

Eugenie Roudaia

Curriculum Vitae

Education

- 2013 **PhD**, *Psychology*, McMaster University, Hamilton, ON.
Dissertation: *Effects of Aging on Contour Integration and Shape Perception*. Advisors: Patrick J. Bennett, Allison B. Sekuler
- 2006 **BSc**, *Mathematics & Statistics*, McGill University, Montreal, QC.

Professional Employment

- 2017 – 2018 **Scientific associate**, *Rotman Research Institute*, Baycrest, Toronto, ON.
- 2017 – 2018 **Postdoctoral fellow**, *Department of Psychology, Neuroscience & Behaviour*, McMaster University, Hamilton, ON.
Vision and Cognitive Neuroscience Laboratory. Advisors: Allison B. Sekuler, Patrick J. Bennett
- 2014 – 2017 **Postdoctoral fellow**, *School of Optometry*, Université de Montréal, Montreal, QC.
Psychophysics and Visual Perception Laboratory. Advisor: Jocelyn Faubert
- 2012 – 2014 **Postdoctoral fellow**, *Institute of Neuroscience*, Trinity College Dublin, Dublin, Ireland.
Multisensory Cognition Research Group. Advisor: Fiona Newell

Honours and Awards

- 2009-2011 G. Bell NSERC Canada Graduate Scholarship, \$70000
- 2009 CIHR Institute of Aging Age + Prize, \$1000
- 2008–2009 Ontario Graduate Scholarship Science and Technology, \$15000
- 2007–2008 Prestige Scholarship, \$12000
- 2002–2005 James McGill Entrance Scholarship, \$6000
- 2003–2005 The Gene H. Kruger Memorial Scholarship, \$8000
- 2003 ISM Undergraduate Summer Research Scholarship, \$4500
- 2002 McGill University Certificate of Merit

Professional activities

Professional Memberships and Affiliations

Vision Sciences Society, Society for Neuroscience, Society of Psychophysiological Research, International Multisensory Research Forum, Réseau de Recherche en Santé de la Vision

Reviewer

Journal of Gerontology: Psychological Sciences (1), Psychology and Aging (1), Frontiers in Perception (8), Experimental Brain Research (1), Frontiers in Neuroscience (1), Acta Psychologica (1), Perception (2), Transactions in Graphics (1), Clinical Interventions in Aging (1), Investigative Ophthalmology and Visual Science (1), Visual Neuroscience (1)

University Involvement

- 2018 Co-organiser, EEG Methods Journal Club, McMaster University
- 2015-2017 Co-organiser, Multisensory Vision Journal Club, Université de Montréal
- 2016 Poster presentation judge at the Annual Science Day at the School of Optometry, Université de Montréal
- 2013-2014 Organiser, Perception Journal Club, Trinity College Dublin
- 2010-2011 Chair, Women in Science and Engineering Initiative Steering Committee, McMaster University
- 2006-2010 Member, Women in Science and Engineering Initiative Steering Committee, McMaster University
- 2008-2011 Faculty of Science Representative, McMaster Graduate Student Association
- 2007-2008 First Years Guide, Department of Psychology, Neuroscience, & Behaviour, McMaster University
- 2006-2008 Department Steward, Canadian Union of Public Employees, McMaster University
- 2006-2007 Department Colloquium Committee, Department of Psychology, Neuroscience, & Behaviour, McMaster University

Research Contributions

Peer-reviewed articles

- Merriman, N. A., Ondřej, J., Rybicki, A., **Roudaia, E.**, O'Sullivan, C., & Newell, F. N. (2018). Crowded environments reduce spatial memory in older but not younger adults. *Psychol Res*, *82*(2), 407–428. doi:10.1007/s00426-016-0819-5
- Merriman, N. A., **Roudaia, E***, Romagnoli, M., Orvieto, I., & Newell, F. N. (2018). Acceptability of a custom-designed game, cityquest, aimed at improving balance confidence and spatial cognition in fall-prone and healthy older adults. *Behaviour & Information Technology*, 1–20.
- O'Callaghan, G., O'Dowd, A., Stapleton, J., Merriman, N. A., **Roudaia, E.**, & Newell, F. N. (2018). Changes in regional brain grey-matter volume following successful completion of a sensori-motor intervention targeted at healthy and fall-prone older adults. *Multisensory Research*, *31*(3-4), 317–344.
- Roudaia, E.**, Calabro, F. J., Vaina, L. M., & Newell, F. N. (2018). Aging impairs audiovisual facilitation of object motion within self-motion. *Multisensory Research*, *31*(3-4), 251–272.
- Roudaia, E.** & Faubert, J. (2017). Different effects of aging and gender on the temporal resolution in attentional tracking. *J Vis*, *17*(11), 1. doi:10.1167/17.11.1
- McGovern, D. P., **Roudaia, E.**, Newell, F. N., & Roach, N. W. (2016). Perceptual learning shapes multisensory causal inference via two distinct mechanisms. *Scientific Reports*, *6*, 24673. doi:10.1038/srep24673

- Merriman, N. A., Ondřej, J., **Roudaia, E**, O’Sullivan, C., & Newell, F. N. (2016). Familiar environments enhance object and spatial memory in both younger and older adults. *Experimental Brain Research*, *234*(6), 1555–74. doi:10.1007/s00221-016-4557-0
- McGovern, D. P., **Roudaia, E**, Stapleton, J., McGinnity, T. M., & Newell, F. N. (2014). The sound-induced flash illusion reveals dissociable age-related effects in multisensory integration. *Frontiers in Aging Neuroscience*, *6*, 250. doi:10.3389/fnagi.2014.00250
- Roudaia, E**, Sekuler, A. B., & Bennett, P. J. (2014). Aging and the integration of orientation and position in shape perception. *Journal of Vision*, *14*(5), 12. doi:10.1167/14.5.12
- Maguinness, C., Setti, A., **Roudaia, E**, & Kenny, R. A. (2013). Does that look heavy to you? perceived weight judgment in lifting actions in younger and older adults. *Frontiers in Human Neuroscience*, *7*, 795. doi:10.3389/fnhum.2013.00795
- Roudaia, E**, Bennett, P. J., & Sekuler, A. B. (2013). Contour integration and aging: the effects of element spacing, orientation alignment and stimulus duration. *Frontiers in Psychology*, *4*, 356. doi:10.3389/fpsyg.2013.00356
- Roudaia, E**, Sekuler, A. B., Bennett, P. J., & Sekuler, R. (2013). Aging and audio-visual and multi-cue integration in motion. *Frontiers in Psychology*, *4*, 267. doi:10.3389/fpsyg.2013.00267
- Barrett, M., Cullen, B., Maguinness, C., Merriman, N. A., **Roudaia, E**, Stapleton, J., ... Newell, F. N. (2012). A glance back on 50 years of research in perception. *The Irish Journal of Psychology*, *33*(2-3), 65–71.
- Roudaia, E**, Farber, L. E., Bennett, P. J., & Sekuler, A. B. (2011). The effects of aging on contour discrimination in clutter. *Vision Research*, *51*(9), 1022–32. doi:10.1016/j.visres.2011.02.015
- Li, K. Z., **Roudaia, E**, Lussier, M., Bherer, L., Leroux, A., & McKinley, P. (2010). Benefits of cognitive dual-task training on balance performance in healthy older adults. *The Journals of Gerontology Series A: Biological Sciences and Medical Sciences*, *65*(12), 1344.
- Roudaia, E**, Bennett, P. J., Sekuler, A. B., & Pilz, K. S. (2010). Spatiotemporal properties of apparent motion perception and aging. *Journal of Vision*, *10*(14), 5. doi:10.1167/10.14.5
- Roudaia, E**, Bennett, P. J., & Sekuler, A. B. (2008b). The effect of aging on contour integration. *Vision Research*, *48*(28), 2767–74. doi:10.1016/j.visres.2008.07.026

Manuscripts submitted or in preparation

- Roudaia, E** & Faubert, J. (in revision). Greater Bilaterality Benefit and Preserved Hemifield Independence of Attention in Aging. *Psychology and Aging*.
- Roudaia, E***, Harrar*, V., & Faubert, J. (in preparation). Audiovisual enhancement of attentional tracking for one but not multiple objects.
- Roudaia, E**, Hoyet, L., O’Sullivan, C., McGovern, D., & Newell, F. (in preparation). Perception of timing in human and object interactions declines with aging.
- Roudaia, E**, Labreche, M., Faubert, J., & Khan, A. (in preparation). Distribution of attention in depth: costly when attending beyond, but not closer than fixation.

Conference presentations

- Harrar, V., **Roudaia, E**, & Faubert, J. (2018). Audio-visual multiple object tracking: integration differences with age. Poster presented at the International Multisensory Research Forum, Toronto, Canada.
- Roudaia, E**, Labreche, M., Bernardin, D., Khan, A. Z., & Faubert, J. (2018). Attention to objects at different depths is affected by their layout in depth and the plane of fixation, but is unaffected by aging. Poster presented at the Vision Sciences Society meeting, FL, USA.

- Sekuler, A. B., **Roudaia, E**, Hashemi, A., Cali, J., & Bennett, P. (2018). EEG correlates of contour integration in younger and older adults. Poster presented at the Vision Sciences Society meeting, FL, USA.
- Harrar, V., **Roudaia, E**, & Faubert, J. (2017). Audio-visual multiple object tracking. Poster presented at the International Multisensory Research Forum, Nashville, USA.
- Hashemi, A., Cali, J., **Roudaia, E**, Bennett, P., & Sekuler, A. (2017). Contour integration as a function of collinearity, task, and age: an EEG study. Poster presented at the Society for Neuroscience Meeting, Washintgon, DC, USA.
- Roudaia, E**, Gaudin, D., Bernardin, D., Faubert, J., & Khan, A. Z. (2017). Examining the distribution of multifocal attention in depth. Poster presented at the Vision Sciences Society meeting, FL, USA.
- Roudaia, E**, Labreche, M., Gaudin, D., Bernardin, D., Faubert, J., & Khan, A. Z. (2017). Successful tracking of multiple 3D objects in the same or different depth planes depends on fixation position. Poster presented at the Centre for Vision Research meeting, Toronto, ON.
- Roudaia, E** & Faubert, J. (2016a). Age and gender effects in attentional tracking. Poster presented at the European Conference of Visual Perception, Barcelona, Spain.
- Roudaia, E** & Faubert, J. (2016b). Different ageing and gender effects in attentional tracking of one or multiple targets. Talk presented at the 22nd Annual Meeting of the FRQS Vision Health Research Network, Montreal, Canada.
- Roudaia, E**, Lacoste, S., & Faubert, J. (2016a). Indépendance hemispherique de l'attention dynamique multifocale chez les jeunes et les aînés. Talk given at the Journée Scientifique du Groupe de Recherche Science de la Vision et de l'Ecole d'Optométrie, Montréal, Canada.
- Roudaia, E**, Lacoste, S., & Faubert, J. (2016b). The hemifield independence in multiple object tracking is preserved in healthy ageing. Poster presented at the Vision Sciences Society meeting, FL, USA.
- Fearon, C., **Roudaia, E**, Nolan, H., Gallego, J., Quinlivan, B., O'Leary, C., ... Lynch, T. (2013). Gait analysis and wii balance board use in freezing of gait in parkinson's disease. Poster presented at MDS 17th International Congress of Parkinson's Disease and Movement Disorders, Sydney, Australia.
- McGovern, D. P., Roach, N. W., **Roudaia, E**, & Newell, F. N. (2013). Perceptual training alters the time window of multisensory integration. Poster presented at the International Multisensory Research Forum, Jerusalem, Israel.
- McGovern, D. P., **Roudaia, E**, Stapleton, J., Li, X., Watson, D., McGinnity, T., & Newell, F. (2013). Age-related behavioural and neural differences in multisensory processing. Poster presented at the European Conference of Visual Perception, Bremen, Germany.
- Roudaia, E**, Calabro, F. J., Vaina, L. M., & Newell, F. N. (2013a). The effect of ageing on acoustic facilitation of object movement detection within optic-flow. Poster presented at the International Multisensory Research Forum, Jerusalem, IL.
- Roudaia, E**, Hoyet, L., McGovern, D., O'Sullivan, C., & Newell, F. N. (2013). Effects of ageing and sound on perceived timing of human interactions. Poster presented at the ACM Symposium on Applied Perception, Dublin, Ireland.
- Roudaia, E**, Hoyet, L., O'Sullivan, C., McGovern, D., & Newell, F. (2013b). Ageing reduces sensitivity to timing mismatches in the perception of human motion. Poster presented at the European Conference of Visual Perception, Bremen, Germany.
- O'Sullivan, C., **Roudaia***, **E**, & Slusallek, P. (2012). VERVE: personalised virtual reality scenarios for groups at risk of social exclusion. Talk presented at the Med-E-Tel conference, Luxembourg, LUX.

- Roudaia, E**, Sekuler, A., & Bennett, P. (2012). Contour integration and aging: effects of inter-element distance, distracter density, and stimulus duration. Poster presented at the Vision Sciences Society meeting, FL, USA.
- Sekuler, R., **Roudaia, E**, Bennett, P. J., Jalan, P., & Sekuler, A. B. (2012). Effects of aging on the integration of inter-and intra-modal motion cues. Poster presented at the Vision Sciences Society meeting, FL, USA.
- Roudaia, E**, Pilz, K. S., Sekuler, A. B., & Bennett, P. J. (2011). The correspondence problem in apparent motion perception and aging. Poster presented at the Vision Sciences Society meeting, FL, USA.
- Pilz, K. S., **Roudaia, E**, Bennett, P. J., & Sekuler, A. B. (2010). Aging and common fate. Poster presented at the Vision Sciences Society meeting, FL, USA.
- Roudaia, E**. (2010). The effects of ageing on visual spatial integration. Poster presented at the 10 year Celebration of the Canadian Research Chair Program, Toronto, Canada.
- Roudaia, E**, Bennett, P. J., & Sekuler, A. B. (2010). Effect of aging on the use of orientation and position in shape perception. Poster presented at the Vision Sciences Society meeting, FL, USA (Also presented as a talk at the Annual Research Symposium of the CIHR-STP in "Communication and Social Interaction in Healthy Aging", Banff, Canada).
- Roudaia, E**, Pilz, K. S., Sekuler, A. B., & Bennett, P. J. (2009). Spatiotemporal properties of apparent-motion perception in aging. Poster presented at the Vision Sciences Society meeting, FL, USA (Also presented as a talk at the Annual Research Symposium of the CIHR-STP in "Communication and Social Interaction in Healthy Aging", Banff, Canada).
- Sekuler, A. B., Betts, L. R., **Roudaia, E**, Konar, Y., & Bennett, P. J. (2009). Surround suppression in visual cortex: effects of spatial frequency. Poster presented at the Vision Sciences Society meeting, FL, USA.
- Roudaia, E**, Bennett, P. J., & Sekuler, A. B. (2008a). High-contrast contour integration and aging. Poster presented at the Vision Sciences Society meeting, FL, USA (Also presented as a talk at the Annual Research Symposium of the CIHR-STP in "Communication and Social Interaction in Healthy Aging", Banff, Canada).
- Roudaia, E**, Bennett, P. J., & Sekuler, A. B. (2007). The effect of aging on contour integration. Poster presented at the Vision Sciences Society meeting, FL, USA (Also presented as a talk at the Annual Research Symposium of the CIHR-STP in "Communication and Social Interaction in Healthy Aging", Banff, Canada).

Invited and Departmental Talks

- 29-11-2018 *Design and evaluation of CityQuest, a video game aimed at older adults with fear of falling*, University of Waterloo, Waterloo, ON
- 10-11-2017 *Exploring dynamic spatial attention: effects of aging, depth, and sound on attentional tracking*, McMaster University, Hamilton, ON
- 23-03-2017 *Limits of attentional capacity in younger and older adults*, Centre for Interdisciplinary Research in Rehabilitation of Greater Montreal, Montreal, QC
- 11-12-2015 *Effects of healthy aging on visual and audiovisual perception*, McGill Vision Research Group, McGill University, Montreal, QC
- 29-04-2011 *Effects of aging on contour and shape perception*, Cognition and Perception Seminar, McMaster University, Hamilton, ON

Teaching experience

- Winter 2018 **Lecturer**, *Department of Psychology, Neuroscience, & Behaviour*, McMaster University.
Analyzing Neural Time Series Data. 1.5-credit graduate course
Signal Detection Theory. 1.5-credit graduate course
- 05-04-2017 **Guest lecturer**, *École d'optométrie*, Université de Montréal.
Taught class in the statistics course by Dr W. Wittich.
- 2006–2011 **Teaching assistant**, *Department of Psychology, Neuroscience, & Behaviour*, McMaster University.
Courses: Graduate-level statistics (3 years), Bayesian Statistics, Signal Processing, Cognition, Psychology of Reading, Introduction to Social Psychology
- 2010–2011 **Workshop facilitator**, McMaster University.
Designed and delivered workshops on science poster presentations for undergraduate summer research students

Student supervision

- 2017-2018 Undergraduate students: Audrey Lam, Katrina Fackelman, Toni-Rose Ausencion, Emily Greenberg
- 2016-2017 Master's students: Louise Fauvet, Maya Labrèche
- 2015-2016 Master's students: Delphine Gaudin, Danaé Bechon
- 2014-2015 Master's students: Charlène Grandin
- 2013-2014 Undergraduate students: Alicia Rybicki, Natalia Duda
- 2012-2013 Undergraduate students: Agata Fangor
- 2007-2009 Undergraduate students: Nicole Walton, Dyvia Gumber, Victor Lee

Professional Development

- 2018 Frequency-tagging workshop, University of Nevada, Reno, NV, USA
- 2016 EEGLAB workshop, UCSD, San Diego, CA, USA
- 2013 TIMELY workshop, University of Corfu, Greece
- 2011 SMAART: Longitudinal Analysis workshop, CIHR Institute of Aging, University of Victoria, BC
- 2006-2010 CIHR Strategic Research Training Program in *Communication and Social Interaction in Health Aging*
- 2007 UC-Davis ERP Boot Camp, UC Davis, CA, USA

Skills

- Coding R, Matlab, Python
- Hardware Eyetracking: Eyelink, SMI, Mirametrix; EEG: EGI, BioSemi, Muse
- Languages Fluent in oral and written English, French, and Russian

References

Allison B. Sekuler

Sandra A Rotman Chair in Cognitive Neuroscience
Senior Scientist, Rotman Research Institute
Vice-President Research, Baycrest Health Sciences
Professor, Psychology, University of Toronto
Professor, Psychology, Neuroscience & Behaviour, McMaster University
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Jocelyn Faubert

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