

Heather McGregor

Post-Secondary Education and Degrees

2018	Ph.D.	The University of Western Ontario	Neuroscience
2011	B.Sc. (Hons)	McMaster University	Psychology, Neuroscience & Behaviour

Honours and Awards

2017	Australian Endeavour Research Fellowship, valued at \$23,500 CAD Edmond & Lily Safra Center for Brain Sciences Israel Travel Grant, valued at \$3,000 CAD
2016	NSERC Michael Smith Foreign Study Supplement, valued at \$6,000 CAD
2014	NSERC Canada Graduate Scholarship - Doctoral Level, 3 years, valued at \$105,000 CAD Ontario Graduate Scholarship (declined), valued at \$15,000 CAD
2013	Organization for Human Brain Mapping Trainee Abstract Award, valued at \$700 USD
2012	Ontario Graduate Scholarship, valued at \$15,000 CAD
2011	NSERC Canada Graduate Scholarship - Master's Level, 1 year, valued at \$17,500 CAD Ontario Graduate Scholarship (declined), valued at \$15,000 CAD
2010	The University Senate Scholarship, valued at \$800 CAD The Dr. Harry Lyman-Hooker Scholarship, valued at \$1,500 CAD Kin Canada National Award, valued at \$500 CAD The Science Class of '97 Legacy Award, valued at \$1,000 CAD

Publications

- Cashaback JGA, Lao C, Palidis D, Coltman S, **McGregor HR**, & Gribble PL (Submitted to PLoS Comput Biol:PCOMPBIOL-D-18-01258). The gradient of the reinforcement landscape influences sensorimotor learning.
- **McGregor HR**, Cashaback JGA, & Gribble PL (2018). Somatosensory perceptual training enhances motor learning by observing. *Journal of Neurophysiology*, in press.
- **McGregor HR**, Vesia M, Rinchon C, Chen R, & Gribble PL (2018). Changes in corticospinal excitability associated with motor learning by observing. *Experimental Brain Research*, 236(10), 2829-2838.
- **McGregor HR**, & Gribble PL (2017). Functional connectivity between somatosensory and motor brain areas predicts individual differences in motor learning by observing. *Journal of Neurophysiology*, 118(2), 1235-1243.
- Cashaback JGA, **McGregor HR**, Mohatarem A, & Gribble PL (2017). Dissociating error-based and reinforcement-based loss functions during sensorimotor learning. *PLoS Comput Biol*, 13(7), e1005623.

- Cashaback JGA, **McGregor HR**, Pun HCH, Buckingham G, & Gribble PL (2017). Does the sensorimotor system minimize prediction error or select the most likely prediction during object lifting? *Journal of Neurophysiology*, 117(1), 260-274.
- **McGregor HR**, Cashaback JGA, & Gribble PL (2016). Functional plasticity in somatosensory cortex supports motor learning by observing. *Current Biology*, 26(7), 921-927.
- **McGregor HR**, & Gribble PL (2015). Changes in visual and sensory-motor resting-state functional connectivity support motor learning by observing. *Journal of Neurophysiology*, 114(1), 677-688.
- Cashaback JGA, **McGregor HR**, & Gribble PL (2015). The human motor system alters its reaching movement plan for task-irrelevant, positional forces. *Journal of Neurophysiology*, 113(7), 2137-2149.

Textbook Chapters

- **McGregor H**, & Gribble PL (2016). Observational Motor Learning. In SS Obhi & ES Cross (eds.), *Shared Representations: Sensorimotor Foundations of Social Life* (Social Neuroscience Series). Cambridge University Press. pp. 525-540.

Talks

- Talk at the Canadian Society for Brain, Behaviour and Cognitive Science Meeting, St. John's, Canada: "Somatosensory Functional Plasticity Supports Observational Motor Learning", July 7, 2018.
- Invited talk at the University of Michigan, Ann Arbor, MI: "A Role for the Somatosensory System in Observational Motor Learning", May 8, 2018.
- Invited talk at the Australasian Neuroscience Society Sensorimotor Control Satellite Meeting, Sydney, Australia: "The somatosensory system supports motor learning by observing", Dec 2, 2017.
- Invited talk at the 11th Annual Progress in Motor Control Meeting, Miami, FL: "Role of the Somatosensory System in Motor Learning by Observing", July 22, 2017.
- Invited talk at the Centre for Vision Research Speaker Series, York University, Toronto, Canada: "Role of the Somatosensory System in Motor Learning by Observing", Mar 31, 2017.
- Invited talk at the Edmond & Lily Safra Center for Brain Sciences Annual Retreat, The Hebrew University of Jerusalem, Kibbutz Ein-Gedi, Israel: "Functional Plasticity in Somatosensory Cortex Supports Motor Learning by Observing", Jan 29, 2017.
- Invited talk at the Brain and Mind Institute Symposium, The University of Western Ontario, London, Canada: "The Somatosensory System Supports Motor Learning by Observing", Sept 20, 2015.
- Invited talk at the 19th annual meeting of the Organization for Human Brain Mapping, Seattle, USA: "Exploring the Neural Basis of Observational Motor Learning using Resting-state fMRI", June 18, 2013.

Poster Presentations

- **McGregor HR**, & Gribble PL (2017). The Somatosensory system supports observational motor learning. Poster presented at the Progress in Motor Control meeting, Miami, FL, July 20-22.
- **McGregor HR**, Cashaback JGA, & Gribble PL (2017). Functional plasticity in somatosensory cortex supports motor learning by observing. Poster presented at the Organization for Human Brain Mapping meeting, Vancouver, BC, June 25-29.
- **McGregor HR**, Cashaback JGA, & Gribble PL (2017). Somatosensory perceptual training enhances motor learning by observing. Poster presented at the Society for the Neural Control of Movement meeting, Dublin, Ireland, May 2-5.
- Cashaback JGA, Lao C, **McGregor HR**, Palidis D, Coltman S, & Gribble PL (2017). Reinforcement gradient ascent during sensorimotor learning. Poster presented at the Society for the Neural Control of Movement meeting, Dublin, Ireland, May 2-5.
- Lao C, Cashaback JGA, **McGregor HR**, Palidis D, Coltman S, & Gribble PL (2017). Ascending the reinforcement gradient during sensorimotor learning. Poster presented at the Southern Ontario Neuroscience Association meeting, St. Catherine's, ON, May 5.
- **McGregor HR**, Rinchon VC, Gribble PL, Chen R, & Vesia M (2016). Changes in corticospinal excitability associated with motor learning by observing. Poster presented at the Society for Neuroscience meeting, San Diego, CA, Nov 12-16.
- **McGregor HR**, Cashaback JGA, & Gribble PL (2016). Functional plasticity in primary somatosensory cortex supports motor learning by observing. Poster presented at the Canadian Association for Neuroscience meeting, Toronto, ON, May 29-31.
- Cashaback JGA, Mohatarem A, **McGregor HR**, & Gribble PL (2016). Dissociating error-based and reinforcement-based learning. Poster presented at the Canadian Association for Neuroscience meeting, Toronto, ON, May 29-31.
- **McGregor HR**, Cashaback JGA, & Gribble PL (2016). Functional plasticity in somatosensory cortex supports motor learning by observing. Poster presented at the Society for the Neural Control of Movement meeting, Montego Bay, Jamaica, April 24-29.
- Cashaback JGA, Mohatarem A, **McGregor HR**, & Gribble PL (2016). Dissociating error-based and reinforcement-based learning. Poster presented at the Society for the Neural Control of Movement meeting, Montego Bay, Jamaica, April 24-29.
- **McGregor HR**, & Gribble PL (2015). Neuroplasticity in primary somatosensory cortex supports motor learning by observing. Poster presented at the Society for Neuroscience meeting, Chicago, IL, Oct 17-21.
- Cashaback JGA, Mohatarem A, **McGregor HR**, & Gribble PL (2015). Bayesian integration of skewed distributions during sensorimotor learning. Poster presented at the Society for Neuroscience meeting, Chicago, IL, Oct 17-21.
- **McGregor HR**, Cashaback JGA, & Gribble PL (2015). The somatosensory system supports motor learning by observing. Poster presented at the Brain and Mind Institute Symposium, London, ON, Sept 20.

- Kistemaker D, Cashaback JGA, **McGregor HR**, & Gribble PL (2015). The cost of moving optimally: muscle activation selection. Talk presented at the International Society of Biomechanics meeting, Edinburgh, Scotland, July 11.
- **McGregor H**, & Gribble PL (2015). Resting-state functional connectivity predicts observational motor learning. Poster presented at the Organization for Human Brain Mapping meeting, Honolulu, HI, June 14-18.
- Pun H, Cashaback JGA, **McGregor HR**, & Gribble, P.L. (2015). Motor prediction and object lifting. Poster presented at the Southern Ontario Neuroscience Association meeting, Hamilton, ON, May 1.
- **McGregor H**, & Gribble PL (2015). Resting-state functional connectivity predicts observational motor learning. Poster presented at the Society for the Neural Control of Movement meeting, Charleston, SC, April 21-25.
- Kistemaker DA, Cashaback JGA, **McGregor H**, & Gribble PL (2015). On what basis does the brain select muscle activation patterns? Poster presented at the Society for the Neural Control of Movement meeting, Charleston, SC, April 21-25.
- Cashaback JG, **McGregor H**, & Gribble PL (2014). The human motor system adapts reaching movements for both task-relevant and task-irrelevant forces. Poster presented at the Society for Neuroscience meeting, Washington, DC, Nov 15-19.
- **McGregor H**, & Gribble PL (2013). Brain networks underlying observational motor learning. Poster presented at the Society for Neuroscience meeting, San Diego, CA, Nov 9-13.
- **McGregor H**, & Gribble PL (2013). Brain networks underlying motor learning by observing assessed using resting-state fMRI. Poster presented at the Progress in Motor Control meeting, Montreal, QC, July 13-16.
- **McGregor H**, & Gribble PL (2013). Exploring the Neural Basis of observational motor learning using resting-state fMRI. Poster presented at the Organization for Human Brain Mapping meeting, Seattle, WA, June 16-20.
- **McGregor H**, & Gribble PL (2013). Motor learning by observing: A resting-state fMRI study. Poster presented at the Society for the Neural Control of Movement meeting, San Juan, Puerto Rico, April 15-20.
- **McGregor H**, & Gribble PL (2012). Mapping functional changes in resting-state sensorimotor networks following active and observational learning using fMRI. Poster presented at the Society for Neuroscience meeting, New Orleans, LA, Oct 13-17.

Research Fellowships

2017-18 Endeavour Research Fellowship
The Centre for Sensorimotor Performance, The University of Queensland, Australia
Supervisor: Timothy Carroll

Teaching Experience

2013-14 | PSYCH 2820E TA Tutorial leader for Research Methods & Statistics course

Mentorship

2016-17	Seth Kibel	Undergraduate research assistant, finishing Hon B.Sc. degree
2015-16	Cricia Rinchon	Hon B.Sc. Neuroscience thesis student, pursuing PhD in neuroscience
2014-15	Anthony Wong	Hon B.Sc. Physiology thesis student, currently in medical school
2013-14	Meghan Bhatia	Hon B.Sc. Physiology thesis student, currently a medical doctor
2012-13	Dan Huynh	Hon B.Sc. Physiology thesis student, currently a medical doctor

Community Outreach & Volunteering

2017	Volunteer	London Brain Bee, outreach event for high school students
2014-16	Lead Organizer	London Brain Bee, outreach event for high school students
2013	Volunteer	London Brain Bee, outreach event for high school students
2013	Volunteer	Brain & Mind Institute Brain Day, outreach event