for Physical Activity and Movement

REFERENCES

- Dr. Simone Gill, Ph.D., OTR Associate Professor
Sargent College of Health and Rehabilitation Sciences
Boston University
simvgill@bu.edu
- Dr. Florian Kagerer, Ph.D. Associate Professor
Department of Kinesiology
Neuroscience Program
Michigan State University
fkagerer@msu.edu
- Dr. Rajiv Ranganathan, Ph.D. Assistant Professor
Department of Kinesiology
Michigan State University
rrangana@msu.edu
- Dr. Christos Sidiropoulos, M.D. Physician, Associate Professor
Department of Neurology and Ophthalmology
Michigan State University
Christos.Sidiropoulos@hc.msu.edu

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REFERENCES (CONTINUED)

Dr. Rebecca Spencer, Ph.D.

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Department of Psychological and Brain Sciences
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rspencer@psych.umass.edu