

CURRICULUM VITAE

Joy Jia Geng

Contact information

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Education

- 2003 Ph.D., Department of Psychology, Carnegie Mellon University and the Center for the Neural Basis of Cognition. Supervisor: Dr. Marlene Behrmann.
1997 B.A., magna cum laude, Department of Psychology, Cornell University. Thesis supervisor: Dr. Michael Spivey.

Professional Positions

- 2013- Associate Professor, Department of Psychology and Center for Mind and Brain, University of California Davis, Davis CA.
2008-13 Assistant Professor, Department of Psychology and Center for Mind and Brain, University of California Davis, Davis CA.
2007-08 Postdoctoral Researcher, Center for Mind and Brain, University of California Davis, Davis, CA.
2003-06 Postdoctoral Fellow, Institute of Cognitive Neuroscience, University College London, London, UK .
1997-03 Graduate student, Department of Psychology and CNBC, Carnegie Mellon University, Pittsburgh, PA .
1995-97 Research Assistant, Department of Psychology, Cornell University, Ithaca NY

Professional Service

- 2011- Associate Editor: PLoS ONE
2013-14 National Science Foundation panel member
2013 Guest Associate Editor: Frontiers in Human Neuroscience.

Ad hoc reviewer: *Cerebral Cortex*; *Journal of Cognitive Neuroscience*; *Neuropsychologia*; *Brain Research*; *Psychophysiology*; *Brain*; *Experimental Journal of Experimental Psychology: Human Perception and Performance*; *Vision Research*; *Human Brain Mapping*; *NeuroImage*; *Psychonomic Bulletin & Review*; *Journal of Neurophysiology*; *Journal of Neuroscience*; *Journal of Vision*; *Acta Psychologica*, *Cortex*

Ad hoc grant reviews: National Science Foundation, Biotechnology and Biological Sciences Research Council (UK)

Memberships

Organization for Human Brain Mapping
Vision Sciences Society
Society for Neuroscience

Honors and Awards

- 2013 Social Sciences Dean's Innovation Award for 2013
2013 UCD academic senate small grant in aid of research
2012 UCD academic senate travel grant
2012 UCD academic research grant
2011 UCD Interdisciplinary research grant
2011 Nomination for USUCD excellence in teaching award
2010 UCD small grant in aid of research

2010 Hellman Fellow
 2003-06 Royal Society International Postdoctoral Fellowship
 2002 APA Science Directorate Dissertation Research Award
 2001-03 NSF IGERT training grant, Center for the Neural Basis of Cognition
 1998-01 National Defense Science and Engineering Graduate Fellowship
 2001 Phi Kappa Phi, Carnegie Mellon University
 1997 Phi Beta Kappa, Cornell University
 1996 Psi Chi, Cornell University

Current Research Support

2012-2014 UC Davis Academic Senate Small Grant in Aid of Research (Role: PI).
 2012-2015 Mechanisms of attentional rejection. National Science Foundation. BCS-1230377-0. (Role PI)
 2012-2013 Causal interactions between brain regions that encode reward incentives and attention. UC Davis Academic Senate Faculty Research Grants. (Role: PI)
 2013-2018 Cognitive neuroscience of attention and working memory in schizophrenia. (Role: co-I, 5%).

Outreach

2013 Consultant to the Office of Traffic Safety, State of California

Articles in Peer Reviewed Journals

- Vossel, S., Geng, J.J., Friston, K. (2014) Attention, predictions and expectations, and their violation: attentional control in the human brain, *Front. Hum. Neurosci.* **8**:463. doi: 10.3389/fnhum.2014.00463
- Stankevich, B., Geng, J.J. (2014). Reward associations and spatial probabilities produce additive effects on attentional selection, *Attention, Perception, & Psychophysics*.
- Geng, J.J., (2014). Attentional mechanisms of distractor suppression. *Current Directions in Psychological Science*. 23: 147-153, doi:10.1177/0963721414525780
- Minzenberg, M.J., Gomes, G.C., Yoon, J.H., Watrous, A.J., Geng, J.J., Firl, A.J., Carter, C.S. (2014). Modafinil Augments Oscillatory Power in Middle-Frequencies During Rule Selection", *Psychophysiology*.
- Lockhart S.N., Roach A.E. Luck, S.J, Geng, J., Beckett L., Carmichael, O., Decarli C. (2013). White matter hyperintensities are associated with visual search behavior independent of generalized slowing in aging. *Neuropsychologia*.
- Geng, J.J., and Vossel, S. (2013). Re-evaluating the role of TPJ in attentional control: contextual updating? *Neuroscience and Biobehavioral Reviews*, 37(10 pt 2): 2608-20.
- Isham, E.A., and Geng, J.J. (2013). Looking time predicts choice but not aesthetic value. *PLoS ONE*, 16; 8(8):e71698.
- DiQuattro, N.E., Sawaki, S., and Geng, J.J. (2013). Effective connectivity during feature-based attentional capture: Evidence against the attentional reorienting hypothesis of TPJ. *Cerebral Cortex*.
- Vossel S., Geng, J.J., Fink, G. (2013). Dorsal and Ventral Attention Systems: Distinct Neural Circuits but Collaborative Roles. *The Neuroscientist*.
- Geng, J.J., Soosman, S. Sun, Y., DiQuattro, N.E., Stankevich, B., Minzenberg, M. (2012). A match made by modafinil: probability matching in choice decisions and spatial attention. *Journal of Cognitive Neuroscience*, 25(5):657-69. Epub 2012 Nov 28.
- Sawaki, R., Geng, J. J., & Luck, S. J. (2012). A common neural mechanism for preventing and terminating the allocation of attention. *The Journal of Neuroscience*, 32(31):10725-36.
- DiQuattro, N.E. and Geng J.J. (2011). Contextual knowledge configures attentional control networks. *The Journal of Neuroscience*, 31(49):18026-35.
- Isham, E., and Geng, J.J. (2011). Rewarding Performance Feedback Alters Reported Time of Action. *Consciousness and Cognition*, 20(4):1577-85.
- Mazaheri, A., DiQuattro, N.E., Bengson, J., Geng, J.J. (2011). Pre-stimulus activity predicts the winner of top-down vs. bottom-up attentional selection. *PLoS ONE*, 6(2):e16243.

15. Rotshtein, P., Soto, D., Grecucci, A., Geng, J.J., Humphreys, G.W. (2010). The role of the pulvinar in resolving competition between memory and visual selection: A functional connectivity study. *Neuropsychologia*, 49(6):1544-52.
16. Geng, J.J. and Mangun, G.R. (2010) Right temporoparietal junction activation by a salient contextual cue facilitates target discrimination. *NeuroImage*, 54(1):594-601.
17. Geng, J.J. and DiQuattro, N.E. (2010). Attentional capture by a perceptually salient non-target facilitates target processing through inhibition and rapid-rejection. *Journal of Vision*, 10(6):5.
18. Geng, J.J. and Mangun, G.R. (2009). The Anterior Intraparietal Sulcus is Sensitive to Bottom-Up Attention Driven by Stimulus Saliency. *Journal of Cognitive Neuroscience*, 21(8):1584-601.
19. Geng, J.J., Ruff, C., and Driver, J. (2009). Saccades to a remembered location elicit spatially-specific activation in human retinotopic visual cortex. *Journal of Cognitive Neuroscience*, 21(2):230-45.
20. Rotshtein P., Geng, J.J., Driver, J. and Dolan, R. (2007). Role of features and second-order relations in face discrimination, face recognition, and individual face skills: Behavioral and fMRI data. *Journal of Cognitive Neuroscience*, 19(9): 1435-52.
21. Geng, J.J., Eger, E., Ruff, C., Kristjansson, A., Rotshtein, P. and Driver, J. (2006). On-line attentional selection from competing stimuli in opposite visual fields: Effects on human visual cortex and control processes, *Journal of Neurophysiology*, 96(5): 2601-12.
22. Geng, J.J. and Behrmann, M. (2006). Competition between simultaneous stimuli modulated by location probability in hemispatial neglect, *Neuropsychologia* 44(7): 1050:60.
23. Friston, K.J., Rotshtein, P., Geng, J.J., Stertzer, P., Henson, R.N. (2006). A critique of functional localisers. *NeuroImage* 30(4): 1077-87.
24. Geng, J.J. and Behrmann, M. (2005). Spatial probabilities as an attentional bias in visual search. *Perception and Psychophysics* 67(7): 1252-68.
25. Behrmann, M., Geng, J.J., and Shomstein, S. (2004). Parietal cortex and attention. *Current Opinion in Neurobiology*, 14:212-217.
26. Geng, J.J. and Behrmann, M. (2002). Probability cueing of target location facilitates visual search implicitly in normal participants and patients with hemispatial neglect. *Psychological Science*. 13(6) 520-5.
27. Spivey, M. & Geng, J. (2001). Oculomotor mechanisms triggered by imagery and memory: Eye movements to absent objects. *Psychological Research*, 65(4): 235-241.

Book Chapters

1. Associate editor for Werner, J. and Chalupa, L. (in press). *The New Visual Neurosciences*. MIT Press, Cambridge, MA.
2. Mangun, G.R., Fannon, S.P., Geng, J.J., and Saron, C.D (2009). Imaging Brain Attention Systems: Control and Selection in Vision. In M. Filippi (Ed). *fMRI Techniques and Protocols*. Humana Press, Inc.
3. Behrmann, M., Geng, J. J. and Baker, C. I. (2005). Acquisition of long-term visual representations: Psychological and neural mechanisms. In N. Ohta, C. Macleod and B.Uttl (Eds) *Dynamic cognitive processes: The Fifth Tsukuba International Conference*. Tokyo, Springer Verlag, p11-36.
4. Behrmann, M. and Geng, J.J. (2005). Attention. In E.E. Smith and S.M. Kosslyn (Eds.). *Cognitive Psychology: Mind and Brain*. Prentice Hall, NY.
5. Geng, J.J. and Behrmann, M. (2003). Selective visual attention and visual search: Behavioral and neural mechanisms. In B.Ross and D. Irwin (Eds.). *The Psychology of Learning and Motivation* vol. 42, Academic Press, NY.
6. Behrmann, M., & Geng, J.J. (2002). What is 'left' when all is said and done? Spatial coding and hemispatial neglect. In H. O. Karnath, D. Milner and G. Vallar (Eds.). *The Cognitive and Neural Bases of Neglect*. Oxford University Press, Oxford.

Conference Abstracts

1. Blumfeld, Z., Tyson, T., Geng J.J. (2013). Pupil size reflects the strategic allocation of spatial attention. Vision Sciences Society, Naples, FL.

2. Isham, E.A., Geng J.J. (2013). Visual fixation parameters predict decisional outcomes better than preference. Vision Sciences Society, Naples, FL.
3. Collins, T., Geng, J.J., (2013). Translational pattern discovery: evidence of a two-stage global-local strategy. Vision Sciences Society, Naples, FL.
4. Stankevitch, B., Geng, J.J., (2013). Task information overrides attentional capture by reward-associated stimuli. Vision Sciences Society, Naples, FL.
5. Blumenfeld, Z. and Geng, J.J. (2013). Pupil size indicates level of probability-related uncertainty in attentional control. Undergraduate Research, Scholarship and Creative Activities Conference. Davis, CA.
6. Puhger, K., Stankevich, B., and Geng, J.J. (2013). Reward and salience: The competition for attentional selection. Undergraduate Research, Scholarship and Creative Activities Conference. Davis, CA.
7. Tyson, T.L., and Geng, J.J. (2013). The association of the locus coeruleus and error processing using pupillometry. Undergraduate Research, Scholarship and Creative Activities Conference. Davis, CA.
8. Lockhart, S.N. Roach, A.E., Luck, S.L., Geng J., Beckett, L., Carmichael, O. DiCarli, C. (2013). White matter hyperintensities are associated with hyperactivation independent of age during cue-guided spatial search. International society of vascular behavioral and cognitive disorders.
9. DiQuattro, N.E., Sawaki, R., Geng, J.J., (2012). Attention network dynamics in response to target-similar distractor. Vision Sciences Society. Naples, FL.
10. Geng J.J., DiQuattro, N.E., Isham, E., Sawaki, R., Rotshtein, P. (2012). Distracter rejection depends on mechanisms of attentional shifting. Vision Sciences Society. Naples, FL.
11. Geng, J.J., and DiQuattro, N.E. (2012). Attentional control networks involved in processing target-similar distracters. Organization for Human Brain Mapping. Beijing, China.
12. Isham, E.A., Banks, W.P., & Geng, J.J. (2011, November). *Perceptual biases in reading the analog clock influence the perceived time of action: Free will may not be illusory after all.* Poster presentation at the annual meeting for Object Perception, Attention, and Memory (OPAM), Seattle, WA.
13. Blumenfeld, Z. and Geng, J.J. (2012). Individual differences in attentional control. UC Davis Undergraduate Research, Scholarship and Creative Activities Conference. Davis, CA.
14. Chahal, R., and Geng J.J. (2012). Reward modulation of attentional selection. UC Davis Undergraduate Research, Scholarship and Creative Activities Conference. Davis, CA.
15. Gwinn, R.E., Isham, E., and Geng, J.J. (2012). Confirmation bias in binary choice. UC Davis Undergraduate Research, Scholarship and Creative Activities Conference. Davis, CA.
16. Isham, E.A., Banks, W.P., & Geng, J.J. (2011). Representational Momentum Influences the Perceived Time of Action. Bay Area Vision Research Day, Berkeley, CA.
17. Isham, E.A., Geng, J.J., Disbrow, E.A. (2010) Action Time is Retrospectively Inferred in Healthy Volunteers and Parkinsonians. Psychonomic Society, St. Louis MO.
18. Isham, E.A., Copara, M., DiQuattro, N., Chang, A., Pattel, D., Mineyev, S., Aarons, B., Geng, J., Ekstrom, A. (2010). Independent and Conjunctive Processing of Spatial and Temporal Information in Episodic Memory. Society for Neuroscience, San Diego, CA, USA.
19. Geng, J.J., DiQuattro, N.E., Monlux, K., Minzenberg, M. (2010). Effects of modafinil on behavioral choice and attentional selection. Society for Neuroscience, San Diego, CA, USA.
20. DiQuattro, N.E. and Geng, J.J. (2010). Performance improving salient distractor activates left temporo-parietal junction in visual search. Society for Neuroscience, San Diego, CA, USA.
21. Monlux K., Nunez-Perea, J., DiQuattro, N., Geng, J.J., (2010). Effects of Modafinil on Behavioral Choice. UC Davis Undergraduate Research Forum. Davis, CA, USA.
22. Mazaheri, A., DiQuattro, N., Bengson, J. and Geng, J.J. (2010). Top-down vs. bottom-up attentional processes : pre-stimulus theta activity could predict the winner. Organization of Human Brain Mapping, Barcelona, Spain.
23. Rotshtein, P., Soto, D., Alex Grecucca, A., Geng, J.J. and Humphreys, G. (2010). The mediating role of pulvinar is response to distracters. Organization of Human Brain Mapping, Barcelona, Spain.

24. Geng, J.J. and Mangun, G.R. (2009). The posterior superior temporal sulcus is sensitive to the co-occurrence of a target and salient distractor in opposite visual fields. *Human Brain Mapping*. San Francisco, CA, USA.
25. Geng, J.J. and DiQuattro, N. (2009). Attentional capture by a salient non-target improves target selection. *Vision Sciences Society*. Ft. Myers, Florida, USA.
26. Geng, J.J. and Mangun, G.R. (2007). Spatial attentional selection in the presence of irrelevant stimulus salience. Talk presented at the Society for Neuroscience. San Diego, California, USA.
27. Geng, J.J., Ruff, C., Driver, J. (2006). Spatially specific activations in visual cortex during planning and execution of saccades. Poster presented at the annual meeting of the Organization for Human Brain Mapping. Florence, Italy.
28. Geng, J.J., Ruff, C., Driver, J. (2006). Saccade-related direction-selective activation in visual cortex. Poster presented at the annual meeting of the Vision Sciences Society. Sarasota, FL, USA.
29. Geng, J. J. & Driver, J. (2005). Competition between stimuli in opposite visual fields. Poster presented at the annual meeting of the Vision Sciences Society. Sarasota, FL, USA.
30. Geng, J.J. & Behrmann, M. (2002). Competition and cooperation in spatial attention: The joint effect of regularity in target location and exogenous cueing. Poster presented at the annual meeting of the Vision Sciences Society. Sarasota, FL, USA.
31. Geng, J.J. & Behrmann, M. (2001). Cueing statistical regularities in hemispatial neglect. Poster presented at the annual meeting of the Cognitive Neuroscience Society, New York, NY, USA.
32. Spivey, M.J., Richardson, D.C., and Geng, J J. (2000). On the relationship between external space and mental space: Eye movements to objects and events that are no longer there. *Attention & Performance XIX*, Munich, Germany.