

## CONTACT INFORMATION

### Tyler Cluff, PhD

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Motor Control and Learning Laboratory  
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## RESEARCH INTERESTS

1. Impact of the biomechanics of the peripheral motor system on behaviour with emphasis on flexible sensory processing during motor learning.
  2. Role of sensory feedback in the selection, planning and control of goal-directed motor actions.
  3. Basic mechanisms and neurophysiology of motor learning with emphasis on individual predictors of motor learning.
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## ACADEMIC BACKGROUND

- 2014-2016 **Assistant Professor.** Faculty of Kinesiology and Hotchkiss Brain Institute, University of Calgary, Calgary, AB.
- 2014-2016 **Banting Postdoctoral Fellow (NSERC), Neuroscience.** Laboratory for Integrative Motor Behaviour, Centre for Neuroscience Studies, Queen's University, Kingston, ON. Supervisor: Stephen H. Scott.
- 2012-2014 **NSERC Postdoctoral Fellow, Neuroscience.** Laboratory for Integrative Motor Behaviour, Centre for Neuroscience Studies, Queen's University, Kingston, ON. Supervisor: Stephen H. Scott.
- 2011-2012 **Ontario Ministry of Research and Innovation Postdoctoral Fellow, Neuroscience.** Laboratory for Integrative Motor Behaviour, Centre for Neuroscience Studies, Queen's University, Kingston, ON. Supervisor: Stephen H. Scott.
- 2011 **Doctor of Philosophy, Neuroscience.** McMaster Integrative Neuroscience Discovery and Study (MiNDS), McMaster University, Hamilton, ON. Supervisors: Timothy D. Lee, Ramesh Balasubramaniam.
- 2008 **Master of Science, Biomechanics.** Faculty of Health Sciences, University of Ottawa, Ottawa, ON, Canada. Supervisor: D. Gordon E. Robertson.

- 2006      **Bachelor of Science (Honours), Human Kinetics** (*summa cum laude*). Faculty of Health Sciences, University of Ottawa, Ottawa, ON, Canada.
- 2003      **DEC** (Diplôme d'Études Collégiales) with *great distinction* (> 90% average), Pure and Applied Science. Cégep Heritage College, Gatineau, QC, Canada.

## TEACHING EXPERIENCE

### Undergraduate Course Instruction

- 2017-      **University of Calgary, Faculty of Kinesiology**  
KNES 351: Cognition and Learning in Human Movement  
3 credit
- 2014-2015   **Queen's University, School of Kinesiology and Health Studies**  
KNPE 261: Introduction to Motor Control and Learning  
6 credit with lab component.

### Undergraduate Tutorial and Laboratory Instruction

- 2008-2011   **McMaster University, Tutorial Supervision**  
KIN 1G03: Research Methodologies and Data Analyses  
KIN 3E03: Neural Control of Human Movement  
HSCI 4V03: Control of Human Movement
- 2006-2008   **University of Ottawa, Tutorial Supervision**  
APA 2313: Introduction to the Biomechanics of Human Movement  
APA 4311: Biomechanical Analysis of Physical Activity  
HSS 2381C: Measurement and Data Analysis: Introductory Statistics  
APA 3314: Physiology of Exercise II

### Mentorship and Academic Supervision

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|-----------|------------------|--------------------------------------------------|
| 2016-     | Michael Asmussen | PDF (Kinesiology, University of Calgary)         |
| 2016-     | Rob Moore        | BSc (Kinesiology, University of Calgary)         |
| 2016-     | Justin Tan       | BSc (Biomedical Sciences, University of Calgary) |
| 2016-     | Kevin Dang       | BSc (Biomedical Sciences, University of Calgary) |
| 2015-2016 | Kevin Cross      | PhD (Neuroscience, Queen's University)           |
| 2015-2015 | Jesse Purvis     | BSc Hon. (Kinesiology, Queen's University)       |
| 2011-2012 | Lindsay Vanstone | MSc (Neuroscience, Queen's University)           |
| 2009-2012 | Ting-Ting Yeh    | PhD (Kinesiology, McMaster University)           |
| 2010-2011 | Aspasia Manos    | BSc Hon. (Psychology, McMaster University)       |
| 2010-2010 | Rakesh Gudimella | Summer student (Psychology, McMaster University) |
| 2009-2010 | Mandip Rai       | BSc Hon. (Kinesiology, McMaster University)      |

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2009-2010	Simran Ohson	BSc Hon. (Kinesiology, McMaster University)
2009-2010	Taher Gharib	BSc Hon. (Psychology, McMaster University)
2007-2008	Amanda Therrien	BSc Hon. (Human Kinetics, University of Ottawa)
2007-2008	Olinda Habib	BSc Hon. (Human Kinetics, University of Ottawa)

## EMPLOYMENT EXPERIENCE

07/16-Present	<b>Assistant Professor</b> , Faculty of Kinesiology, Hotchkiss Brain Institute, University of Calgary, Calgary, AB, Canada
07/15-06/16	<b>Adjunct Teaching Professor</b> , School of Kinesiology and Health Studies, Queen's University, Kingston, ON.
10/11-06/16	<b>Postdoctoral Fellow</b> , Laboratory of Integrative Motor Behaviour (LIMB), Queen's University, Kingston, ON.
09/08-09/11	<b>Research Assistant</b> , Sensorimotor Neuroscience Laboratory, McMaster University, Hamilton, ON.
02/07-09/08	<b>Research Assistant</b> , NeuroTrauma Impact Science Laboratory, University of Ottawa, Ottawa, ON.
09/06-08/08	<b>Research Assistant</b> , Gait Biomechanics Laboratory, University of Ottawa, Ottawa, ON.

## SALARY SUPPORT AND AWARDS

### Ongoing Research Support

1. **Brain stimulation to understand the neural basis of human motor learning.** Principal Investigator. Co-applicants: Gallivan JP, Dukelow SP, Kirton A. Eyes High Seed Grant, Faculty of Kinesiology, University of Calgary. \$50,000. 2016-2018.
2. **Eyes High PhD Studentship Award.** Faculty of Kinesiology, Hotchkiss Brain Institute, University of Calgary. Trainee support for PhD student. Principal Investigator. \$100,000. 2017-2020
3. **Institutional start-up funds.** Faculty of Kinesiology, University of Calgary. Principal Investigator. \$300,000. 2016-2021.
4. **Institutional start-up funds.** Hotchkiss Brain Institute and Cumming School of Medicine. Principal Investigator. \$100,000. 2016-2021.
5. **Safe to Play: A longitudinal cohort study on pediatric concussion.** CIHR operating grant. Co-Applicant. Team leads are Carolyn Emery and Winne Meeuwisse. \$1,500,000 from CIHR. 2013-2018.

### Submitted Grants

1. **Motor learning impairments of adult stroke survivors.** Hotchkiss Brain Institute and Department of Clinical Neurosciences Pilot Fund Grant. Principal Investigator.

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2. **Mechanisms of sensory processing in human motor control and learning.** NSERC Discovery Grant. Principal Investigator. Submitted on October 28, 2016.
  3. **Basic mechanisms of individual differences in human motor learning.** NSERC USRA. Principal Investigator. Submitted on January 23, 2017.
  4. **Basic mechanisms of sensory processing in human motor learning.** NSERC USRA. Principal Investigator. Submitted on January 23, 2017.

#### **Completed Research and Salary Support (last 5 years)**

1. **Human brain areas involved in the adaptation of feedback responses for rapid, task-dependent movement control.** Banting Postdoctoral Fellowship (NSERC). \$140,000. 2014-2016.
2. **Corrective Feedback Responses: Learning Novel Mechanical Loads for Rapid, Task-Dependent Upper Limb Control.** NSERC Postdoctoral Fellowship. \$80,000. 2012-2014.
3. **Long-latency muscle responses: Neural mechanisms involved in learning novel mechanical loads for rapid limb control.** Ontario Ministry of Research and Innovation Postdoctoral Fellowship. \$100,000. 2011-2012 (terminated to take up NSERC award).
4. **Forward models in the control of unstable objects.** NSERC Alexander Graham Bell Scholarship (PGS-D). 2008-2011.

#### **Awards and Honours (\*Note: past 5 years)**

2015	School of Graduate Studies 'Create an Impact' Award Gala, Queen's University
2014	School of Graduate Studies 'Create an Impact' Award Gala, Queen's University
2013	School of Graduate Studies 'Create an Impact' Award Gala, Queen's University
2012	Nominated for Governor General's Gold Medal, McMaster University
2011-2012	McMaster University Program Excellence Award
2011-2012	McMaster University Outstanding Thesis Award

#### **PROFESSIONAL AND COMMUNITY SERVICE**

##### **Academic Participation, Leadership and Outreach Activities**

- Human Motor Behaviour Hiring Committee, Faculty of Kinesiology, University of Calgary. 2017.
- Organizer, SfN Minisymposium: Individual or group patterns of human sensorimotor control and learning? When the whole may not be greater than the sum of its parts. *Society for Neuroscience*, Washington, DC. *Pending review*. 2017.

- Member, Strategic Research and Innovation Committee, Faculty of Kinesiology, University of Calgary. 2016-Present.
- Organizer, Scott Lab Journal Club/Lab Meeting, 2014-2016
- Organizer, Centre for Neuroscience Studies 'Friday Fights' Seminar Series, 2014-2015
- Organizer/Volunteer, Brain Awareness Day, Neuroscience Outreach Program, Queen's University, 2012-2016
- Organizer/Volunteer, Canadian Medical Hall of Fame 'Discovery Days', Neuroscience Outreach Program Queen's University, 2013-2016
- Participant, Computational Neuroscience Journal Club, Centre for Neuroscience Studies, Queen's University, 2012-2013.
- Organizer, Optimal Brain Symposium, McMaster University, 2010-2011
- Organizer, MATLAB workshop, Sensorimotor Neuroscience Lab, McMaster University, 2010-2011.
- Participant, Bayesian Statistics Group, McMaster University, 2009-2011
- Participant, Motor Behaviour Meeting, McMaster University, 2008-2011
- Participant, Sensorimotor Neuroscience Journal Club, McMaster University, 2008-2011
- Organizer, NIH North Neuroscience Conference, McMaster University, 2009.
- Invited participant, Noise, Time Delay and Balance Control Workshop, Banff International Research Station (BIRS), Banff, AB. 2009
- Mentor, Science Quest Mentorship Program, University of Ottawa, 2006-2008
- Participant, Sensorimotor Neuroscience Journal Club, University of Ottawa, 2007-2008

## Graduate Committees

Adrianna Giuffre, MSc, Thesis Committee, Neuroscience, University of Calgary  
 Matthew Chilvers, PhD, Thesis Committee, Neuroscience, University of Calgary  
 Andrea Kuczysynski, PhD, Internal Examiner, Neuroscience, University of Calgary

## Society Membership

2012-Present	Society for Neuroscience
2012-Present	Society for the Neural Control of Movement
2009-2012	International Society for Motor Control
2009-2011	North American Society for the Psychology of Sport and Physical Activity
2008-2011	Canadian Society for Psychomotor Learning and Sport Psychology
2008-2009	North American Society for Biomechanics
2006-2009	Canadian Society for Biomechanics
2006-2009	International Society for Biomechanics

## Journal Reviewing

*Ad hoc* reviewer for ~10 manuscripts per year for the following academic journals:

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Journal of Neuroscience, Cerebral Cortex, Journal of Biomechanics, PLoS Computational Biology, Gait and Posture, PLoS ONE, Experimental Brain Research, Journal of Neurophysiology, Journal of Sport Sciences, Journal of Applied Biomechanics, Human Movement Science

### Grant Reviews

- [1] External reviewer for A\*MIDEX – Rising Stars CFA, Université Aix-Marseilles.

### MEDIA COVERAGE

- [2] The Flexible Brain: Banting Post-Doctoral Fellow Tyler Cluff studies how we learn to control and adapt movements. Feature Article by *Queen's University School of Graduate Studies*, March 9, 2015. <http://www.queensu.ca/postdoc/flexible-brain-banting-post-doctoral-fellow-tyler-cluff-studies-how-we-learn-control-and-adapt>
- [1] Emerging researchers earn national support. *Queen's Gazette*, August 22, 2014. <http://www.queensu.ca/gazette/stories/emerging-researchers-earn-national-support>

### PUBLICATIONS

#### Theses

- [2] **Cluff T** (2011) Learning to balance an inverted pendulum at the fingertip: A window into the task and context-dependent control of unstable dynamical objects. PhD thesis, McMaster Integrative Neuroscience Discovery and Study (MiNDS Neuroscience), McMaster University, Hamilton, ON.
- [1] **Cluff T** (2008) Kinetic analysis of forwards, step-by-step, and backwards stair descent. MSc Thesis, School of Human Kinetics, Faculty of Health Sciences, University of Ottawa, Ottawa, ON.

#### Journal Publications

\*Authors that contributed equally.

\_\_\_\_\_ denotes trainee/mentored student.

- [18] **Cluff T**, Scott SH (2016) Online corrections are faster because movement initiation must disengage postural control. *Motor Control* 20: 162-170.
- [17] **Cluff T**, Scott SH (2015) Apparent and actual trajectory control depend on the behavioural context in upper limb motor tasks. *Journal of Neuroscience* 35: 12465-12476.

- [16] Scott SH, **Cluff T**, Lowrey CR, Takei T (2015) Feedback control during voluntary motor actions. *Curr Opin Neurobiol* 33: 85-94.
- [15] Cashaback JGA\*, **Cluff T\*** (2015) Increase in joint stability at the expense of energy efficiency correlates with force variability during a fatiguing task. *Journal of Biomechanics* 48: 621-626.
- [14] Yeh T-T\*, **Cluff T\***, Balasubramaniam R (2014) Increased reliance on visual feedback for balance control in older adults. *Public Library of Science ONE* 9: e91554.
- [13] **Cluff T\***, Crevecoeur F\*, Scott SH (2014) A perspective on multisensory integration and rapid feedback responses. *Vision Research* (doi:10.1016/j.visres.2014.06.011).
- [12] **Cluff T**, Scott SH (2013) Rapid feedback responses correlate with reach adaptation and properties of novel upper limb loads. *Journal of Neuroscience* 33: 15904-14.
- [11] Richardson BA, **Cluff T**, Lyons JL, Balasubramaniam R (2013) An eye-to-hand magnet effect reveals distinct spatial interference in motor planning and execution. *Experimental Brain Research* 225: 443-454.
- [10] Cashaback JGA\*, **Cluff T\***, Potvin JP (2013) Muscle fatigue and contraction intensity modulates the complexity of surface electromyography. *Journal of Electromyography and Kinesiology* 23: 78-83.
- [9] **Cluff T**, Manos A, Lee TD, Balasubramaniam R (2012) Multijoint error compensation mediates unstable object control. *Journal of Neurophysiology* 108: 1167-1175.
- [8] **Cluff T**, Boulet JW, Balasubramaniam R (2011) Task-specific coupling between posture and hand displacements develop while learning a novel visuomotor balancing task. *Experimental Brain Research* 213: 55-65.
- [7] Mak, L, Yeh T-T, Boulet JW, **Cluff T**, Balasubramaniam R (2011) Interaction between delayed visual feedback and secondary cognitive tasks affects postural control in older adults. *Science et Motricité: Special Issue on Posture Control*.
- [6] **Cluff T**, Robertson DGE (2011) Kinetic analysis of stair descent. Part I: Forwards step-over-step stair gait. *Gait and Posture* 33: 423-428.
- [5] **Cluff T**, Gharib T, Balasubramaniam R (2010) Attentional influences on the performance of secondary tasks during postural control. *Experimental Brain Research* 203: 647-658.
- [4] Yeh T-T, Boulet JW, **Cluff T**, Balasubramaniam R (2010) Contributions of delayed visual feedback and cognitive task load to postural dynamics. *Neuroscience Letters* 483: 173-177.

- [3] **Cluff T**, Riley MA, Balasubramaniam R (2009) Dynamical structure of hand trajectories during pole balancing. *Neuroscience Letters* 464: 88–92.
- [2] **Cluff T**, Balasubramaniam R (2009) Motor learning characterized by changing Lévy distributions. *Public Library of Science ONE* 4: e5998.
- [1] **Cluff T**, Robertson DGE, Balasubramaniam R (2008) Kinetics of hula hooping: An inverse dynamics analysis. *Human Movement Science* 27: 622–635.

### Journal Manuscripts in Preparation

- [2] **Cluff T**, Crevecoeur F, Scott SH (*in preparation*) Tradeoffs in optimal control predict differences in good and partial learners (42 pages, 8 figures; 3 supplementary figures). Expected submission date: November, 2016.
- [1] Maeda RS, **Cluff T**, Gribble PL, Pruszynski JA (*in preparation*). Accounting for intersegmental dynamics during single-joint movements.

### Book Chapters

- [1] Crevecoeur F\*, **Cluff T\***, Scott SH (2014) Computational approaches for goal-directed movement planning and execution. In Gazzaniga MS and Mangun GR (ed.) *The Cognitive Neurosciences*, 5<sup>th</sup> edition (32 pages, 4 figures).

### Published Conference Proceedings

- [5] **Cluff T**, Richardson, BA, Gudimella\*, R, Balasubramaniam R (2011) Ocular scanning strategies quantified by changing Lévy distributions. *Journal of Sport and Exercise Psychology* 33: S64.
- [4] Yeh TT\*, Boulet JW, **Cluff T**, Mak L, Balasubramaniam R (2011) Contributions of visual feedback and cognitive dual-task load on postural dynamics in older adults. *Journal of Sport and Exercise Psychology* 33: S124.
- [3] Ohson S\*, **Cluff T**, Balasubramaniam R (2011) Effect of viewpoint, action type and actor familiarity on action discrimination. *Journal of Sport and Exercise Psychology* 33: S97.
- [2] **Cluff T**, Gharib T\*, Balasubramaniam R (2010) Attentional influences on the performance of secondary tasks during postural control. *Journal of Sport and Exercise Psychology* 32: S71.
- [1] **Cluff T**, Balasubramaniam R, Robertson DGE (2007) The lower extremity kinetics of hula-hooping: An exploratory analysis. *Journal of Biomechanics* 40: S234.



**Conference Abstracts**

\_\_\_\_\_ denotes trainee/mentored student

- [27] Maeda RS, Cluff T, Gribble PL, Pruszynski JA (2016) Accounting for intersegmental limb dynamics when making single-joint movements. *Society for the Neural Control of Movement*, Montego Bay, Jamaica. Poster presentation (April 2016).
- [26] **Cluff T**, Crevecoeur F, Scott SH (2015) Robust or model-based control captures individual differences in motor control and learning. *Society for the Neural Control of Movement*, Charleston, SC. Poster presentation (April 2015).
- [25] **Cluff T**, Scott SH (2014) Local adaptation of feedback responses and voluntary reaching movements in good and poor learners. *Society for Neuroscience*, Washington, DC. Poster presentation (November 2014).
- [24] **Cluff T**, Scott SH (2014) Local adaptation of feedback responses and voluntary reaching movements. *Canadian Association of Neuroscience*, Montreal, QC. Poster presentation (May 2014).
- [22] Cashaback, JGA, **Cluff T** (2014) The nervous system changes objectives during a fatiguing task. *Society for the Neural Control of Movement*, Amsterdam. Poster presentation (April 2014).
- [21] **Cluff T**, Scott SH (2014) Feedback responses can resemble trajectory control when required by the behavioural constraints of the ongoing task. *Society for the Neural Control of Movement*, Amsterdam. Oral presentation (April 2014).
- [20] **Cluff T**, Scott SH (2013) Feedback responses only enforce trajectory control when it is a part of the ongoing task. *Society for Neuroscience Satellite Meeting: Translational and Computational Motor Control*, San Diego, CA. Poster presentation (October 2013).
- [19] **Cluff T**, Scott SH (2013) Feedback responses enforce trajectory control when it is a part of the ongoing task. *Society for Neuroscience*, San Diego, CA. Poster presentation (October 2014).
- [18] Richardson B, **Cluff T**, Lyons JL, Balasubramaniam R (2013) An eye-hand magnet effect for spatial interactions. *North American Society for Psychology of Sport and Physical Activity*. New Orleans, LA. Poster presentation. (June 2013)
- [17] **Cluff T**, Scott SH (2013) Fast feedback corrections correlate with reach adaptation and properties of altered limb dynamics. *Canadian Association for Neuroscience*, Toronto, ON. Poster presentation (May 2013).

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- [16] **Cluff T**, Scott SH (2013) Altered long-latency responses reveal parallel adaptation of feedforward and feedback control. *Neural Control of Movement*, San Juan, Puerto Rico. Poster presentation (April 2013).
- [15] **Cluff T**, Scott SH (2012) Learning novel limb mechanics is associated with the formation of rapid, task-dependent feedback responses. *Society for Neuroscience*, New Orleans, LA. Poster presentation (October 2012).
- [14] **Cluff T**, Manos A, Lee TD, Balasubramaniam R (2011) Changes in the multijoint coordinative structure of stick balancing corrections improves the stability of performance. *International Society of Motor Control: Progress in Motor Control*. Cincinnati, OH. Poster presentation (July 2011).
- [13] Ohson S, Cluff T, Balasubramaniam R (2011) Effect of viewpoint, action type, and actor familiarity on action discrimination. *North American Society for the Psychology of Sport and Physical Activity*. Burlington, VT. Poster presentation (June 2011).
- [13] Yeh T-T\*, Boulet JW, **Cluff T**, Mak L, Balasubramaniam R (2011) Contributions of visual feedback and cognitive dual-task load on postural dynamics in older adults. *North American Society for the Psychology of Sport and Physical Activity*. Burlington, VT. Poster presentation (June 2011).
- [12] **Cluff T**, Richardson BA, Gudimella R, Balasubramaniam R (2011) Ocular scanning strategies quantified by changing Lévy distributions. *North American Society of the Psychology of Sport and Physical Activity Conference*. Burlington, VT. Oral presentation (June 2011).
- [11] Cashaback JGA, **Cluff T**, Potvin JR (2011) Multiscale entropy of biceps brachii sEMG and elbow joint moment during fatigue. *Ontario Biomechanics Conference*, Barrie, ON. Poster presentation (February 2011).
- [10] **Cluff T**, Gharib T, Balasubramaniam R (2010) Attentional influences on the performance of secondary tasks during postural control. *North American Society of the Psychology of Sport and Physical Activity*, Burlington, VT. Oral presentation. (June 2010)
- [7] **Cluff T**, Balasubramaniam R (2009) Computational approaches to learning in visuomotor balancing tasks. *International Society of Motor Control: Progress in Motor Control*. Marseille, France. Poster presentation.
- [6] Heiden E, **Cluff T**, Richardson B, Balasubramaniam R (2009) Real-time feedback signal represents the underlying coordination mode of sit-to-stand. *Virtual Rehabilitation 2009*, Haifa, Israel. Poster presentation.

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- [5] **Cluff T**, Balasubramaniam R (2008) Controlling unstable objects: implications for stochastic control in the visuomotor pole-balancing task. *Canadian Society of Psychomotor Learning and Sport Psychology*, Canmore, AB. Poster presentation.
- [4] **Cluff T**, Robertson DGE (2008) Minimal foot clearance in stair descent—Application of simple, robust empirical methodologies. *North American Conference on Biomechanics*, Ann Arbor, MI. Poster presentation.
- [3] **Cluff T**, Robertson DGE (2008) Initiation and steady-state stair descent: Transition step imposes increased demand at the knee. *North American Conference on Biomechanics*, Ann Arbor, MI. Poster presentation.
- [2] **Cluff T**, Robertson DGE, Balasubramaniam R (2007) Kinetics of hula-hooping: An exploratory analysis. *International Society of Biomechanics*, Taipei, Taiwan. Oral presentation.
- [1] **Cluff T**, Roy J, Robertson DGE (2006) Kinetic analysis of the force dissipation characteristics of mountain bikes. *Canadian Society for Biomechanics*. Poster presentation.

### Scientific Presentations – Invited Talks and Conference Presentations

- [25] **Cluff T** (2016) Human Performance Lab 35<sup>th</sup> Anniversary, University of Calgary, AB.
- [24] **Cluff T** (2015) Seminar Series, Hotchkiss Brain Institute, University of Calgary, Calgary, AB.
- [23] **Cluff T** (2015) Human Performance Lab, University of Calgary, Calgary, AB, Canada.
- [22] **Cluff T** (2015) ‘Friday Fights’ Seminar, Centre for Neuroscience, Queen’s University, Kingston, ON.
- [21] **Cluff T** (2015) Brain and Mind Institute Seminar, Western University, London, ON.
- [20] **Cluff T** (2014) *Canadian Association for Neuroscience Satellite Meeting*. Montreal, QC.
- [19] **Cluff T** (2014) *Society for the Neural Control of Movement*, Amsterdam, NL.
- [18] **Cluff T** (2013) ‘Friday Fights’ Seminar, Centre for Neuroscience, Queen’s University, Kingston, ON.
- [17] **Cluff T** (2013) Neuroscience Graduate Seminar, McMaster Integrative Neuroscience Discovery and Study (MiNDS), Hamilton, ON.
- [16] Richardson BA, **Cluff T**, Lyons JL (2012) *North American Society for the Psychology of Sport and Physical Activity*, New Orleans, LA.
- [15] **Cluff T**, Scott SH (2012) *Society for Neuroscience Satellite Meeting: Advances in Computational Motor Control*. New Orleans, LA.
- [14] **Cluff T** (2011) *North American Society for the Psychology of Sport and Physical Activity*, Burlington, VT.
- [13] **Cluff T**, Balasubramaniam R (2011) *Progress in Motor Control*, Cincinnati, OH.
- [12] **Cluff T** (2011) Motor Behaviour Seminar, McMaster University, Hamilton, ON. March 23, 2011.

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- [11] **Cluff T**, Cashaback JGA (2011) *Ontario Biomechanics Conference*, Barrie, ON.
  - [10] **Cluff T** (2011) Action Lab, Northeastern University, Boston, MA. March 2, 2011.
  - [9] **Cluff T** (2011) Centre for Neuroscience Studies Seminar, Queen's University, Kingston, ON. February 21, 2011.
  - [8] **Cluff T** (2010) *North American Society for the Psychology of Sport and Physical Activity*, Tucson, AZ.
  - [7] **Cluff T** (2009) *Canadian Society for Psychomotor Learning and Sport Psychology*, Toronto, ON.
  - [6] Balasubramaniam R, **Cluff T** (2009) *Noise, Time Delays and Balance Control Workshop*. Banff, AB.
  - [5] **Cluff T** (2009) *Neuroscience Research Day*, McMaster University.
  - [4] **Cluff T** (2008) *Kinesiology Graduate Seminar*, McMaster University, Hamilton, ON. October, 2008.
  - [3] **Cluff T** (2008) Faculty of Health Sciences, School of Human Kinetics, uOttawa.
  - [2] **Cluff T** (2007) Faculty of Health Sciences, School of Human Kinetics, uOttawa.
  - [1] **Cluff T**, Robertson DGE, Balasubramaniam R (2007) *International Society of Biomechanics*, Taipei, Taiwan.

## COLLABORATORS

### Canada

Stephen H. Scott, Centre for Neuroscience Studies, Queen's University  
Sean Dukelow, Dept. of Clinical Neurosciences, University of Calgary  
Adam Kirton, Alberta Children's Hospital Research Institute, University of Calgary  
Brad Goodyear, Dept. of Clinical Neurosciences, University of Calgary  
Jason Gallivan, Centre for Neuroscience Studies, Queen's University  
Andrew Pruszynski, Brain and Mind Institute, Western University  
Paul Gribble, Brain and Mind Institute, Western University  
Ryan Graham, Dept. of Human Kinetics, University of Ottawa

### International

Isaac Kurtzer, New York College of Osteopathic Medicine (NYCoM), USA  
Frederic Crevecoeur, Université Catholique de Louvain, Belgium