

# Grayden J.F. Solman, PhD

August 2017

## Assistant Professor

Department of Psychology, University of Hawai'i at Mānoa  
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## Degrees

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2012	PhD	Cognitive and Behavioural Neuroscience	University of Waterloo (Canada)
2009	MA	Cognitive and Behavioural Neuroscience	University of Waterloo (Canada)
2007	BA	Honours Psychology	University of Waterloo (Canada)

## Employment

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2016-	Assistant Professor	University of Hawai'i at Mānoa
2012-2016	Postdoctoral Research Fellow	University of British Columbia (Canada)

## Research Interests

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Search; Eye-movements; Spatial memory; Embodied cognition; Perception and action; Organization

## Awards and Distinctions

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2017-2018	Research Support Award	University of Hawaii
2012-2014	Postdoctoral Fellowship	NSERC
2012-2014	Postdoctoral Research Fellowship	Killam Trusts
2013	New Investigator Award	APA, Division 3
2012	Outstanding Achievement Award (Doctoral)	University of Waterloo
2012	Governor General's Gold Medal Nominee (Doctoral)	University of Waterloo
2011	Fellowship: Summer Institute in Cognitive Neuroscience	NIMH & NIDA
2009-2012	Canada Graduate Scholarship (Doctoral)	NSERC
2008-2009	Canada Graduate Scholarship (Masters)	NSERC
2008-2012	President's Graduate Scholarship	University of Waterloo
<i>declined '08</i>	Ontario Graduate Scholarship	Ontario Provincial
2007	Undergraduate Student Research Award	NSERC
2007	Honours Thesis Award	University of Waterloo

*NSERC – Natural Sciences and Engineering Research Council*

*APA – American Psychological Association*

*NIMH – National Institute of Mental Health*

*NIDA – National Institute of Drug Abuse*

## Editorial Experience

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### Editorial Boards

Frontiers in Psychology – Review Editor, Perception Science (2016 - )

### Reviewer for Journals

Attention, Perception, & Psychophysics  
Canadian Journal of Experimental Psychology  
Cognitive Research: Principles and Implications  
Consciousness and Cognition  
Journal of Experimental Psychology: Human Perception & Performance  
Proceedings of the National Academy of Sciences  
Visual Cognition

### Reviewer for Book Chapters

J. Fawcett, E. F. Risko, & A. Kingstone (Eds.), *The Handbook of Attention* (MIT Press, Cambridge, MA).

## Publications

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### Refereed Journals

Varao-Sousa TL, **Solman GJF**, & Kingstone A. (2017). Re-reading after mind wandering. *Canadian Journal of Experimental Psychology – Special edition on Everyday Attention*. doi: 10.1037/cep0000123

**Solman GJF**, Foulsham T, & Kingstone A. (2017). Eye and head movements are complementary in visual selection. *Royal Society Open Science*. doi: 10.1098/rsos.160569

**Solman GJF**, & Kingstone A. (2017). Spatial partitions systematize visual search and enhance target memory. *Attention, Perception, & Psychophysics*. doi: 10.3758/s13414-016-1232-2

**Solman GJF**, & Kingstone A. (2016). Arranging objects in space: Measuring task-relevant organizational behaviors during goal pursuit. *Cognitive Science*. doi: 10.1111/cogs.12391

**Solman GJF**, & Kingstone A. (2015). Endogenous strategy in exploration. *Journal of Experimental Psychology: Human Perception and Performance*. doi: 10.1037/xhp0000106

**Solman GJF**, & Kingstone A. (2014). Balancing energetic and cognitive resources: Memory use during search depends on the orienting effector. *Cognition*. doi: 10.1016/j.cognition.2014.05.005

Ralph B, Seli P, Cheng V, **Solman GJF**, & Smilek D. (2014). Running the figure to the ground: Figure-ground segmentation during visual search. *Vision Research*. doi: 10.1016/j.visres.2014.02.005

**Solman GJF**, Hickey K, & Smilek D. (2014). Comparing target detection errors in visual search and manually-assisted search. *Attention, Perception, & Psychophysics*. doi: 10.3758/s13414-014-0641-3

**Solman GJF**, Wu N, Cheyne JA, & Smilek D. (2013). In manually-assisted search, perception supervises rather than directs action. *Experimental Psychology*. doi: 10.1027/1618-3169/a000193

Seli P, Jonker TR, **Solman GJF**, Cheyne JA, & Smilek D. (2013). A methodological note on evaluating performance in a sustained-attention-to-response task. *Behavior Research Methods*. doi:10.3758/s13428-012-0266-1

\* 2013 APA Division 3 New Investigator Award

**Solman GJF**, Cheyne JA, & Smilek D. (2013). Changing perspective: Zooming in and out during visual search. *Journal of Experimental Psychology: Human Perception and Performance*. doi: 10.1037/a0029707

**Solman GJF**, & Smilek D. (2012). Memory benefits during visual search depend on difficulty. *Journal of Cognitive Psychology*. doi: 10.1080/20445911.2012.682053

**Solman GJF**, Cheyne JA, & Smilek D. (2012). Found and missed: Failing to recognize a search target despite moving it. *Cognition*. doi: 10.1016/j.cognition.2011.12.006

**Solman GJF**, Cheyne JA, & Smilek D. (2011). Memory load affects visual search processes without influencing search efficiency. *Vision Research*. doi: 10.1016/j.visres.2011.03.009

Cheyne JA, Carriere JSA, **Solman GJF**, & Smilek D. (2011). Challenge and error: Critical events and attention-related errors. *Cognition*. doi: 10.1016/j.cognition.2011.07.010

**Solman GJF**, & Smilek D. (2010). Item-specific memory in visual search. *Vision Research*. doi: 10.1016/j.visres.2010.09.008

Carriere JSA, Cheyne JA, **Solman GJF**, & Smilek D. (2010). Age trends for failures of sustained attention. *Psychology and Aging*. doi: 10.1037/a0019363

Cheyne JA, **Solman GJF**, Carriere JSA, & Smilek D. (2009). Anatomy of an error: A three-state bidirectional model of task disengagement and attention-related errors. *Cognition*. doi: 10.1016/j.cognition.2008.12.009

Smilek D, **Solman GJF**, Murawski P, & Carriere JSA. (2009). The eyes fixate the optimal viewing position of task-irrelevant words. *Psychonomic Bulletin & Review*. doi: 10.3758/pbr.16.1.57

## Preprints

Hamdi M, **Solman GJF**, Kingstone A, & Krishnamurthy V. (2014). Social learning in a human society: An experimental study. *arXiv:1408.5378v1*.

## Technical Reports

Smilek D, **Solman GJF**, Carriere JSA, & Quigley L. (2010). BlackBerry messenger and inner social circles. A technical research report for *Research In Motion*, 70 single-spaced pages.

## Posters and Presentations

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**Solman\* GJF**, & Kingstone A. (2016). "Search and Memory in Partitioned Spaces." Poster presented at the 57<sup>th</sup> Annual Meeting of the Psychonomic Society, Boston, MA, Nov 17-20.

Bischof\* W, **Solman GJF**, & Groner M. (2015). "Generalized recurrence analysis of eye movements." Talk given at European Conference on Eye Movements, Vienna, Austria, August 16-21.

**Solman\* GJF**, Foulsham T, & Kingstone A. (2015). "The principles of attentional selection are profoundly different for the head and eyes." Invited symposium talk at the 25<sup>th</sup> Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science. Ottawa, ON, June 5-7.

**Solman\* GJF**, & Kingstone A. (2015). "Search in actively organized spaces." Poster presented at the 15<sup>th</sup> Annual Vision Sciences Society Meeting, St. Pete Beach, FL, May 15-20.

**Solman\* GJF**, & Kingstone A. (2014). "Space and action." Talk given presented at the 24<sup>th</sup> Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science, Toronto, ON, July 3-5.

**Solman\* GJF**, & Kingstone A. (2014). "The influence of spatial arrangement on goal selection and task completion." Poster presented at the 21<sup>st</sup> Annual Cognitive Neuroscience Society Meeting, Boston, MA, April 5-8.

- Solman\* GJF**, & Kingstone A. (2013). "Motor effort predicts memory use in active visual search." Poster presented at the 13<sup>th</sup> Annual Vision Sciences Society Meeting, Naples, FL, May 10-15.
- Gabel\* M, Purdon C, Smilek D, & **Solman G**. (2012). "Motivational effects on attentional control in arachnophobia." Poster presented at the 42<sup>nd</sup> Annual European Association for Behavioural and Cognitive Therapies Congress, Geneva, Switzerland, August 29 – September 1.
- Seli\* P, Jonker TR, **Solman GJF**, Cheyne JA, & Smilek D. (2012). "Keeping the rhythm: Exploring attention lapses and behavioural stability." Poster presented at the 22<sup>nd</sup> Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science, Kingston, ON, June 7-9.
- Ralph\* BCW, Seli P, Cheng V, **Solman GJF**, & Smilek D. (2012). "Masquerading as the background: A look at how figure-ground segmentation leads to camouflage in visual search." Poster presented at the 22<sup>nd</sup> Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science, Kingston, ON, June 7-9.
- Solman\* GJF**, & Smilek D. (2012). "Zooming in and out: Global-local shifts in large scale visual search." Poster presented at the 12<sup>th</sup> Annual Vision Sciences Society Meeting, Naples, FL, May 11-16.
- Ralph\* B, Seli P, Cheng V, **Solman GJF**, & Smilek D. (2012). "Running the figure to the ground: Camouflaging targets during visual search." Poster presented at the 12<sup>th</sup> Annual Vision Sciences Society Meeting, Naples, FL, May 11-16.
- Solman\* GJF**, Cheyne JA, & Smilek D. (2012). "Motor systems outpace perceptual systems during manually-assisted search." Poster presented at the 19<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, Chicago, IL, March 31 – April 3.
- Solman\* GJF**, Cheyne JA, & Smilek D. (2011). "Action preempts identification in manually-assisted search." Talk given at the 21<sup>st</sup> Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science. Winnipeg, MB, June 24-26.
- Solman\* GJF**, & Smilek D. (2011). "Exploration and internal simulation trade off in search." Talk given at the 21<sup>st</sup> Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science. Winnipeg, MB, June 24-26.
- Solman\* GJF**, Cheyne JA, & Smilek D. (2011). "Failure to recognize a manipulated target during search." Poster presented at the 18<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA, April 2-5.
- Solman\* GJF**, & Smilek D. (2010). "Item-specific memory in visual search: Evidence from eye-tracking." Talk given at the 20<sup>th</sup> Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science. Halifax, NS, June 11-13.
- Meschino\* L, **Solman GJF**, Reynolds MG, & Smilek D. (2010). "How journal articles are read under time pressure: Sacrificing depth for breadth." Poster presented at the 17<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, Montreal, QC, April 17-20.
- Smilek\* D, Cheyne JA, Carriere JSA, & **Solman GJF**. (2010). "Mind wandering and attention-related errors in the lab and in life." Invited talk at McMaster University, Hamilton, Ontario, Canada, March 19, 2010.
- Solman\* GJF**, & Smilek D. (2009). "Visual search under memory load." Talk given at the Summer Workshop on Attention and Performance, Hamilton, ON, June 18-19.
- Solman\* GJF**, Smilek D, & Eastwood J. (2009). "Eye movements during visual search under memory load." Poster presented at the 9<sup>th</sup> Annual Vision Sciences Society Meeting, Naples, FL, May 8-13.
- Meschino\* L, Reynolds MG, Smilek D, & **Solman GJF**. (2009) "Attentional Prioritization: the influence of expertise on how journal articles are read." Poster presented at the 16<sup>th</sup> Cognitive Neuroscience Society Annual Meeting, San Francisco, CA, March 21-24.

**Solman\* GJF**, & Smilek D. (2008). "Search and Memory in Stable Environments." Poster presented at TENNET XIX: An Annual Meeting of Theoretical and Experimental Neuropsychology. Waterloo, ON, June 22-25.

Meschino\* L, Reynolds MG, Smilek D, & **Solman GJF**. (2008) "Visual Strategies for Integrating Text and Graphic Information: an Eye-Tracking Study of Textbook Reading." Poster presented at TENNET XIX: An Annual Meeting of Theoretical and Experimental Neuropsychology. Waterloo, ON, June 22-25.

**Solman\* GJF**, & Smilek D. (2008). "Search in Stable and Unstable Environments." Poster presented at the 18<sup>th</sup> Annual Meeting of the Canadian Society for Brain, Behaviour and Cognitive Science. London, ON, June 19-21.

Smilek D, Cheyne JA, **Solman\* GJF**, & Carriere JSA. (2008). "Aging, sustained attention, and mind wandering." Poster presented at the 15<sup>th</sup> Annual Cognitive Neuroscience Society Meeting, San Francisco, CA, April 12-15.

## Industry Presentations

Smilek\* D, **Solman GJF**, Carriere JSA, & Quigley L. (2010). "BlackBerry messenger and its role in social circles." Invited presentation for executives at Research in Motion (RIM), Waterloo, ON, August 12, 2010.

Smilek\* D, **Solman GJF**, Carriere JSA, & Quigley L. (2010). "BBM and inner social circles." Invited presentation for executives at Research in Motion (RIM), Waterloo, ON, July 30, 2010.

Smilek\* D, **Solman GJF**, Carriere JSA, & Quigley L. (2010). "BlackBerry messenger and inner social circles." Invited presentation for executives at Research in Motion (RIM), Waterloo, ON, July 9, 2010.

## Media Interviews

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**Daily Planet** (Broadcast): *Discovery Channel*. March 28, 2012

Flagship program of Discovery Channel Canada, with a 7pm primetime slot, and an audience of 2.8M viewers per week in Canada.

**Psychology Today** (Print): *Where did I put my keys?* Vol. 45(3), 2012

Bimonthly magazine with a print readership of 3.3M and online traffic of 12M page views per month.

**Le Monde de L'Intelligence** (Print): *Le syndrome des clés perdues enfin compris!* N° 24, 2012

French language bimonthly magazine based in France, focusing on neuroscience and psychology, with an estimated readership of 50,000.

**New Scientist** (Print): *Can't find your keys? Your brain's out of sync.* Issue 2849, 2012

Science weekly magazine, with 1.4M print and online readers in North America, and 2.5M worldwide.

## Public Engagement / Outreach

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*Community Scientist, Vancouver, BC (2013)*: Prepared activities and demonstrations to engage the public in ongoing research, as part of the Community Scientist Initiative with TELUS World of Science (a science and technology museum in Vancouver).

## Teaching Experience

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### Instructor

*University of Hawai'i at Mānoa:*

Introduction to Psychobiology (PSYC 230)

Sensation and Perception (PSYC 336)

Seminar in Experimental Psychology (PSYC 721)

*University of Waterloo (Adjunct):*

Physiological Psychology (PSY 261)

### Teaching Assistant

*University of Waterloo:*

Physiological Psychology  
Cognitive Psychology  
Introductory Psychology  
Cognitive Development

## Supervision

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### Graduate Supervision

*University of Hawai'i at Mānoa:*

Dissertation Committee Member for:

Margeaux Ciraolo  
Maegen Walker  
Mallory Klaunig

### Undergraduate Supervision

*University of Hawai'i at Mānoa:*

Spring 2017: Directed Research (PSYC 499) – Kylie Popa  
Fall 2017: Directed Research (PSYC 499) – Adam Schadler  
Fall 2017: Directed Research (PSYC 499) – Cierra Fujimoto

*University of Waterloo:*

Honours Thesis Student Supervision - Kersondra Hickey  
Faculty Supervisor: Dr. Daniel Smilek  
*Publication (Solman, Hickey, & Smilek, 2014)*

Honours Thesis Student Supervision - Brandon Ralph  
Faculty Supervisor: Dr. Daniel Smilek  
*Publication (Ralph, Seli, Cheng, Solman, & Smilek, 2014)*

Honours Thesis Student Supervision - Nicholas Wu  
Faculty Supervisor: Dr. Daniel Smilek  
*Publication (Solman, Wu, Cheyne, & Smilek, 2013)*

Honours Thesis Student Supervision - Martyn Gabel  
Faculty Supervisor: Dr. Christine Purdon  
*Conference presentation (Gabel, Purdon, Smilek, & Solman, 2012)*

Honours Thesis Student Supervision - Tracy Li  
Supervisor: Dr. Daniel Smilek

## Service

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### Faculty

2016-2017  
2016-

Faculty Search Committee  
Undergraduate Studies Committee

University of Hawai'i  
University of Hawai'i

### Pre-doctoral

2009-2010

Divisional Representative (BNS) for the Graduate Association  
of Students in Psychology

University of Waterloo (Canada)

2006-2007

Financial Officer for the Undergraduate Psychology Society

University of Waterloo (Canada)