

LIANA ELIZABETH BROWN

Curriculum Vitae

November 22, 2011

Department of Psychology, Trent University, Peterborough, Ontario, Canada K9J 7B8
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Citizenship: Canadian

RESEARCH INTERESTS

General: Human performance; visual cognition; information processing.

Specific: Perception and action; motor control, and learning; multisensory integration; selective attention.

EDUCATION

PhD in Psychology (Cognitive), Pennsylvania State University, University Park, Pennsylvania, 2003.

Thesis: *Limb position drift and its implications for movement and position control.*

Co-supervisors: David A. Rosenbaum and Robert L. Sainburg

MS in Psychology (Cognitive), Pennsylvania State University, University Park, Pennsylvania, 1999.

Thesis: *Orientation processing for recognition and action.*

Supervisor: Cathleen M. Moore

MSc in Kinesiology, University of Waterloo, Waterloo, Ontario, 1997.

Thesis: *An analysis of pantomimed prehension.*

Supervisor: Eric A. Roy

BSc (Honours Kinesiology), University of Waterloo, Waterloo, Ontario, 1990.

Thesis: *A kinematic analysis of gestures.*

Supervisor: Eric A. Roy

HONOURS AND AWARDS

Post-doctoral Fellowship, Canadian Institutes of Health Research (2004 – 2007).

Graduate Student Award for Excellence in Research, Pennsylvania State University (2003).

Huygens Scholarship, The Netherlands Org. for International Cooperation in Higher Education. (2000).

Life Sciences Consortium Scholarship, Pennsylvania State University (1999–2000).

EMPLOYMENT HISTORY

Assistant Professor, Department of Psychology, Trent University, 2007–present.

Invited Professor, UMR Institut des Sciences du Mouvement, Université de la Méditerranée & CNRS, Marseille, France (2008).

CIHR Post-doctoral Fellow, Department of Psychology, University of Western Ontario, 2003–2007.

Adjunct Professor, Department of Psychology, University of Western Ontario, 2004–2007.

Visiting Research Scholar, Nijmegen Institute for Cognition and Information, K. University of Nijmegen, The Netherlands, January–April 2000.

Graduate Assistant (Teaching and Research), Pennsylvania State University, 1997–2002.

Neuropsychology Assistant, Department of Psychology, Toronto Western Hospital, 1993–1997.

Research Assistant, Graduate Department of Speech-Language Pathology, University of Toronto, 1993–96.

TEACHING EXPERIENCE**COURSES TAUGHT**

- Psychology 2400H *Introduction to Cognitive Psychology (Trent)*, 2008 – present.
 Psychology 3260H *Sensation and Perception (Trent)*, 2009 – present.
 Psychology 3220H *Neuropsychology (Trent)*, 2007 – present.
 Psychology 4225H *Advanced Topics in Physiological Psychology and Neuroscience (Trent)*, 2010.
 Psychology 282E *Research Methods and Statistical Analysis (UWO)*, Summer 2006, Summer 2007.
 Psychology 235D *Introduction to Cognition (UWO)*, Fall 2004, Summer 2005.

RESEARCH SUPERVISION (present position in parentheses, if known)

- Honours* 2011-12: Eric Jaagumagi; Robert Aidelbaum
Thesis: 2010-11: Robin Langerak (MSc candidate, Carleton); Brett-Anne Logan
 2009-10: Andrew Mahon
 2008-09: Andrew Reynolds
 2007-08: Robert Doole
- Honours* 2006-07: Brendan Morrissey (MHSc Physiotherapy, UWO)
Thesis: 2005-06: Rajeev Billing (MD, St. George's); Robert VerBeem
 (UWO) 2003-04: Brooke Halpert (PhD Psychology candidate, York)
- Research* 2011-12: Margarita Maltseva; Brad Daniels; Glenda VanDerMeulen
Practicum: 2010-11: Carina La Mantia; Michael Heeps; Gavin Scott
 2009-10: Amy McLeod, (MSc candidate, Brock); Sarah Morrow; Andrew Wood; Jessica Taylor (MSc candidate, Trent); Amanda Stuart; Janette Bramley
 2008-09: Davood Ghara Gozli (MSc Psychology, Toronto); Heather Penney (MSc Biology, Carleton; MSc candidate, MUN); Lauren Steinhart (MSc Neuroscience, Queen's; PsyD candidate, Adler);
- Student RA:* 2011: Carina La Mantia (NSERC USRA)
 2010: Davood Ghara Gozli (NSERC USRA; PhD Candidate, Toronto); Matthew Marlin; Jessica Taylor (MSc candidate, Trent); Elsa Labuschagne; Matthew Huebner; Daphne Ling (Research Assistant, UBC);
 2009: Andrew Reynolds; Meagan Lacroix (MSc candidate, Trent); Jeryn Daly
 2008: Carolyn Maskens (MD candidate, UBC)
 2004-07: Elizabeth Wilson (MSc Neuroscience, 2009, MD candidate, UWO)
- Graduate Committee:* Jeremy Hogeveen, M.Sc. in Psychology, Wilfrid Laurier University

DEPARTMENT AND UNIVERSITY SERVICE

- Member, University Athletics Advisory Committee, 2011-12.
 Member-at-large, Search Committee for Vice-President Research and International, 2011.
 Member, Trent University Research Ethics Board, 2009-10.
 Member, Department Personnel Committee, 2011-2013.
 Member, Search Committee for Director and Associate Chair of Graduate Studies, Psychology, 2011.
 Member, Department Graduate Studies Committee, 2007 – 08, 2010-12.
 Chair, Research Experiences Committee, 2010-12.
 Member, Department Curriculum Committee, 2008 – 10.
 Member, Department Space Committee, 2008 – 09.
 Department Library Liaison, 2009-11.
 Member, Departmental Committee, 2007 – present.

PROFESSIONAL SERVICE

Editorial board: Psychological Science (2011–2012)

Ad-hoc reviewer: Acta Psychologica, Attention, Perception, & Psychophysics, Behavioural Brain Research, Canadian Journal of Experimental Psychology, Cognition, Experimental Brain Research, Journal of Applied Physiology, Journal of Cognitive Neuroscience, Journal of Experimental Psychology: Human Perception and Performance, Journal of Motor Behavior, Journal of Neurophysiology, The Journal of Neuroscience, Neuropsychologia, Neuroscience Letters, Ophthalmology and Physiological Optics, Oxford University Press, PLoS One, Psychological Science, Psychonomic Bulletin and Review.

Abstract reviewer: *Progress in Motor Control VI*, Marseille, France (2009).

Ad-hoc grant reviewer: NSERC Discovery Grants Program, National Science Foundation (USA; Perception, Action, and Cognition), Medical Research Council (UK; Neurosciences and Mental Health Board).

PROFESSIONAL MEMBERSHIPS

Canadian Society for Brain, Behaviour, and Cognitive Science, International Society of Motor Control, Society for the Neural Control of Movement, Society for Neuroscience, Vision Sciences Society

RESEARCH GRANTS AND SALARY AWARDS

Canadian Foundation for Innovation – Leaders Opportunity Fund, Infrastructure Operating Fund and Ontario Research Fund for Small Infrastructure

2010 Discovering how action drives perception and cognition \$ 223213

Natural Sciences and Engineering Research Council (NSERC) Discovery Grant

2009 – 2012 Multisensory processing for perception and action \$ 60000

Trent University Internal NSRC Operating Grant

2009 – 2011 Reaching into the blind field \$ 2800

2008 – 2009 Tool learning and vision \$ 3660

Trent University Start-Up Grant

2007 – 2009 To launch the *Action and Cognition @ Trent (ACT) Lab* \$ 30000

Canadian Institutes of Health Research Fellowship

2004 – 2007 The effect of motor learning on visual motion perception. \$ 135000

PUBLICATIONS

Brown, L. E., **Doole, R.**, & Malfait, N. (in press). The role of motor learning in spatial adaptation near a tool. PLoS One.

Gozli, D. G., & Brown, L. E. (in press). Agency and control for the integration of a virtual tool into peripersonal space. Perception.

Brown, L. E., **Wilson, E. T.**, Obhi, S. S., & Gribble, P. L. (2010). Effect of trial order and error magnitude on motor learning by observing. Journal of Neurophysiology, 104, 1409-16.

Malfait, N., Valyear, K. F., Culham, J. C., Anton, J.-L., Brown, L. E. & Gribble, P. L. (2010). FMRI activation during observation of others' reach errors. Journal of Cognitive Neuroscience, 22, 1493-1503.

Brown, L. E., **Morrissey, B. F.**, & Goodale, M. A. (2009). Vision in the palm of your hand. Neuropsychologia, 47, 1621-6.

- Brown, L. E., **Wilson, E. T.**, & Gribble, P. L. (2009). Repetitive transcranial magnetic stimulation to primary motor cortex interferes with motor learning by observing. Journal of Cognitive Neuroscience, *21*, 1013-22.
- Brown, L. E. & Goodale, M. A. (2008). Koniocellular projections and hand-assisted blindsight. Neuropsychologia, *46*, 3241-2.
- Brown, L. E., Kroliczak, G., Demonet, J.-F., & Goodale, M. A. (2008). A hand in blindsight: Hand placement near target improves size perception in the blind visual field. Neuropsychologia, *46*, 786–802.
- Brown, L. E., **Wilson, E. T.**, Goodale, M. A., & Gribble, P. L. (2007). Motor force field learning influences visual processing of target motion. The Journal of Neuroscience, *27*, 9975-83.
- Brown, L. E., **Halpert, B. A.**, & Goodale, M. A. (2005). Perception and action in the visual periphery. Experimental Brain Research, *165*, 97-106.
- Brown, L. E., Rosenbaum, D. A., & Sainburg, R. L. (2003). Limb position drift: Implications for control of limb position and movement. Journal of Neurophysiology, *90*, 3105-18.
- Brown, L. E., Rosenbaum, D. A., & Sainburg, R. L. (2003). Movement speed effects on limb position drift. Experimental Brain Research, *153*, 266-74.
- Brown, L. E., Moore, C. M., & Rosenbaum, D. A. (2002). Feature-specific processing dissociates action from recognition. Journal of Experimental Psychology: Human Perception and Performance, *28*, 1330-44.
- Brown, L. E. & Rosenbaum, D. A. (2002). Motor control: Models. In L. Nadel (Editor-in-Chief), Encyclopedia of Cognitive Science, Vol. 3 (127-133). Macmillan Reference: London.
- Moore, C. M. & Brown, L. E. (2001). Preconstancy information can influence visual search. The case of lightness constancy. Journal of Experimental Psychology: Human Perception and Performance, *27*, 178-94.
- O’Keefe, B. M., Brown, L. E., & Schuller, R. (1998). Identification and rankings of communication aid features by five groups. AAC: Alternative and Augmentative Communication, *14*. 37-50.
- Roy, E. A., Brown, L. E., Winchester, T., Square, P., Hall, C., & Black, S. (1994). Memory processes and gestural performance in apraxia. Adapted Physical Activity Quarterly, *10*. 293-311.
- Roy, E. A., Brown, L. E., & Hardie, M. (1993). Movement variability in limb gesturing: Implications for the understanding of apraxia. In K. Newell & D. Corcos (Eds.), Variability in Motor Control. Champaign, IL: Human Kinetics Publishers.

PRESENTATIONS

INVITED TALKS

- Brown, L. E. (2009). Perception and action in peri-hand space. Presentation at the Trent University Health Studies Day, Peterborough, Ontario.
- Brown, L. E. (2008). Perception and action in peri-hand space. Invited colloquium, UMR 6233 ‘Mouvement et Perception’, L’Institut des Sciences du Mouvement, Université de la Méditerranée, Marseille, France.
- Brown, L. E. (2007). A hand in vision: Studies of visual-motor interactions. Canada Research Chair Guest Lecture Series, Brock University, St. Catharines, ON.
- Brown, L. E. (2006). A hand in blindsight. Invited colloquium, Moss Rehabilitation Research Institute, Philadelphia, PA.

Brown, L. E. (2002). Differential processing of color and depth for recognition and action. Invited presentation, University of Western Ontario, University of British Columbia, and Queen's University.

Brown, L. E. (2000). Are movements planned in extrinsic or intrinsic space? Evidence from positional drift. Invited presentation at the Nijmegen Institute for Cognition and Information, K. University of Nijmegen, The Netherlands.

Rosenbaum, D. A. & Brown, L. E. (2000). Studies of motor planning and timing. Colloquium presented at the Max Planck Institute for Psychological Research, Munich, Germany (co-presenter).

CONFERENCE PRESENTATIONS (trainees)

Brown, L. E., **Taylor, J., Mahon, A. G. & La Mantia, C.** (2011). Adapting reaching behaviour to simulated hemianopia. Paper presented at the annual meeting of the Society for Neuroscience, Washington, DC.

Langerak, R. & Brown, L. E. (2011). Global and local processing near the left and right hands. Poster presented at the annual meeting of the Society for Neuroscience, Washington, DC.

Brown, L. E., **Taylor, J., Cotton, K. & Mahon, A. G.** (2011). People prefer to point blind when exposed to simulated hemianopia. Poster presented at the International Conference for Plastic Vision, Toronto, ON.

Langerak, R. & Brown, L. E. (2011). Global and local processing near the left and right hands. Poster presented at the International Conference for Plastic Vision, Toronto, ON.

Gribble, P. L., Mattar, A. A., Brown, L. E., Malfait, N., Wilson, E. T., Obhi, S. S., Valyear, K. F., Culham, J. C., Anton, J. L., Williams, A. (2011). Motor learning by observing. Paper presented at the 21st Annual Meeting of the Society for Neural Control of Movement, San Juan, Puerto Rico.

Brown, L. E., **Morrow, S. A., & Marlin, M. C.** (2010). Contributions of vision and proprioception to near-hand target representations for reaching. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

Mahon, A. G., Taylor, J., & Brown, L. E. (2010). Healthy people prefer to look short and point blind when exposed to simulated hemianopia. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

Mahon, A., Taylor, J., & Brown, L. E. (2010). Adapting to simulated blindness. Poster presented at the annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science, Halifax, NS.

Gozli, D. G., Brown, L. E., & Reynolds, M. (2010). Interference of action-relevant space with selective visual attention. Poster presented at the annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science, Halifax, NS.

Gozli, D. G., Brown, L. E., & Reynolds, M. (2010). Whole-report task performance declines in the action-relevant space near a mouse cursor. Poster presented at the annual meeting of the American Psychological Society, Boston, MA.

Brown, L. E., **Reynolds, A., & Gozli, D. G.** (2009). Hand-target proximity improves target representation for reaching. Poster presented at the annual meeting of the Society for Neuroscience, Chicago, IL.

Brown, L. E. & **Doole, R.** (2009). Spatial adaptation following active tool use. Paper presented at the Summer Workshop on Attention and Performance, Hamilton, ON.

- Brown, L. E., **Doole, R.**, & Malfait, N. (2009). Spatial adaptation following active tool use. Poster presented at Progress in Motor Control VI, Marseille, France.
- Brown, L. E., **Doole, R.**, & Malfait, N. (2009). Spatial adaptation following tool use. Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Malfait, N., Valyear, K. F., Culham, J. C., Brown, L. E., Anton, J.-L., & Gribble, P. L. (2008). fMRI activation during observation of others' reach errors. Poster presented at the annual meeting of the Society for Neuroscience, Washington, DC.
- Culham, J. C., Wolf, M. E., Whitwell, R. L., Brown, L. E., Khan, S. A., Cant, J. S., Monaco, S., Dutton, G. N., & Goodale, M. A. (2008). fMRI and behavioral testing reveal preserved motion processing and visuomotor control in a patient with extensive occipitotemporal lesions. Paper presented to the Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science, London, Ontario.
- Brown, L. E., Culham, J. C., Kroliczak, G. & Goodale, M. A. (2008). Improved blindsight near the hand is associated with fMRI activation in the superior parietal-occipital cortex. Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Gonzalez, C. L. R., Brown, L. E., & Goodale, M. A. (2008). No visual field advantage for visually-guided grasping movements made with the left hand. Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Goodale, M.A., Wolf, M.E., Whitwell, R.L., Brown, L.E., Cant, J.S., Chapman, C., Witt, J.K., Arnott, S.R., Khan, S., Chouinard, P.A., Culham, J.C, and Dutton, G. N. (2008). Preserved visual control of grasping in a patient with large bilateral lesions of occipitotemporal cortex. Paper presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Wolf, M. E., Whitwell, R. L., Brown, L. E., Cant, J. S., Chapman, C., Witt, J. K., Arnott, S. R., Khan, S., Chouinard, P. A., Culham, J. C., Dutton, G. N., and Goodale, M. A. (2008). Preserved visual abilities following large bilateral lesions of the occipitotemporal cortex. Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Brown, L. E., **Wilson, E. T.**, Billing, R. S., Obhi, S. S., & Gribble, P. L. (2007). Motor learning by observing without observing learning. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.
- Henry, D.** & Brown, L. (2007). Theories of melodic contour similarity: An experimental application. Poster presented at the annual meeting of the Society for Music Perception and Cognition, Montreal, QC.
- Morrissey, B. F.**, Brown, L. E., & Goodale, M. A. (2007). Visual and tactile interactions during visually guided pointing. Poster presented at the first annual meeting of the Canadian Association for Neuroscience, Toronto, ON.
- Brown, L. E., **Wilson, E. T.**, & Gribble, P. L. (2007). Action observation leads to motor learning: An rTMS study. Poster presented at the annual meeting of the Vision Sciences Society, Sarasota, FL.
- Brown, L. E., **Billing, R. S.**, Obhi, S. S., & Gribble, P. L. (2007). Motor learning by observing without observing learning. Poster presented at the annual meeting of the Society for the Neural Control of Movement, Seville, Spain.
- Brown, L. E., **Wilson, E. T.**, & Gribble, P. L. (2006). Does motor cortex contribute to the 'motor-learning-by-observing' effect? An rTMS study. Poster presented at the 28th annual symposium of the Groupe de Recherche sur le Système Nerveux Centrale, Montreal, QC.

Brown, L. E., **Wilson, E. T.**, Goodale, M. A., & Gribble, P. L. (2006). Motor force field learning influences visual perception of acceleration. Poster presented at the annual meeting of the Vision Sciences Society, Sarasota, FL.

Brown, L. E., **Wilson, E. T.**, & Gribble, P. L. (2006). Does motor cortex contribute to the 'motor-learning-by-observing' effect? An rTMS study. Poster presented at the annual meeting of the Society for the Neural Control of Movement, Key Biscayne, FL.

Brown, L. E., **Wilson, E. T.**, Goodale, M. A., & Gribble, P. L. (2005). Motor force field learning influences vision: Evidence from an interception task. Poster presented at the annual meeting of the Society for Neuroscience, Washington, DC.

Brown, L. E., **Wilson, E. T.**, Goodale, M. A., & Gribble, P. L. (2005). Information learned by the motor system influences the visual system: Evidence from an interception task. Poster presented at Progress in Motor Control V, University Park, PA.

Brown, L. E., Kroliczak, G., **Halpert, B. A.**, & Goodale, M. A. (2005). A hand in sight: How blindsight is improved by hand location. Poster presented at the annual meeting of the Vision Sciences Society, Sarasota, FL.

Brown, L. E., **Halpert, B. A.**, & Goodale, M. A. (2004). Peripheral vision for perception and action. Paper presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

Brown, L. E., **Halpert, B. A.**, & Goodale, M. A. (2004). Perception and action in the visual periphery. Poster presented at the annual meeting of the Canadian Society for Brain, Behaviour, and Cognitive Science, St. John's, Nfld.

Brown, L. E., Rosenbaum, D. A., & Sainburg, R. L. (2002). Hand position drift reflects independent control of movement production and posture. Poster presented at the annual meeting of the Society for Neuroscience, Orlando, FL.

Shabbott, B. A., Sainburg, R. L., & Brown, L. E. (2002). Do visuomotor rotations alter proprioceptive perception? Poster presented at the Life Sciences Consortium Undergraduate Research Symposium, University Park, PA.

Brown, L. E., Rosenbaum, D. A., & Sainburg, R. L. (2002). Postural drift is not proprioceptive drift. Poster presented at the annual meeting of the Society for Neural Control of Movement, Naples, FL.

Brown, L. E. & Rosenbaum, D. A. (2001). Coordinate systems for movement planning: Evidence from positional drift. Poster presented at the annual meeting of the Psychonomic Society, Orlando, FL.

Brown, L. E., Moore, C. M., & Rosenbaum, D. A. (2000). Differential processing of color and depth for recognition and action. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.

Brown, L. E. & Moore, C. M. (2000). Differential processing of surface media for recognition and action. Paper presented at the 3rd annual Perception and Attention Mini-Conference, Eastern Psychological Association, Baltimore, MD.

Moore, C. M. & Brown, L. E. (1999). Beware the shadows! Preconstancy information can influence visual search. Paper presented at the annual meeting of the Psychonomic Society, Los Angeles, CA.

Moore, C. M. & Brown, L. E. (1998). A spotlight in the shadows: Visual search and lightness constancy. Paper presented at the annual meeting of the Cognitive Science Association for Interdisciplinary Learning, Hood River, OR.

Moore, C. M. & Brown, L. E. (1998). Is visual search based on pre- or post-constancy representations? The case of lightness constancy. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.

Tsui, E., Brown, L. E., Ridgley, J., & Zinman, B. (1997). Lispro insulin in subcutaneous insulin pumps: Cognitive function in response to hypoglycemia. Poster presented at the annual scientific sessions of the American Diabetes Association, Boston, MA.

Brown, L. E., Roy, E. A., & Hall, C. (1996). An analysis of pantomimed prehension. Poster presented at the annual meeting of the Canadian Society of Psychomotor Learning and Sport Psychology, Minnett, ON.

Brown, L. E., Roy, E. A., & Hall, C. (1993). Image generation and motor control: Implications for the study of apraxia. Poster presented at the annual meeting of the International Neuropsychological Society, Galveston, TX.

Brown, L. E. & Roy, E. A. (1993). Pantomimed prehension: A pilot study. Presentation to the annual meeting of the Southern Ontario Neuropsychology Group, Waterloo, ON.

Roy, E. A., Brown, L. E., & Winchester, T. (1992). Kinematic analyses of limb gesturing. Poster presented at the annual meeting of the International Neuropsychological Society, San Diego, CA.

VOLUNTEER ACTIVITIES AND COMMUNITY SERVICE

Coach (U9), Ennismore Optimist Soccer League, 2010, 2011.

Assistant Coach (U5), Lakefield Youth Soccer League, 2009.

Judge, Peterborough Regional Science Fair, 2008-present.

Judge, Canada-Wide Science Fair, Peterborough, Ontario, 2010.

Workshop Leader, *Multisensory Perception and Action*, Shad Valley Trent Enrichment Program, 2008.

Reader, College of Education and Professional Learning, Trent University, 2008.

Member, Communications and Research, McGillivray Central Save Our School Committee, 2005-2007.

Student Athletic Therapist, University of Waterloo Warriors Men's Varsity Rugby, 1989.

Student Athletic Therapist, University of Waterloo Warriors Men's Varsity Volleyball, 1988-89.