

GASPAR, JOHN MANUEL

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Canadian citizenship  | J-1 visa holder 

ABOUT ME

For the past decade, I have had the privilege to work in some incredible neuroscience laboratories, publishing impactful research primarily in the field of vision science and attention. Much of this work has focused on understanding how our brain manages to ignore all the distracting information in our environment so that we might focus on the task at hand, be it finding that lost set of keys or a friend in a crowded room. This line of research has been published in top-tier journals, earned me several academic distinctions, and been highlighted in prominent popular science magazines. During my tenure as a researcher, I have also had first hand experience collaborating with university administrators, granting agencies, research ethics boards, and of course, other researchers. I have a broad knowledge of different scientific disciplines and an understanding of how large-scale research projects can effectively be proposed, managed, and attain funding. In addition to conducting research, teaching remains my other passion; I have always found it exceedingly rewarding to communicate my love of neuroscience with my students, colleagues, and the public. If there's anything else you'd like to know, please don't hesitate to contact me.

SKILLS AND EXPERIENCE

Research experience: Proficient in a variety of research methodologies, including electroencephalography (EEG), event-related potentials (ERPs), eye-tracking, and psychophysical performance testing in both typical and clinical populations. Familiarity with writing grant proposals and proposing experimental protocols to research ethics boards.

Experimental design: Experienced in designing experimental paradigms using several programming languages and tools, including MATLAB (Psychtoolbox), Presentation, and E-Prime. Currently learning Python (PsychoPy).

Statistical analyses: Strong background in both frequentist and Bayes factor statistical testing using methods that include regression analyses, correlational analyses, ANOVAs, ANCOVAs, and t-tests. Proficient using MATLAB, R, SPSS, JASP, Excel, and Prism. Currently learning Python (NumPy, Matplotlib, Seaborn, Pandas).

Public speaking and research dissemination: Have given 10 invited talks and guest lectures at universities and colleges throughout North America. Have personally presented my research 14 times and have had my research presented by collaborators an additional 8 times at national and international conferences.

Teaching and public education: Have been a teaching assistant 20 times since 2009 for a variety of college and university courses. Have given numerous lectures and mentored undergraduate and graduate students. During graduate school, I was a member of the Canadian Institutes of Health Research (CIHR) Synapse Mentorship Program, tasked with judging regional science fairs.


PROFESSIONAL APPOINTMENTS

Postdoctoral:

2016 - present **UC DAVIS** *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 Psychology, Cognitive and Neural Studies
Completion in September 2016
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 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)

2010

San Diego, CA, USA

BESA® Research Workshop

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)

RESEARCH AND RELEVANT WORK EXPERIENCE

- 2016 - present *University of California, Center for Mind and Brain, Davis, CA*
Researcher/Postdoctoral Scholar
Human Research: laboratory tasks include creating experiments and collecting/analyzing behavioural/eye-tracking/EEG data using various programming languages and software packages. Also, responsible for mentoring/training research assistants and undergraduate students.
- 2009 - 2016 *Simon Fraser University, Human Electrophysiology Lab, Burnaby, BC*
Researcher/Graduate Student
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 below).
- 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 below).
- 2009 - 2010 *University of British Columbia, Human Early Learning Partnership, Vancouver, BC*
Research Assistant
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
Human research: laboratory tasks included program various programming languages and software packages using and analyzing behavioural/magnetoencephalographic/EEG data using various programming languages and software packages.
- 2006 - 2007 *Simon Fraser University, Behavioural Endocrinology Laboratory, Burnaby, BC*
Research Assistant
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
Human research: laboratory tasks included database design and implementation, and data standardization for large datasets of neuropsychological measures.

PUBLICATIONS AND PROFESSIONAL PRESENTATIONS

Articles in Refereed Journals (citations: 175; h-index: 5; i10-index: 5):

Gaspar, J.M., Christie, G.J., Prime, D.J., Jolicœur, 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., Csapity, 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:

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:

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., and 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.**, Lacroix, 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., Lacroix, 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., Lacroix, 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:

Gaspar, J.M., Lagroix, H.E.P., Jolicoeur, P., McDonald, J.J. (2017, May). *Salient Distractors cannot be suppressed during the attentional blink*. 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.

CONTRIBUTIONS AND SERVICE

Invited Ad hoc Journal Reviewer:

Neuroimage
Psychonomics
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.

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.

MENTORSHIP AND TRAINING EXPERIENCE

Honours Students:

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

Research Assistants:

- 2017 - present Nada Dalloul – current B.Sc. 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*
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*
Graphic designer
Created style guide and logo for annual conference.
- 2006 - 2007 *North Shore Association for the Mentally Handicapped, North Vancouver, BC*
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*
Graphic designer and webmaster
Organized and assisted at workshops put on by the BCPA. Directed web and print design for all backend web user services.
- 2004 *Riverview Hospital, Coquitlam, BC*
Patient visitor program worker
Provided regular one-on-one social contact with an individual patient and accompanied patient 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 invited 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.