Gerome Aleandro Manson, Ph.D.

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Google Scholar Profile

Current Position

2020 – Present **Assistant Professor in Neuromechanics (Tenure-Track), Queen's University School of Kinesiology and Health Studies**

Education & Training

2019 – 2020 **Post-Doctoral Fellowship, Houston Methodist Research Institute**
Post-doctoral fellowship investigating the efficacy of spinal stimulation as a treatment for stroke, multiple sclerosis, and spinal cord injury

2013 – 2019 **Ph.D. (co-tutelle), University of Toronto (Exercise Sciences) & l'Université d'Aix Marseille (Cognitive Neuroscience)**
Awarded as 2 Ph.D degrees for successfully completing all requirements for both doctoral programs
Thesis title: *The influence of sensory context on sensorimotor transformations prior to and during actions*
Titre de thèse: *Examen des processus d'intégration sensorimotrice avant et pendant les mouvements vers des cibles somatosensorielles*

2011 – 2013 **M.Sc. University of Toronto (Exercise Sciences)**
Thesis title: *The role of visuomotor regulation processes on perceived audiovisual events*

2006 – 2010 **B.P.H.E. University of Toronto (Physical Education)**

Grants & Awards

Awards

2019 **Mission Connect Best Overall Poster Presentation - 100 USD**
Regional award for best overall poster presentation at the Annual Mission Connect Conference

2019 **Franklin Henry Young Scientist Award**
National award for thesis-related research contributions to the field of motor learning and sports psychology

2018 **Dean's Student Leadership Award**
Institutional award for outstanding contribution to student life and experience at the University of Toronto

2018 **Doctoral Completion Award 9,000 CAD**
Institutional award for the completion of graduate studies at the University of Toronto

2017 **Ontario Graduate Scholarship 15,000 CAD**
Provincial scholarship for graduate studies at an Ontario university

2016 **Bourse d'Eiffel - 15,000 EUR**
International scholarship for graduate studies at a French University

Grants & Awards (continued)

Research Grants

2020 **Research Initiation Grant 40,000 CAD**
Queen's University research grant to start the Perception in Motion lab

2015 **Natural Sciences and Engineering Research Council of Canada 42,000 CAD**
National research award for post-graduate work at a Canadian University

2014 **France-Canada Research Fund 8,000 EUR**
National research award for a 6-month research project at a French University

Trainee Grants

2020 **MITACS Research Training Award 6,000 CAD**
National research award to support a graduate trainee for a 12-16 week project

Peer-reviewed Publications

Published Journal Articles

1. Roberts, B. W. R., Atkinson, D. A., **Manson**, **G. A.**, Markley, R., Kaldis, T., Britz, G. W., … Sayenko, D. G. (2021, May). Transcutaneous spinal cord stimulation improves postural stability in individuals with multiple sclerosis. *Multiple Sclerosis and Related Disorders*, (103009), 103009.

2. Goodman, R., **Manson**, **G. A.**, & Tremblay, L. (2020). Age-related differences in sensorimotor transformations for visual and/or somatosensory targets: planning or execution? *Experimental Aging Research*, 1–11. doi:https://doi.org/10.1080/0361073X.2020.1716153

3. **Manson**, **G. A.**, Calvert, J. S., Ling, J., Tychhon, B., Ali, A., & Sayenko, D. G. (2020). The relationship between maximum tolerance and motor activation during transcutaneous spinal stimulation is unaffected by the carrier frequency or vibration. *Physiological Reports*, *8*(5), e14397. doi:10.14814/phy2.14397. eprint: https://physoc.onlinelibrary.wiley.com/doi/pdf/10.14814/phy2.14397

4. Welsh, T., Reid, C., **Manson**, **G. A.**, Constable, M., & Tremblay, L. (2020). Susceptibility to the fusion illusion is modulated during both action execution and action observations. *Acta Psychologica*, *204*, 103028. doi:https://doi.org/10.1016/j.actpsy.2020.103028

5. Bested, S., **Manson**, **G. A.**, & Tremblay, L. (2019). Combining unassisted and robot-guided golf putting optimizes motor learning. *Journal of Motor Learning and Development*, *7*, 408–425.

6. Blouin, J., Saradijian, A., Pialasse, J. P., **Manson**, **G. A.**, Mouchnino, L., & Simoneau, M. (2019). Two neural circuits to point towards home position after passive body displacements. *13*, 70.

7. Calvert, J., **Manson**, **G. A.**, Grahn, P., & Sayenko, D. (2019). Preferential activation of spinal sensorimotor networks via lateralized transcutaneous spinal stimulation in neurologically intact humans. *Journal of Neurophysiology*, *122*(5), 2111.

8. **Manson**, **G. A.**, Blouin, J., Kumawat, A. S., Crainic, V. A., & Tremblay, L. (2019). Rapid online corrections for upper limb reaches to perturbed somatosensory targets: evidence for non-visual sensorimotor transformation processes. *Experimental Brain Research*, *237*, 839–853. doi:https://doi.org/10.1007/s00221-018-5448-3

9. **Manson**, **G. A.**, Tremblay, L., Lebar, N., de Grosbois, J., Mouchnino, L., & Blouin, J. (2019). Auditory cues for somatosensory targets invoke visuomotor transformations: behavioral and electrophysiological evidence. *PLoS One*, *14*(5), e0215518. doi:https://doi.org/10.1371/journal.pone.0215518

10. **Manson**, **G. A.**, Manzone, D., de Grosbois, J., Goodman, R., Wong, J., Reid, C., … Tremblay, L. (2018). Let us not play it by ear: auditory gating and audiovisual perception during rapid goal-directed action. *IEEE Transactions on Cognitive and Developmental Systems*, *10*(3), 659–667. doi:10.1109/TCDS.2017.2773423

11. Kiernan, D., **Manson**, **G. A.**, Heath, M., Tremblay, L., & Welsh, T. (2016). Corrections in saccade endpoints scale to the amplitude of target displacements in a double-step paradigm. *Neuroscience Letters*, *611*, 46–50. doi:10.1016/j.neulet.2015.11.022

12. Bakirtzian, A., Ternamian, A., **Manson**, **G. A.**, Tremblay, L., & Benhabib, B. (2014). Torque measurement during body cavity entry using a threaded visual cannula. *International Journal on Smart Sensing and Intelligent Systems*, *7*(2), 537–552.

13. **Manson**, **G. A.**, Alekhina, M., Srubiski, S., Williams, C., Bhattacharjee, A., & Tremblay, L. (2014). Effects of robotic guidance on sensorimotor control: Planning vs. online control? *NeuroRehabilitation*, *35*(4), 689–700. doi:10.3233/NRE-141168

14. **Manson**, **G. A.**, Sayenko, D., Masani, K., Goodman, R., Wong, L., Popovic, M., … Welsh, T. (2014). Action possibility judgments of people with varying motor abilities due to spinal cord injury. *PLoS One*, *9*(10), e110250. doi:10.1371/journal.pone.0110250

15. Cheng, D., **Manson**, **G. A.**, Kennedy, A., & Tremblay, L. (2013). Facilitating the use of online visual feedback: Advance information and the inter-trial interval? *Motor Control*, *17*(2), 111–122. doi:https://doi.org/10.1123/mcj.17.2.111

16. Wong, L., **Manson**, **G. A.**, Tremblay, L., & Welsh, T. (2013). On the relationship between the execution, perception, and imagination of action. *Behavioural Brain Research*, *257*, 242–252. doi:10.1016/j.bbr.2013.09.045

Published Abstracts

1. Abdulrabba, S., **Manson**, **G. A.**, Crainic, V., Bested, S., & Tremblay, L. (2018). Attentional focus instructions for golf-putting accuracy and precision. *Journal of Exercise, Movement, and Sport*, *50*(1).

2. Abdulrabba, S., **Manson**, **G. A.**, Crainic, V., Juan, B., Fonerone, T., Mouchnino, L., & Tremblay, L. (2018). Before you get on the green, meditate in silence. *Journal of Exercise, Movement, and Sport*, *50*(1).

3. **Manson**, **G. A.**, Blouin, J., Singh Kumawat, A., Crainic, V., & Tremblay, L. (2018). Mapping somatosensory vs. visual targets for the online control of the unseen limb. *Journal of Exercise, Movement, and Sport*, *50*(1).

4. Singh Kumawat, A., **Manson**, **G. A.**, Hajj, J., Welsh, T., & Tremblay, L. (2018). Detecting movement endpoint errors in one's own trajectories: multiple processes model vs. forward internal model. *Journal of Exercise, Movement, and Sport*, *50*(1).

5. Goodman, R., Crainic, V. A., **Manson**, **G. A.**, & Tremblay, L. (2017). They still got it: motor acquisition via physical guidance in a healthy aging population. *Journal of Exercise, Movement, and Sport*, *49*(1).

6. **Manson**, **G. A.**, Crainic, V., Defrancesco-Loria, T., Tremblay, L. et al. (2016). Does sensory context influence audiovisual perception during goal-directed actions? *Journal of Exercise, Movement, and Sport*, *48*(1).

7. **Manson**, **G. A.**, Lebar, N., Tremblay, L., Mouchnino, L., & Blouin, J. (2016). Sensory context dependent remapping of proprioceptive targets into a gaze-centred reference frame requires additional processing of visual information during movement planning. *Journal of Exercise, Movement, and Sport*, *48*(1).
8. Manzone, D., Bhattacharjee, A., de Grosbois, J., **Manson**, **G. A.**, Loria, T., Lung, T., & Tremblay, L. (2014). Another look at binocular vision: contribution to online control processes. *Journal of Vision*, *14*(10), 419–419.
9. **Manson**, **G. A.**, Manzone, D., & Tremblay, L. (2013). Flashin'lights and wavin'hands: visuomotor regulation and the audio-visual illusion. *Journal of Exercise, Movement, and Sport*, *45*(1).
10. Reid, C., **Manson**, **G. A.**, Tremblay, L., & Welsh, T. (2013). 'when i move, you (cognitively) move': action observation and the fusion illusion. *Journal of Vision*, *13*(9), 1079–1079.
11. Kiernan, D., **Manson**, **G. A.**, Tremblay, L., Heath, M., & Welsh, T. (2012). If you walk away... 'eye' will follow: saccadic endpoints shift in the direction of targets that are displaced during saccadic suppression. *Journal of Exercise, Movement, and Sport*, *44*(1).
12. Ray, M., Weeks, D., **Manson**, **G. A.**, Tremblay, L., & Neyedli, H. (2012). Distractor interference in one-and two-handed selective reaching tasks. *Journal of Vision*, *12*(9), 1089–1089.
13. Tremblay, L., Wong, J., & **Manson**, **G. A.** (2012). Auditory gating during visually-guided action? *Seeing and Perceiving*, *25*, 106–106.
14. Alekhina, M., **Manson**, **G. A.**, Reid, C., & Tremblay, L. (2011). Using your neck muscles to reach for a target. *Journal of Exercise, Movement, and Sport*, *43*(1).
15. Srubiski, S., **Manson**, **G. A.**, Alekhina, M., & Tremblay, L. (2011). The effect of robotic guidance on the use of visual information during a pointing task. *Journal of Exercise, Movement, and Sport*, *43*(1).

Conference Presentations

International Conferences

1. Goodman, R., **Manson**, **G. A.**, & Tremblay, L. (2018). Multisensory integration for the planning vs. the control of upper-limb reaches. ***Society for Neuroscience**, San Diego, USA*.
2. **Manson**, **G. A.**, Blouin, J., Singh Kumawat, A., Crainic, V., & Tremblay, L. (2018). Examining online adjustments to visual and somatosensory target perturbations. ***Society for Neuroscience**, San Diego, USA*.
3. Singh Kumawat, A., **Manson**, **G. A.**, Welsh, T., & Tremblay, L. (2018). Predicting the endpoint of an ongoing reaching movement: you need more than vision but do you really need to plan the action? ***International Multisensory Research Forum**, Toronto, Ontario, Canada*.
4. **Manson**, **G. A.**, Manzone, D., Blouin, J., & Tremblay, L. (2015). Reaching is believing: the role of visuomotor regulation processes during goal directed action. ***International Multisensory Research Forum**, Pisa, Italy*.
5. Reid, C., **Manson**, **G. A.**, Tremblay, L., & Welsh, T. (2013). When i move you (cognitively) move: action observation and the fusion illusion. ***Vision Sciences Society**, Naples, Florida, USA*.

6. Ray, M., Weeks, D., **Manson**, **G. A.**, Tremblay, L., & Welsh, T. (2012). Distractor-interference in one- and two-handed selective reaching tasks. ***Vision Sciences Society**, Naples, Florida, USA*.

7. Wong, J., **Manson**, **G. A.**, & Tremblay, L. (2012). Auditory gating during goal directed action? ***International Multisensory Research Forum**, Oxford,UK*.

8. Wong, L., **Manson**, **G. A.**, Tremblay, L., & Welsh, T. (2012). On the relationship between execution, perception and imagination of action. ***Vision Sciences Society**, Naples, Florida, USA*.

National Conferences

1. Abdulrabba, S., **Manson**, **G. A.**, Crainic, V., Bested, S., & Tremblay, L. (2018). Attentional focus instructions for golf-putting accuracy and precision. ***Canadian Society for Psychomotor Learning and Sport Psychology**, Toronto, Ontario, Canada*.

2. **Manson**, **G. A.**, Blouin, J., Singh Kumawat, A., Crainic, V., & Tremblay, L. (2018). Mapping somatosensory vs. visual targets for the online control of the unseen limb. ***Canadian Society for Psychomotor Learning and Sport Psychology**, Toronto, Ontario, Canada*.

3. Abdulrabba, S., **Manson**, **G. A.**, Crainic, V., Juan, B., Fonerone, T., Mouchnino, L., & Tremblay, L. (2017). Before you get on the green, meditate in silence. ***Canadian Society for Psychomotor Learning and Sport Psychology**, Toronto, Ontario, Canada*.

4. Blouin, J., Saradjian, A., Pialasse, J.-P., **Manson**, **G. A.**, Mouchnino, L., & Simonaeu, M. (2017). Vestibular-based neural processes to point home position after body displacement. ***Congrès de l'Association des Chercheurs en Activités Physiques et Sportives**, Dijon, France*.

5. Goodman, R., Crainic, V., **Manson**, **G. A.**, & Tremblay, L. (2017). They still got it: motor acquisition via physical guidance in a healthy aging population. ***Canadian Society for Psychomotor Learning and Sport Psychology**, Saint Johns, New Brunswick, Canada*.

6. **Manson**, **G. A.**, Crainic, V., Loria, T., & Tremblay, L. (2016). Does sensory context influence audiovisual perception during goal-directed actions? ***Canadian Society for Psychomotor Learning and Sport Psychology**, Waterloo, Ontario, Canada*.

7. **Manson**, **G. A.**, Tremblay, L., Lebar, N., Mouchnino, L., & Blouin, J. (2016). Sensory context dependent remapping of proprioceptive targets into a gaze-centred reference frame requires additional processing of visual information during movement planning. ***Canadian Society for Psychomotor Learning and Sport Psychology**, Waterloo, Ontario, Canada*.

8. **Manson**, **G. A.**, Manzone, D., & Tremblay, L. (2013). Flashin lights and wavin hands: visuomotor regulation and the audio-visual illusion. ***Canadian Society for Psychomotor Learning and Sport Psychology**, Kelowna, British Colombia, Canada*.

9. **Manson**, **G. A.**, Sayenko, D., Goodman, R., Masani, K., Popovic, M., Tremblay, L., & Welsh, T. (2013). The action possibility judgements of people with varying motor abilities due to spinal cord injury. ***Canadian Society for Psychomotor Learning and Sport Psychology**, Kelowna, British Colombia, Canada*.

10. **Manson**, **G. A.**, Kiernan, D., Heath, M., Tremblay, L., & Welsh, T. (2012). If you move, eye will follow: quantifying online correction in goal directed saccades. ***Canadian Society for Psychomotor Learning and Sport Psychology**, Halifax, Nova Scotia, Canada*.

Local Conferences

1. **Manson**, **G. A.** & Sayenko, D. G. (2019). Alteration of motor task-related brain activity during exposure to non-invasive stimulation paradigms. ***Texas Trauma and Neuroimaging Initiative**, Houston, Texas, USA*.

2. **Manson**, **G. A.**, Zhaoyue, S., Karmonik, C., & Sayenko, D. G. (2019). Brain activation patterns in response to transcutaneous spinal stimulation during lower limb motor task performance. ***Mission Connect Annual Scientific Symposium****, Houston, Texas, USA*.

3. **Manson**, **G. A.**, Manzone, D., Kumawat, A., Crainic, V., Blouin, J., & Tremblay, L. (2018). I sense a disturbance in the force: online adjustments to visual and proprioceptive target displacements. ***Southern Ontario Motor Behaviour Symposium****, Guelph, Ontario, Canada.*

4. **Manson**, **G. A.** & Tremblay, L. (2018). Disturbances in the force episode 2: differences in vocal responses times to visual and somatosensory perturbations does not explain differences in the latency of online corrections. ***Bodies of Knowledge****, Toronto, Ontario, Canada.*

5. **Manson**, **G. A.** & Tremblay, L. (2016). I can't see it, but i can feel it: the effect of visual context on movements towards visual and somatosensory targets. ***Southern Ontario Motor Behaviour Symposium****, Toronto, Ontario, Canada.*

6. **Manson**, **G. A.**, Tremblay, L., Lebar, N., Mouchnino, L., & Blouin, J. (2015). Cortical processes underlying movement planning to visual and proprioceptive targets. ***Journée de L'école doctorale****, Marseille, France.*

7. **Manson**, **G. A.**, Tremblay, L., Lebar, N., Mouchnino, L., & Blouin, J. (2015). Enhanced visual cortical processing when moving to somatosensory targets. ***Southern Ontario Motor Behaviour Symposium****, Toronto, Ontario, Canada.*

Invited Research Talks and Keynotes

2019 ***Franklin Henry Young Scientist Award Presentation***
Canadian Society for Psychomotor Learning and Sport Psychology, Vancouver, British Columbia, Canada
25-minute talk outlining research that was awarded the Franklin Henry Young Scientist Award

2018 ***Exploring Planning and Online Control Mechanisms for Movements to Somatosensory Targets***
Houston Methodist Research Institute, Texas Medical Centre, Houston, Texas, USA
1-hour seminar about the mechanisms underlying sensorimotor transformations prior to goal-directed actions

Teaching & Lecturing

Course instructor positions

2021 **Bio-mechanical Analysis of Human Movement**
School of Kinesiology and Health Studies, Queen's University
Undergraduate course on the applications of mechanics to human movement

2020 **Child and Adolescent Motor Development**
School of Kinesiology and Health Studies, Queen's University
Undergraduate course on the development of children and adolescents

Teaching & Lecturing (continued)

2018 **Theory of Motor Skill Acquisition: Motor Control**
Faculty of Kinesiology and Physical Education, University of Toronto
Senior level undergraduate course on the theory and applications of recent motor control research

Invited lectures

2017 **Introduction to Professional Kinesiology**
Graduate Department of Exercise Sciences, University of Toronto
3-hour lecture and 12 hours of laboratory exercises examining the clinical relevance of recent motor control research

2015 **Advanced Human Factors: Design for Physiological Limitations**
Faculty of Mechanical and Industrial Engineering, Ryerson University
2-hour graduate seminar on designing industrial systems for physiological limitations in humans

2012- 2015 **Introduction to Human Factors Engineering: Physiological Systems and Design Implications**
Faculty of Mechanical and Industrial Engineering, University of Toronto
One 3-hour lecture each semester on the limits of human physiology and its applications to workplace design and employee health

Seminars

2016- 2018 ***Teaching Assistants in Exercise Science***
Faculty of Kinesiology and Physical Education, University of Toronto
1-hour seminar each year to incoming graduate students about the best practices for teaching assistants

2015 ***Preparing Effective External Award Applications***
Faculty of Kinesiology and Physical Education, University of Toronto
1-hour seminar each year to graduate students about preparing scholarship applications for external funding

Teaching assistantships

2012- 2017 **Faculty of Kinesiology, University of Toronto**
Courses in Motor Control, Sports Medicine, Sports Psychology, and Biomechanics

Volunteer & Service

Conference organization

2018 **Organizing Committee Member, International Multisensory Research Forum**
I was primarily responsible for immigration and entry procedures for international conference attendees.

Volunteer & Service (continued)

2018 — **Conference co-Organizer, Bodies of Knowledge**
I was responsible for obtaining financial support for the conference and monitoring the progress of the conference organizing committee.

Community development

2012- 2015 — **Youth Advisory Committee Member**, Pan/Para-Pan Am Games-2015
I worked with the provincial government, and city officials to facilitate youth engagement in the Pan American / Para-pan American Games in Toronto.

2015 — **Volunteer Tutor, Pathways to Education**
I taught math and science to youth in an at-risk neighbourhood.

2007- 2015 — **Soccer Coach, Jamestown Community Soccer Program**
I served as a coach and facilitator of a free community soccer program for youth in an at-risk neighbourhood.

2012 — **Chair, Physical Education and Health Student Graduate Society, University of Toronto**

2007- 2009 — **Board Member- Students for Barrier-Free Access, University of Toronto**

Skills

Languages — English -Native, French - Conversational (Level- B2)

Techniques — Motion Tracking - Optotrak (advanced); EEG processing - Biosemi, BrainVision Analyer, Muse- Interaxon, (intermediate); Eye tracking- Eyelink 1000, EOG, (advanced); Robotics - Epson SPEL+ (advanced); Spinal Stimulation (novice); Functional Electrical Stimulation (novice); Functional Magnetic Imaging Analysis- AFNI (intermediate)

Coding — Matlab (advanced), python (intermediate), R (beginner), latex (beginner)

Computer Skills — Microsoft Office (advanced), SPSS (intermediate), Adobe Creative Suite (beginner)

Scientific Editing — Formally acknowledged for scientific editing in the following peer-reviewed publications:
Lebar et al.(2017) 10.1016/j.neuroimage.2017.02.043
Saradijian (2015) 10.1016/j.neucli.2015.09.004
Blouin et al.(2015) 10.1163/22134808-00002501
Lebar et al.(2015) 10.1016/j.neuroimage.2015.07.033
Blouin et al.(2014) /10.1152/jn.00857.2013

References

Research References

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Teaching References

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