

GASPAR, JOHN MANUEL

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Canadian citizenship  | TN visa holder 

ABOUT ME

Over the years I've had the opportunity to work with countless talented people in both industry and academia to produce impactful and meaningful research. At Google, my focus has been on evaluating virtual and augmented reality experiences (with an emphasis on the hardware side of things). By combining both qualitative and quantitative research methodologies, my work serves to inform stakeholders and motivate the design of future products. During my time in academia I became proficient in a variety of highly specialized research techniques, including electroencephalography (EEG), event-related potentials (ERPs), eye-tracking, and cognitive-behavioral testing. Applying these skills, my research interests were geared towards understanding how much control we actually have over what we pay attention to in our visual world. This work has been published in high-impact journals and has been featured in a number of prominent pop-sci publications. If you'd like to know more about my work, my research, or anything else about me, please don't hesitate to contact me.

SKILLS AND EXPERIENCE

Research experience: I have collaborated with cross-functional teams that include industrial designers, product designers, mechanical engineers, product managers, interaction designers, academics, and medical doctors to convert research findings into meaningful scientific and product advancements. This has been done on both large ($n > 10k$) and small datasets, using a range of both qualitative and quantitative research techniques. I also have experience conducting studies with a wide variety of participant populations, including special clinical groups.

Experimental design: I am experienced in both qualitative and quantitative experimental design. I have designed experimental paradigms using several programming languages and tools, including MATLAB (Psychtoolbox), Unity, Presentation, and E-Prime. In addition to creating the paradigms, I am also effective at conveying the justification for my methods to stakeholders, granting agencies, and research ethics boards.

Statistical analyses: I have a strong background in both frequentist and Bayes factor statistical testing using methods that include regression analyses, correlational analyses, ANOVAs, ANCOVAs, and t-tests. I am proficient doing analyses in MATLAB, R, SPSS, Data Studio, JASP, Excel, Sheets, and Prism.

Public speaking and research dissemination: My research has appeared in top-tier journals and has been featured in several pop-sci publications. I have given 10 invited talks and guest lectures at universities and colleges throughout North America. In addition to this, I have personally presented my research 14 times and have had my research presented by collaborators an additional nine times at national and international conferences.

Teaching and public education: I have been a teaching assistant 20 times since 2009 for a variety of college and university courses and have given numerous university lectures. I have mentored undergraduate and graduate students and was a member of the Canadian Institutes of Health Research (CIHR) Synapse Mentorship Program.

PROFESSIONAL APPOINTMENTS

Industry:

2018-present



Google (contracted through Adecco), Mountain View, CA, USA

UX Research Associate

Manager: Dan Odell

Postdoctoral:

2016 - 2018



Center for Mind and Brain, University of California, Davis, CA, USA

Postdoctoral Scholar

Advisor: Steve Luck

EDUCATION

Graduate:

2012 - 2016



Simon Fraser University, Burnaby, BC, Canada

Ph.D. in Experimental Psychology, Cognitive and Neural Studies

Thesis: Mechanisms of attentional processing during visual search: how distraction is handled by the brain

Advisory committee: John McDonald, Urs Ribary, Mario Liotti

2009 - 2012



Simon Fraser University, Burnaby, BC, Canada

M.A. in Experimental Psychology, Cognitive and Neural Studies

Thesis: Within- versus cross-dimensional capture in fixed-feature visual search

Advisory committee: John McDonald, Urs Ribary

Undergraduate:

2005 - 2009



Simon Fraser University, Burnaby, BC, Canada

B.A. in Psychology

2000 - 2001



University of British Columbia, Vancouver, BC, Canada

Certificate in Internet Publishing

Courses:

2016



Center for Mind and Brain, University of California, Davis, CA, USA

The ERP Boot Camp (personal invitation)

2013



Giesel School of Medicine, Dartmouth College, Lebanon, NH, USA

Pathology and Genetics of Human Cognition (personal invitation)

2012



Bangor University, Bangor, Wales, UK

The Visceral Mind (competitive selection)

AWARDS AND HONOURS

2017

Vision Sciences Society 17th Annual Meeting Graphics Competition (\$350)

2014 - 2016

Postgraduate Scholarship - Doctoral, Natural Sciences and Engineering Research Council (\$42,000)

2014

Ph.D. Graduate Fellowship, Simon Fraser University (\$6,250)

2013

Graduate Student Research Award, Simon Fraser University (\$12,500)

2013

Ph.D. Graduate Fellowship, Simon Fraser University (\$3,125)

2012

Canadian Psychological Association Certificate of Academic Excellence

2012

British Columbia Psychological Association Graduate Medal in Psychology

2012

M.A. Graduate Fellowship, Simon Fraser University (\$6,250)

2010

M.A. Graduate Fellowship, Simon Fraser University (\$6,250)

2009

Special Graduate Entrance Scholarship, Simon Fraser University (\$7,000)

2008

Undergraduate Student Research Award, Natural Sciences and Engineering Research Council (\$4,500)

INTERVIEWS AND MEDIA RELATIONS

Notable Print and Web:

- 2016 CTV News (March 3, 2016): 'Lessons in efficiency: How smart people ignore distractions' by Angela Mulholland.
- 2016 Scientific American MIND (February 29, 2015): 'Ignoring stuff is good for your memory' by Julia Shaw.
- 2016 Psych Central (February 25, 2016): 'Visual Distractions May Hamper Working Memory' by Rick Nauert.
- 2015 El Español (October 9, 2015): 'Beware of handsfree, driver friend' by Laura Chaparro.
- 2015 Mic (February 8, 2015): 'Scientists Want to Unlock the Secrets of Distraction — and Use Them to Your Advantage' by Krystnell Storr.
- 2014 Le Monde de l'Intelligence (September/October; Issue 38): 'Attention, a History of Connections' by Nolwenn Le Jannic
- 2014 Scientific American (July 17, 2014; Volume 331, Issue 1): 'How the Brain Ignores Distractions' by Ferris Jabr.
- 2014 Huffington Post (April 19, 2014): 'Study on the brain: Scientists discover anti-distraction brain activity' by Maxime Bourdier.

Notable Radio:

- 2014 CKNW AM 980, Vancouver, BC, Canada (April 19, 2014): Live broadcast interview on The World Today Weekend with Sean Leslie, produced by Devon Taylor and Grace Sullivan.

PUBLICATIONS AND PROFESSIONAL PRESENTATIONS

Articles Under Review:

- Gaspelin, N., **Gaspar, J.M.**, Luck, S.J. Selection History Can Overpower Explicit Goals During Visual Search. *Under extended review at Psychological Science, PSCI-18-0594.*
- Carolan, P.L., **Gaspar, J.M.**, Kleffner, K., Liotti M. Electrophysiological evidence that increased distractor salience mediates heightened distractor suppression in psychopathic personality. *Under extended review at Cognitive, Affective, and Behavioral Neuroscience, CABN-RA-18-081.*

Articles in Refereed Journals (citations: 207; h-index: 5; i10-index: 5):

- Gaspar, J.M.**, McDonald, J.J. (in press). High level of trait anxiety leads to salience-driven distraction and compensation. *Psychological Science.*
- Gaspar, J.M.**, Christie, G.J., Prime, D.J., Jolicoeur, P., McDonald, J.J. (2016). Inability to suppress salient distractors predicts low visual working memory capacity. *Proceedings of the National Academy of Science, 113(13), 3693-3698.*
- Gaspar, J.M.**, McDonald, J.J. (2014). Suppression of salient objects prevents distraction in visual search. *Journal of Neuroscience, 34(16), 5658-5666.*
- Janatti, A., **Gaspar, J.M.**, McDonald, J.J. (2013). Tracking target and distractor processing in fixed-feature visual search: Evidence from human electrophysiology. *Journal of Experimental Psychology: Human Perception and Performance, 39(6), 1713-1730.*
- Moiseev, A., **Gaspar, J.M.**, Schneider, J.A., Herdman, A.T. (2011). Application of multi-source minimum variance beamformers for reconstruction of correlated neural activity. *NeuroImage, 58(2), 481-496.*
- Hamson, D.K., Csuputy, A.S., **Gaspar, J.M.**, Watson, N.V. (2009). Sex difference in Foxp2 expression in the rat cerebellum but not in the caudate/putamen. *Neuroreport, 20(6), 611-616.*

Published Abstracts:

- Gaspar, J.**, Lagroix, H., Jolicoeur, P., & McDonald, J. (2017). Salient Distractors cannot be suppressed during the attentional blink. *Journal of Vision, 17(10), 1199-1199.*
- Patten, J.W., **Gaspar, J.M.**, McDonald, J.J., Spalek, T.M. (2015). Active Suppression in Video-Game Players: An ERP Study. *Journal of Vision, 15(12), 872.*

Gaspar, J.M., Christie, G.J., Livingstone, A.C., McDonald, J.J. (2013). Active suppression of salient-but-irrelevant items increases visual working memory capacity. *Canadian Journal of Experimental Psychology*, 67(4), 272.

Christie, G.J., Livingstone, A.C., **Gaspar, J.M.**, McDonald, J.J. (2013). Efficient attentional selection despite inefficient search. *Canadian Journal of Experimental Psychology*, 67(4), 272.

Gaspar, J.M., Christie, G.J., McDonald, J.J. (2013). Neural activity associated with attentional suppression predicts visual working memory capacity. *Journal of Cognitive Neuroscience*, 25(Supplement), 152.

Cheung, T., Liotti, M., Herdman, A., Van Snellenberg, J., **Gaspar, J.** (2009). Time-Frequency Analysis of Response Inhibition Using Magnetoencephalography. *Biological Psychiatry*, 65(8), 53S.

Conference Presentations:

Gaspelin, N., **Gaspar, J.M.**, Luck, S.J. (2018, November). *Selection History Overpowers Explicit Goals During Visual Search*. Talk to be presented at Psychonomic Society Annual Meeting, New Orleans, LA, USA.

Gaspar, J.M. (2017, January). *High Levels of trait anxiety alter selective attentional processing*. Talk presented at Northern California Consciousness Conference, Davis, CA, USA.

McDonald, J.J., **Gaspar, J.M.**, Prime, D.J., Jolicoeur, P. (2015, November). *Salient-signal suppression controls access to visual working memory*. Talk presented at Psychonomic Society Annual Meeting, Chicago, IL, USA.

Gaspar, J.M., McDonald, J.J. (2015, August). *Neural activity associated with the sustained suppression of irrelevant information in visual working memory*. Talk presented at Cognitive Science Association for Interdisciplinary Learning, Hood River, Oregon, USA.

Patten, J.W., **Gaspar, J.M.**, Spalek, T.M., McDonald, J.J. (2015, August). *Reduced attention capture in video game players: improved capture prevention or speeded capture recovery?* Talk presented at Cognitive Science Association for Interdisciplinary Learning, Hood River, Oregon, USA.

McDonald, J.J., **Gaspar, J.M.**, Lagroix, H.E.P., Di Lollo, V., Jolicoeur, P. (2014, November). *Dealing with distraction during the attentional blink*. Talk presented at Psychonomic Society Annual Meeting, Long Beach, CA, USA.

Gaspar, J.M., Lagroix, H.E.P., Di Lollo, V., Jolicoeur, P., McDonald, J.J. (2014, July). *Observers are unable to suppress salient visual-search distractors during the attentional blink*. Talk presented at Cognitive Science Association for Interdisciplinary Learning, Hood River, Oregon, USA.

Gaspar, J.M., Lagroix, H.E.P., Di Lollo, V., Jolicoeur, P., McDonald, J.J. (2014, May). *Efficient visual search is impaired during the attentional blink: an event-related potential study*. Talk presented at Pacific Northwest Chapters Meeting of the Society for Neuroscience, Victoria, BC, Canada.

Gaspar, J.M., Christie, G.J., Livingstone, A.C., McDonald, J.J. (2013, May). *Visual working memory capacity predicts electrophysiological measures of attentional suppression*. Talk presented at Pacific Northwest Chapters Meeting of the Society for Neuroscience, Vancouver, BC, Canada.

Gaspar, J.M., McDonald, J.J. (2012, July). *Within- versus cross-dimensional capture in fixed-feature visual search*. Talk presented at Cognitive Science Association for Interdisciplinary Learning, Hood River, Oregon, USA.

Gaspar, J.M., McDonald, J.J. (2011, May). *Uni- versus multi-dimensional capture of visual attention*. Talk presented at Pacific Northwest Chapters Meeting of the Society for Neuroscience, Vancouver, BC, Canada.

Conference Posters:

Gaspelin, N., **Gaspar, J.M.**, Luck, S.J. (2018, May). *Selection History Overpowers Explicit Goals During Visual Search*. Poster presented at Vision Sciences Society Annual Meeting, St. Pete Beach, FL, USA.

McDonald, J.J. **Gaspar, J.M.** (2013, November). *Active suppression of salient distractors in a within-dimension additional singleton task*. Poster presented at Society for Neuroscience Annual Meeting, San Diego, CA, USA.

Gaspar, J.M., Jannati, A., McDonald, J.J. (2011, November). *Attentional selection in uni- and cross-dimensional visual search tasks*. Poster presented at Psychonomic Society Annual Meeting, Seattle, WA, USA.

Herdman, A.T., **Gaspar, J.M.** (2009, March). *Neural connectivity of experienced visual information*. Poster presented at Cognitive Neuroscience Society Annual Meeting, San Francisco, CA, USA.

Gaspar, J.M., Herdman, A.T. (2008, November). *Beamforming event-related fields to highly experienced single-letter and word stimuli*. Poster presented at Society for Neuroscience Annual Meeting, Washington, DC, USA.

Gaspar, J.M., Herdman, A.T. (2008, April). *Experience with text modifies early event related visual fields*. Poster presented at Pacific Northwest Chapters Meeting of the Society for Neuroscience Annual Meeting, Vancouver, BC, Canada.

OTHER RELEVANT WORK EXPERIENCE

- 2009 - 2016 *Simon Fraser University, Human Electrophysiology Lab, Burnaby, BC*
Researcher/Graduate Student
Experimental Human Research: laboratory tasks included creating experiments and collecting/analyzing behavioural/EEG data using various programming languages and software packages. Also, responsible for laboratory managerial tasks including mentoring/training research assistants, setting up lab equipment, scheduling participants, and purchasing lab supplies.
- 2009 - 2016 *Simon Fraser University, Department of Psychology, Burnaby, BC*
Teaching Assistant/Tutor Marker
Academic: teaching tasks included giving university lectures, conducting classroom tutorials, exam marking, assignment construction, and grading for various psychology department courses (see section: Academic Appointments).
- 2016 *Simon Fraser University, Centre for Students with Disabilities, Burnaby, BC*
Exam Invigilator
Academic: invigilator tasks included setting up exam rooms, ensuring that students with disabilities have access to the appropriate accommodations, distributing and collecting test materials, and monitoring activities within the test rooms.
- 2013 *Langara College, Department of Psychology, Vancouver, BC*
Tutor Marker
Academic: teaching tasks included marking term-papers (see section: Academic Appointments).
- 2009 - 2010 *University of British Columbia, Human Early Learning Partnership, Vancouver, BC*
Research Assistant
Experimental Human Research: laboratory tasks included collecting EEG, electrocardiogram, galvanic skin response, DNA (salivary), and respiration data for Gene Expression Collaborative for Kids Only (GECKO) project.
- 2007 - 2010 *Simon Fraser University, Human Brain Research Laboratory, Burnaby, BC*
Research Assistant
Experimental Human Research: laboratory tasks included creating experiments and collecting/analyzing behavioural/ magnetoencephalographic /EEG data using various programming languages and software packages.
- 2006 - 2007 *Simon Fraser University, Behavioural Endocrinology Laboratory, Burnaby, BC*
Research Assistant
Experimental Animal Research: laboratory tasks included performing immunocytochemical (ICC) tissue analyses, polymerase chain reaction (PCR) analyses, as well as various surgical and dissection techniques.
- 2006 - 2007 *Simon Fraser University Human Neuropsychology Laboratory, Burnaby, BC*
Research Assistant
Experimental Human Research: laboratory tasks included database design and implementation, and data standardization for large datasets of neuropsychological measures.

ACTIVITIES AND CONTRIBUTIONS

Invited Ad hoc Journal Reviewer:

Psychonomic Bulletin and Review | Frontiers in Neuroscience | Brain and Cognition | Neuropsychologia

Invited Talks:

- 2017 Center for Mind and Brain, Davis, CA, USA: 'CMB Monday Seminar: Mechanisms of attentional processing during Visual Search' (January 2017).
- 2013 Simon Fraser University, Burnaby, BC, Canada: 'Active suppression of salient-but-irrelevant items increases visual working memory capacity' (October 2013).
- 2013 Dartmouth Hitchcock Medical Center, Lebanon, NH, USA: 'Attention and Visual Short-Term Memory – Potential Genetic Studies' (June 2013).
- 2011 Simon Fraser University, Burnaby, BC, Canada: 'Within- versus cross-dimensional capture in fixed-feature visual search' (November 2011).

Academic Guest Lecturer:

- 2016 Simon Fraser University, Burnaby, BC, Canada (PSYC 330): 'Defining Attention' (January 2016).
- 2013 Simon Fraser University, Burnaby, BC, Canada (PSYC 382): 'Principles of Cerebral Organization and Lateralized Specialization' (November 2013).
- 2013 Simon Fraser University, Burnaby, BC, Canada (PSYC 325): 'How Does Visual Short-Term Memory Work?' (January 2013).
- 2012 Simon Fraser University, Burnaby, BC, Canada (PSYC 221): 'The Evolution of Language' (March 2012).
- 2010 Simon Fraser University, Burnaby, BC, Canada (PSYC 221): 'Language and the Brain' (March 2010).
- 2008 Saint Thomas More Collegiate, Burnaby, BC, Canada (grades 11 & 12): 'An Introduction into the Structure and Function of the Brain – A Dissection Study' (September 2008).

Workshop Organizing Committees:

- 2008 - 2010 Co-organizer, Human Brain Lab and Science Alive! Present: Brain Camp – A Neuroscience Workshop for Children.

MENTORSHIP AND TRAINING EXPERIENCE

Honours Students:

- 2017 - 2018 Parker Nevin – current B.A. student at University of California, Davis

Research Assistants:

- 2017 - 2018 Nada Dalloul – current B.A. student at University of California, Davis
- 2013 - 2016 Alannah Wallace – current M.A. student at Simon Fraser University
- 2013 - 2015 Andrew Lowry – current M.A. student at Simon Fraser University
- 2011 - 2014 Ashley Livingstone – M.A. graduate at Simon Fraser University

VOLUNTEER EXPERIENCE

- 2008 - 2016 CIHR Synapse Mentorship Program, Vancouver, BC, Canada
Science fair judge
Volunteer judge at Youth Science Canada science fairs for the Fraser Valley and Greater Vancouver Area.
- 2013 Cognitive Science Association for Interdisciplinary Learning, Hood River, OR, USA
Graphic designer
Created style guide and logo for annual conference.
- 2006 - 2007 North Shore Association for the Mentally Handicapped, North Vancouver, BC, Canada
Respite caregiver
Provided respite care on a regular weekly basis for family with two children with autism.

- 2005 - 2006 British Columbia Psychological Association, Vancouver, BC, Canada
Graphic designer and webmaster
 Organized and assisted at workshops put on by the BCPA. Directed web and print design for all member user services.
- 2004 Riverview Hospital, Coquitlam, BC, Canada
Patient visitor program worker
 Provided regular one-on-one social contact with an individual patient and accompanied them on outings both on the hospital grounds and into the community.

ACADEMIC APPOINTMENTS

Teaching Assistantships (Department of Psychology, Simon Fraser University):

Spring 2016 semester, Instructor: Dr. Bryan Jones

Behavioural Endocrinology (PSYC 381)

Responsible for marking exams and assignments, preparing and running review sessions, and assisting students with course materials.

Fall 2015, Fall 2014, and Fall 2010 semester, Instructor: Dr. Richard Wright

Introduction to Cognitive Psychology (PSYC 221)

Responsible for marking exams and term papers, preparing and running review sessions, and assisting students with course materials.

Summer 2015, Fall 2013, and Fall 2011 semester, Instructor: Dr. John McDonald

Cognitive Neuroscience (PSYC 382)

Responsible for marking exams, preparing and running review sessions, and assisting students with course materials.

Spring 2015, Spring 2012, and Spring 2011 semester, Instructor: Dr. Tom Spalek

Introduction to Cognitive Psychology (PSYC 221)

Responsible for constructing quizzes, marking exams and quizzes, conducting guest lectures, and assisting students with course materials.

Summer 2014 semester, Instructor: Dr. George Alder

Introduction to Research Methods and Psychology (PSYC 201W)

Responsible for preparing and teaching weekly tutorials on writing skills, marking weekly assignments, and providing extensive feedback for multiple drafts of term papers.

Spring 2014 semester, Instructor: Dr. Richard Wright

Attention (PSYC 330)

Responsible for marking exams and assignments, preparing and running review sessions, and assisting students with course materials.

Spring 2013 and Fall 2011 semester, Instructor: Dr. Mario Liotti

Memory and Mind (PSYC 325)

Responsible for marking exams and assignments, preparing and running review sessions, conducting guest lecture, and assisting students with course materials.

Summer 2012 semester, Instructor: Dr. Neil Watson

Introduction to Biological Psychology (PSYC 280)

Responsible for marking exams, preparing and running review sessions, and assisting students with course materials.

Summer 2011 semester, Instructor: Dr. Ralph Mistlberger

Introduction to Biological Psychology (PSYC 280)

Responsible for marking exams, preparing and running review sessions, and assisting students with course materials.

Fall 2010 semester, Instructor: Dr. Richard Wright

Introduction to Cognitive Psychology (PSYC 221)

Responsible for marking exams and term papers, preparing and running review sessions, and assisting students with course materials.

Spring 2010 semester, Instructor: Dr. Tony Herdman

Biological Psychology (PSYC 280)

Responsible for marking exams and assignments, maintaining online message boards, and assisting students with course materials.

Fall 2009 semester, Instructor: Dr. Gordon Rose

Brain, Mind, and Society (PSYC 109W)

Responsible for preparing and teaching weekly tutorials on writing skills, marking weekly assignments, and providing extensive feedback for multiple drafts of term papers.

Teaching Assistantships (Department of Psychology, Langara College):

Spring 2013 semester, Instructor: Dr. Susan Numerow

Developmental Psychology (PSYC 2324)

Responsible for marking and providing feedback for term papers.