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Education

McMaster University (September, 2007)

PhD, Psychology, Neuroscience and Behaviour

Hamilton, Ontario

University of Guelph (May, 2001)

BA Honours, Psychology

Guelph, Ontario

Work Experience

Toronto Rehabilitation Institute

iDAPT Research and Technology
Scientist (April, 2009 – current)

Toronto, Ontario

York, Centre for Vision Research

Adjunct Member (2009-current)

Toronto, Ontario

Max Planck Institute for Biological Cybernetics

Post-doctoral fellow (2007-2009)
Research Team Leader - Cyberneum

Tübingen, Germany

McMaster University

Department of Psychology, Neuroscience and Behaviour
Instructor, Neuroscience Laboratory (Fall, 2004)

Hamilton, Ontario

McMaster University

Department of Psychology, Neuroscience and Behaviour
Teaching Assistant (Fall, 2001- Winter, 2006)

Hamilton, Ontario

University of Guelph

Department of Psychology
Teaching Assistant (Fall, 2000, Winter, 2001)

Guelph, Ontario

Teaching Experience

Instructor

2004 Fall: Neuroscience Laboratory, McMaster University

Teaching Assistant

2006 Winter: General Experimental Laboratory, McMaster University

2006 Fall: Neuroscience Laboratory, McMaster University

2005 Winter: Neuroscience Laboratory, McMaster University

2005 Fall: Neuroscience Laboratory, McMaster University

2004 Winter: Neuroscience Laboratory, McMaster University

2003 Fall: Neuroscience Laboratory, McMaster University

2003 Winter: Abnormal Psychology II, McMaster University

2002 Fall: Neuroscience Laboratory, McMaster University

2002 Winter: Neuroscience Laboratory, McMaster University

2001 Fall: Neuroscience Laboratory, McMaster University

2001 Winter: Behavioural Basis of Neuroscience I, University of Guelph

2000 Fall: Behavioural Basis of Neuroscience I, University of Guelph

Undergraduate Thesis Supervisor

I have co-supervised over 25 undergraduate thesis and independent project students within my laboratory at McMaster. A full list of names is available upon request. At the MPI I supervised Joshua Siegle who is now at MIT.

Awards and Honours

Scholarships and Bursaries

- Postgraduate Scholarship (Doctoral) from the Natural Sciences and Engineering Research Council of Canada (NSERC: 2004-2006)
- Ontario Graduate Scholarship (OGS: declined, 2004-2005)
- McMaster University Psychology Department's Graduate Scholarship (2001-2003)
- McMaster Graduate Student Association Travel Bursary (2003, 2005)
- McMaster Psychology Department Travel Bursary (2001-2006)
- British Oxygen Company Scholarship for Academic Excellence (1997)

Teaching Award

- Council of Canadian Department's of Psychology Award for Teaching Assistantship Excellence (2003)

Community Involvement Awards

- McMaster Graduate Student Association Honours Society: A Distinguished Service Award awarded to one graduate student university wide each year for excellence in graduate research and community contributions (2004)
- McMaster's Let's Talk Science Volunteer Award for Outstanding Contributions (2002 & 2004)

Research Interests

- Self-motion perception, multisensory integration, perception-action coupling, visuomotor control, Virtual Reality, the interactive nature of perception and action, locomotor rehabilitation

Publications (* PhD work, **Supervised Students)

Journal Articles

- Campos, J.L.*, Byrne, P., and Sun, H-J. (under review). "Body-based cues trump vision when estimating walked distance"
- von Laßberg, C., Beykirch, K., Campos, J.L., and Krug, J. (submitted) "Smooth pursuit adaptation mechanisms for multi-axial whole body rotations in sporting activities"
- Butler, J.S., Campos, J.L., Smith, S.T. and Bühlhoff, H.H. (submitted) "Bayesian integration of visual and vestibular signals for heading"
- Lui, G., Campos, J.L., Zhang, Y., Sun, H.J., Zhang, Q. (submitted) "Neural mechanisms for the effect of prior knowledge on audiovisual integration".
- Campos, J.L., Siegle, J.** , Mohler, B.J., Bühlhoff, H.H. and Loomis, J.M. (2009) "Imagined self-motion differs from perceived self-motion". *PLoSOne* 4(11): e7793. doi:10.1371/journal.pone.0007793
- Siegle, J.** , Campos J.L., Mohler, B.J., Bühlhoff, H.H., and Loomis, J.M. (2009). "High-precision capture of perceived self-velocity during passive translations." *Experimental Brain Research* 195, 429-444.
- Liu, G., Wu, Y., Yang, Q., Campos, J.L., Zhang, Q.L., and Sun, H.J. (2009). "Neural correlates of size illusions: an event-related potential study". *Neuroreport* 20, 809-814.
- Liu, Q., Li H., Campos, J.L., Wang Q., Zhang, Y., Qiu J., Zhang, Q., and Sun, H-J. (2009) "The N2pc component in ERP and the lateralization effect of language on colour perception." *Neuroscience Letters*, 454(1), 58-61.
- Zhou, L., Yan, J.J., Lui, Q., Li, H., Xie, C.X., Wang, Y.H., Campos, J.L., and Sun H-J. (2007). "Visual and auditory information specifying an impending collision of an approaching object." *Lecture Notes in Computer Science*, 4551, 720-729.
- Sun, H-J., Campos, J. L.*, Chan, G. S. W., Young, M. E., and Ellard C.G. (2004).

"The contributions of static visual cues, nonvisual cues, and optic flow in distance estimation." *Perception*, 33, 45-69.

- Sun, H-J., Campos, J. L.*, and Chan, G. S. W., (2004). "Multisensory integration in the estimation of relative path length." *Experimental Brain Research* 154, 246-254.
- Sun, H-J., Chan, G. S. W., and Campos, J. L. (2004). "Active navigation and orientation-free spatial representations." *Memory and Cognition*, 32, 51-71.
- Sun, H-J., Lee, A., Campos, J. L.*, Chan, G. S. W., and Zhang, D-H. (2003). "Multisensory integration in speed estimation during self-motion in a virtual environment." *CyberPsychology and Behaviour*, 6(5), 509-518.

**online versions of some of the listed manuscripts can be found at <http://www.kyb.mpg.de/~camposjl>

Book Chapter

- Campos, J.L. and Bühlhoff, H.H. (in press). "Multisensory Integration during Self-Motion in Virtual Reality". In "*Frontiers in the Neural Bases of Multisensory Processes*" Ed. Wallace, M., and Murray, M. (projected publication date Fall 2009).

Manuscripts in Preparation

- Campos, J.L., Butler, J.S., & Bühlhoff, H.H. (in preparation) "Visual, proprioceptive, and inertial cue-weighting during travelled distance perception".
- Frissen, I., Campos, J.L., Souman, J., and Ernst, M. (in preparation) "The relative contributions of proprioceptive and inertial information for the purpose of spatial updating."
- Campos, J. L.*, & Sun, H-J., (in preparation) "Visual and proprioceptive integration in the discrimination and reproduction of distance traveled"
- Campos, J. L.*, & Sun, H-J. (in preparation) "Cue-weighting is affected by the history of cue relations across trials"
- Wu, L., Zhao, H., Lui, Q., Campos, J. L., & Sun, H-J. (in preparation) "The effect of duration perception on perception of traversed distance."
- von Laßberg, C., Campos J.L., Beykirch, K., and Krug, J. (in preparation) "Expert ranking method for the evaluation of multi-axial spatial orientation in gymnasts".
- Zhao, H., Campos, J.L., and Sun, H-J. (in preparation) "Estimation of egocentric distance on flat and sloped uphill terrains"
- Butler, J.S., Campos, J.L., Bühlhoff, H.H. (in preparation) "Visual-Vestibular Cue Combination during Temporal Asynchrony"

Conference Papers

- Bülthoff, H.H., Campos, J.L., Meilinger, T. (2008) "Virtual Reality as a Valuable Research Tool for Investigating Different Aspects of Spatial Cognition". C. Freksa et al. (Eds.): *Spatial Cognition VI*, 1–3.
- Campos, J. L., Nusseck, H.-J., Wallraven, C., Mohler, B.J., & Bülthoff, H.H. (November, 2007). "Visualization and (Mis)Perceptions in Virtual Reality." *Tagungsband 10. Workshop Sichtsysteme, 10-14.* (Eds.) Möller, R. Shaker, Aachen, Germany
- Campos, J. L., Butler, J.S., Mohler, B.J., & Bülthoff, H.H. (July, 2007). "The contributions of visual flow and locomotor cues to walked distance estimation in a virtual environment." *Proceedings of the 4th Symposium on Applied Perception in Graphics and Visualization, 146*, ACM Press, New York, NY, USA
- Mohler, B.J., Campos, J.L., Weyel, M., & Bülthoff, H.H. (July, 2007). "Gait parameters while walking in a head-mounted display virtual environment and the real world." *Eurographics*, 85-88. Weimer, Germany.
- Zhou, L., Yan, J.J., Liu, Q., Li, H., Xie, C.X., Wang, Y.H., Campos, J.L., & Sun, H.-J. (July, 2007). "Visual and Auditory Information Specifying an Impending Collision of an Approaching Object." *12th International Conference on Human-Computer Interaction*, China.

Invited Talks

- Campos, J.L. (October, 2008). Multisensory self-motion perception in Real and Virtual Environments." Wilfred Laurier University. Host: Michael Cinelli and Quincy Almeida
- Campos, J.L. (December, 2008). Multisensory self-motion perception in Real and Virtual Environments." Julius Bernstein Center for Computational Neuroscience, Ludwig-Maximilians-Universität München. Host: Stefan Glasauer
- Campos, J.L. (January, 2008). "Multimodal Integration during Self-motion in Real and Virtual Environments" University of Münster, Germany. Host: Markus Lappe
- Campos, J.L. (January, 2008). "Multimodal Integration during Self-motion in Real and Simulated spaces". University of Waterloo. Host: Colin Ellard
- Campos, J.L., Siegel, J., Mohler, B., Loomis, J.M. (October, 2007). "Continuous pointing as a robust estimator of spatial updating". Max Planck Institute for Biological Cybernetics Colloquium, Tübingen, Germany

- Campos, J. L. (July, 2007). "Investigating multi-sensory integration in the estimation of distance travelled." 10th Tübinger Wahrnehmungskonferenz, Tübingen, Germany
- Campos, J.L. (February, 2007). "The multi-modal nature of the perception of distance travelled." Max Planck Institute for Biological Cybernetics, Tübingen, Germany

Conference Talks

- Campos, J.L., Butler, J.S., Mohler, B.J. & Bühlhoff, H.H. (July, 2008) "Visual, proprioceptive, and inertial cue-weighting in travelled distance perception". *International Congress of Psychology*, Berlin, Germany
- Butler, J. S., Campos, J.L., & Bühlhoff, H.H (August, 2008) "The robust nature of visual -vestibular combination for heading". *European Conference on Vision Perception*, Utrecht, Netherlands
- Kersten, C., Campos, J.L., Chan, G. S. W., Collins-Pallet, S., Lee, T. D., & Lyons, J. (May, 2005) "Investigating the effects of spatial location of an auditory stimulus on performance of a driving task." *Southwestern Ontario Psychomotor Behaviour Conference*. Hamilton, Ontario
- Campos, J.L.*, Chiong, B.** , Chan, G.S.W., & Sun, H-J. (August, 2004). "Cue weighting in the processing of egocentric distance." *International Journal of Psychology*, 39 (5-6), 547-548.
- Chan, G.S.W., Campos, J.L., & Sun, H-J. (August, 2004). "Active navigation and the representation of spatial layouts." *International Journal of Psychology*, 39 (5-6), 295-295.
- Sun, H-J., Campos, J.L.* , & Chan, G.S.W. (August, 2004). "Multisensory integration in self-motion." *International Journal of Psychology*, 39 (5-6), 67-67.
- Sun, H-J., Campos, J.L.* , & Chan, G.S.W. (June, 2003). "Visual and proprioceptive integration in self-motion." *International Multisensory Research Forum*. Hamilton, Ontario.
- Sun, H-J., Campos, J.L.* , Chan, G.S.W., Zhang, D-H., & Lee, A. (May, 2003). "Multisensory integration in self-motion." *Journal of Vision*, 3(9), 36, 36a.

Peer-Reviewed Conference Posters

- Campos, J.L., Butler, J.B., & Bühlhoff, H.H. (July, 2009). Visual-Vestibular Cue Combination during Temporal Asynchrony. *International Multisensory Research Forum*, New York, New York.

- Campos, J.L., Butler, J.B., & Bühlhoff, H.H. (May, 2009). "The importance of body-based cues for traveled distance perception." *Journal of Vision*, Naples, Florida.
- Campos, J.L., Advani, S., Holliday, P. & Fernie, G. (May, 2009). "The Challenging Environments Assessment Laboratory" Falls and Mobility Conference, Toronto, Ontario.
- Campos, J.L., Butler, J.B., & Bühlhoff, H.H. (July, 2008) "Multimodal integration in the estimation of walked distances". *International Multisensory Research Forum*, Hamburg, Germany.
- Nusseck, H-G., Teufel, H.J., Campos, J.L., & Bühlhoff, H.H. (July, 2008). "The impact of gravito-inertial cues on the perception of lateral self-motion" *International Multisensory Research Forum*, Hamburg, Germany.
- Campos, J.L., Butler, J.S., Mohler, B.J. & Bühlhoff, H.H. (July, 2008) "Visual, proprioceptive, and inertial cue-weighting in travelled distance perception". *Cyberwalk Conference on Locomotion in Virtual Environments*, Tübingen, Germany.
- Campos, J.L., Siegle, J.** , Mohler, B.J., Loomis, J.M. and Bühlhoff, H.H. (May, 2008) "Imagined self-motion differs from perceived self-motion". *Journal of Vision*, Naples, Florida.
- Siegle, J.** , Campos J.L., Mohler, B.J., Bühlhoff, H.H., & Loomis, J.M. (May, 2008). "High-precision capture of perceived self-velocity during passive translations". *Journal of Vision*, Naples, Florida.
- Reimann, M.** , Beykirch, K., Campos, J.L., Butler, J.S., & Bühlhoff, H.H. (July, 2008). "Using inertial information alone to estimate linear self-displacement with varying durations of constant velocity" *International Journal of Psychology*, Berlin, Germany
- Campos, J.L.* , Freitas, P.** , Turner, E.** , Wong, M.** , & Sun, H-J. (May, 2007). "The Effects of Optical Magnification/Minimization on Distance Estimation by Stationary and Walking Observers." *Journal of Vision*, 7(9), 1028, 1028a.
- Yan, J. J., Zhou, L., Xie, C.X., Campos, J.L., & Sun, H-J. (May, 2007). "Visual and Auditory Processing of Distance and the Time-To-Collision of an Approaching Object." *Journal of Vision*, 7(9), 754, 754a.
- Butler, J.S., MacNeilage, P., Campos, J.L., & Bühlhoff, H.H. (August, 2007). "Optic flow velocity profiles affect heading and speed discrimination." *European Conference on Visual Perception*. Arezzo, Italy

- Campos, J. L.* , Towns, A. M.** , & Sun, H-J. (November, 2006). "Cue-weighting is affected by the history of cue relations across trials." *Psychonomics*, Houston, Texas.
- Campos, J. L.* , Brucker, A.** , Vucetic, Z.** , Sun, H-J. (May, 2006). "The effects of optical compression/magnification on distance estimation." *Journal of Vision*, 6(6), 727, 727a.
- Wu, L., Zhao, H., Lui, Q., Campos, J. L., & Sun, H-J. (May, 2006). "Effect of duration perception on the perception of traversed distance." *Journal of Vision*, 6(6), 146, 146a.
- Campos, J. L.* , Hsiao, C.** , Chan, G. S. W., & Sun, H-J. (May, 2005). "The influence of vision on the estimation of walked distances." *Journal of Vision*, 5(8), 305, 305a.
- Chan, G. S. W., Zavodni, L., Campos, J. L., Kok, Y-W., & Sun, H-J. (May, 2005). "Spatial updating and spatial properties in scene recognition." *Journal of Vision*, 5(8), 62, 62a.
- Campos, J.L.* , Dickson, J-L.** , Chan, G.S.W., & Sun, H-J. (2004, May). "Dissociation between visual perception and visually-directed action in locomotion." *Journal of Vision*, 4(8), 810, 810a.
- Chan, G.S.W., Campos J.L.* , Chiong, B.** , & Sun, H-J. (2004, May). "Cue weighting in distance estimation in a natural environment revealed through discrepant learning conditions." *Journal of Vision*, 4(8), 379, 379a.
- Sun, H-J., Campos J.L.* , Ellenor, J., & Chan, G.S.W. (2004, May). "Visual and proprioceptive interactions in the reproduction of distance travelled." *Journal of Vision*, 4(8), 706, 706a.
- Campos, J.L.* , Young, M.E.** , Chan, G.S.W., Ellard, C., & Sun, H-J. (2003, June). "Cue calibration in the processing of egocentric distance." *Canadian Society for Brain, Behaviour and Cognitive Science Conference*. Hamilton, Ontario.)
- Chan, G.S.W., Campos, J.L., & Sun, H-J. (2003, June). "Nonvisual updating and the formation of spatial representations." *Canadian Society for Brain, Behaviour and Cognitive Science Conference*. Hamilton, Ontario.
- Chun, S., Campos, J.L., Chan, G.S.W., Becker, S., Burgess, N., & Sun, H-J. (2003, June). "Viewpoint dependency in the perception of multi-object layouts." *Canadian Society for Brain, Behaviour and Cognitive Science Conference*. Hamilton, Ontario.
- Lee, A., Campos, J.L., Chan, G.S.W., & Sun, H-J. (2003, June). "Visual and proprioceptive integration in speed estimation during self-motion." *Canadian Society for Brain, Behaviour and Cognitive Science Conference*. Hamilton, Ontario.

- Campos, J.L.*, Young, M.E.** , Chan, G.S.W., Zhang, D-H., Ellard, C., & Sun, H-J. (2003, May). "The contributions of nonvisual cues, static visual cues, and optic flow in distance estimation." *Journal of Vision*, 3(9), 781, 781a.
- Chan, G.S.W., Campos, J.L., & Sun, H-J. (2003, May). "Spatial representations obtained through map learning and through navigation in real and virtual environments." *Journal of Vision*, 3(9), 486, 486a.

Sun, H-J., Campos, J.L., Strode, K., & Jones, N. (2002, May). "Estimation of traveled distance in a virtual environment." *Journal of Vision*, 2(7), 629, 629a

Membership in Professional Associations

- Vision Sciences Society
- International Multisensory Research Forum

Invited Journal Reviewer

- Perception
- Journal of Vision
- Presence, Teleoperators and Virtual Environments
- Attention, Perception and Psychophysics
- European Journal of Neuroscience