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## Education & Professional Experience

### Stanford University

2007 – present. Postdoctoral fellow, Psychology.  
Advisor: Brian Wandell.

### Massachusetts Institute of Technology

2001 – 2007. PhD, Brain and Cognitive Sciences. Thesis: “Common mechanisms for the representation of real, imagined, and implied visual motion”.  
Advisors: Lera Boroditsky, Barton L Anderson.

### City College, City University of New York

1999 – 2001. MS, Neurobiology. Thesis: “Temporal integration of defocus in the control of eye growth”. (Degree awarded May, 2005)  
Thesis Advisor: Josh Wallman.

1997 – 1999. Research Assistant, Department of Biology, Josh Wallman’s lab.

### Columbia University, Columbia College

1990 – 1995. BA, Classics, *cum laude*.

## Funded Research

2012 – K99/R00 Career award, NIH (NEI). Awarded 2011 for up to 5 years (start 2012).  
Multimodal imaging of spatiotemporal integration in the human visual system.

2008 – 2011. NRSA Postdoctoral fellowship, NIH (NEI). Awarded in 2008 for 3 years.  
The representation of surface appearance in visual cortex.

2004 – 2007. NSF Graduate Research Fellowship – awarded in 2002 for 3 years (start 2004).

## Publications

1. Nune G\*, Winawer J\*, Rauschecker A, Foster B, Dastjerdi M, Wandell BA, Parvizi J. (2011) Problem of signal contamination in inter-hemispheric dual-sided electrodes. *Epilepsia*. 52(11):e176-e180. [doi:10.1111/j.1528-1167.2011.03284.x](https://doi.org/10.1111/j.1528-1167.2011.03284.x) \*Equal contributions; co-first authors.
2. Wandell BA & Winawer J. (2011) Imaging retinotopic maps in the human brain. *Vision Research*. 51(7):718-37. [doi:10.1016/j.visres.2010.08.004](https://doi.org/10.1016/j.visres.2010.08.004)
3. Winawer J, Horiguchi H, Sayres R, Amano K, Wandell BA. (2010) Mapping hV4 and ventral occipital cortex: The venous eclipse. *Journal of Vision*. 10(5). [doi:10.1167/10.5.1](https://doi.org/10.1167/10.5.1)
4. Levin N, Dumoulin SO, Winawer J, Dougherty RF, Wandell BA. (2010) Cortical maps and white matter tracts following long period of visual deprivation and retinal image restoration. *Neuron*. 65(1):21-31. [10.1016/j.neuron.2009.12.006](https://doi.org/10.1016/j.neuron.2009.12.006)
5. Winawer J, Huk A, Boroditsky L. (2010) A motion aftereffect from visual imagery of motion. *Cognition* 114(2): 276-284. [doi:10.1016/j.cognition.2009.09.010](https://doi.org/10.1016/j.cognition.2009.09.010)

6. Fedorenko E, Patel A, Casasanto D, Winawer J, Gibson E. (2009) Structural integration in language and music: Evidence for a shared system. *Memory & Cognition*. 37(1):1-9. doi:[10.3758/MC.37.1.1](https://doi.org/10.3758/MC.37.1.1)
7. Anderson BL, Winawer J. (2008) Layered image representations and the computation of surface lightness. *Journal of Vision*, 8(7):1-22. doi:[10.1167/8.7.18](https://doi.org/10.1167/8.7.18)
8. Winawer J, Huk A, Boroditsky L. (2008) A motion aftereffect from viewing still photographs depicting motion. *Psychological Science*. 19(3):276-283. doi:[10.1111/j.1467-9280.2008.02080.x](https://doi.org/10.1111/j.1467-9280.2008.02080.x)
9. Winawer J, Witthoft N, Frank M, Wu L, Wade A, Boroditsky L. (2007) The Russian Blues reveal effects of language on color discrimination. *Proceedings of the National Academy of Science*. 104(19):7780-7785. doi:[10.1073/pnas.0701644104](https://doi.org/10.1073/pnas.0701644104)
10. Kee CS, Hung LF, Qiao Y, Ramamirtham R, Winawer J, Wallman J, Smith EL. (2007) Temporal constraints on experimental emmetropization in infant monkeys. *Investigative Ophthalmology and Vision Science*, 48:957-962. doi:[10.1167/iovs.06-0743](https://doi.org/10.1167/iovs.06-0743)
11. Witthoft N, Winawer J. (2006) Synesthetic colors determined by having colored refrigerator magnets in childhood. *Cortex* 42(2):175-183.
12. Anderson BL, Winawer J. (2005) Image segmentation and lightness perception. *Nature*, 434(7029):79-83. doi:[10.1038/nature03271](https://doi.org/10.1038/nature03271)
13. Zhu X, Park T, Winawer J, Wallman J. (2005) In a matter of minutes, the eye can know which way to grow. *Investigative Ophthalmology and Vision Science*, 46:2238-2241. doi:[10.1167/iovs.04-0956](https://doi.org/10.1167/iovs.04-0956)
14. Winawer J, Zhu X, Choi J, Wallman J. (2005) Ocular compensation for alternating myopic and hyperopic defocus. *Vision Research*, 45:1667-1677. doi:[10.1016/j.visres.2004.12.013](https://doi.org/10.1016/j.visres.2004.12.013)
15. Wallman J, Winawer J. (2004) Homeostasis of eye growth and the question of myopia. *Neuron*, 43(4):447-468. doi:[10.1016/j.neuron.2004.08.008](https://doi.org/10.1016/j.neuron.2004.08.008)
16. Zhu X, Winawer J, Wallman J. (2003) The potency of myopic defocus in lens-compensation. *Investigative Ophthalmology and Vision Science*, 44:2818-2827. doi:[10.1167/iovs.02-0606](https://doi.org/10.1167/iovs.02-0606)
17. Park TW, Winawer J, Wallman J. (2003) Further evidence that chick eyes use the sign of blur in spectacle lens compensation. *Vision Research*, 43:1519-1531. doi:[10.1016/S0042-6989\(03\)00180-9](https://doi.org/10.1016/S0042-6989(03)00180-9)
18. Winawer J, Wallman J. (2002) Temporal constraints on lens compensation in chicks. *Vision Research*, 42:2651-2668. doi:[10.1016/S0042-6989\(02\)00300-0](https://doi.org/10.1016/S0042-6989(02)00300-0)

#### **Under review / In Preparation**

19. Winawer J, Rauschecker A, Kay K, Parvizi J, Wandell BA. (In preparation) Two neural networks in human visual cortex revealed by measurements of spatial summation.
20. Kay K, Winawer J, Mezer A, Wandell BA. (Under review at *Neuron*) Compressive spatial summation in human visual cortex.
21. Witthoft N, Winawer J. (Under review at *Psychological Science*) Learning, Memory, and Synesthesia.
22. Haak KV, Winawer J, Harvey BM, Dumoulin BM, Wandell BA, Cornelissen FW. (In preparation) Connective field modeling.
23. Horiguchi H, Winawer J, Dougherty R, Wandell BA. (In preparation) Peripheral photopic sensitivity to melanopsin and cone photopigments.
24. Shum J, Dastjerdi M, Foster B, Winawer J, Rangarajan V, Hermes D, Miller K, Parvizi J. (Under review at *Nature Neuroscience*) A human brain area for seeing numbers.
25. Yoon JMD, Witthoft N, Winawer J, Frank MC, Everett D, & Gibson E. (In preparation for resubmission at *Cognition*) Cultural differences in photo-triggered perceptual reorganization.
26. Winawer J, Witthoft N. (Invited contribution; in preparation) The role of color terms in color cognition. *Encyclopedia of Color Science*.

## Conference Proceedings

- a. Wandell B, Winawer J, Farrell J. (2011). Simulating imaging systems: Photons, parts and people. *Imaging Systems Applications*, OSA Technical Digest (CD) (Optical Society of America, 2011), paper IMD2.
- b. Yoon JMD, Witthoft N, Winawer J, Frank MC, Everett DL, Gibson E, Markman E. (2011). Thinking for seeing: Enculturation of visual-referential expertise as demonstrated by photo-triggered perceptual reorganization of two-tone Mooney images. Proceedings of the 33rd Annual Meeting of the Cognitive Science Society.
- c. Yoon J, Witthoft N, Winawer J, Markman E. (2007) Striking deficiency in top-down perceptual reorganization of two-tone images in preschool children. Proceedings of the 6th IEEE International Conference on Development and Learning.
- d. Davidenko N, Witthoft N, Winawer J. (2007) Gender aftereffects in face silhouettes reveal face-specific processes. Object Perception, Attention, and Memory, Annual Meeting.
- e. Davidenko N, Winawer J, Witthoft N, Ramscar M. (2006). Implicit gender aftereffects in the perception of face silhouettes. Proceedings of the 28th Annual Meeting of the Cognitive Science Society.
- f. Witthoft N, Winawer J, Boroditsky B. (2006) How looking at someone you don't know can help you to recognize someone you do. Proceedings of the 28th Annual Meeting of the Cognitive Science Society.
- g. Witthoft N, Winawer J. (2005) Adaptation to unknown faces influences recognition of famous faces. Object, Perception, Attention, & Memory, Annual conference.
- h. Witthoft N, Winawer J, Wu L, Frank M, Wade A, Boroditsky L. (2003) Effects of language on color discriminability. Proceedings of the 25th Annual Meeting of the Cognitive Science Society.

## Conference Presentations

- Winawer J, Rauschecker A, Kay K, Parvizi J, Wandell BA. (2011). Population receptive fields in human visual cortex measured with subdural electrodes. Society for Neuroscience Annual Meeting (2011).
- Kay K, Winawer J, Mezer A, Wandell BA. (2011). Spatial saturation in human visual cortex. Society for Neuroscience Annual Meeting (2011).
- Haak KV, Winawer J, Harvey BM, Dumoulin BM, Wandell BA, Cornelissen FW. Cortico-cortical population receptive field modeling. European Conference on Visual Perception (2011).
- Winawer J, Rauschecker A, Parvizi J, Wandell BA. (2011). Population receptive fields in human visual cortex measured with subdural electrodes. Vision Sciences Society Annual Meeting (2011).
- Kay K, Winawer J, Mezer A, Wandell BA. (2011). Spatial saturation in human visual cortex. Vision Sciences Society Annual Meeting (2011).
- Horiguchi H, Winawer J, Wandell BA, Dougherty R. (2011). Novel MR Safe Stimulator With Six Color Channels At Accurate High Temporal Frequencies. Vision Sciences Society Annual Meeting (2011).
- Witthoft N, Winawer J. Ten Color-grapheme synesthetes with highly similar learned associations. Vision Sciences Society Annual Meeting (2010).
- Winawer J, Sayres R, Horiguchi H, Amano K, Wandell BA. Seeing around the veins: Mapping ventral occipital cortex. Society for Neuroscience Annual Meeting (2009).
- Winawer J, Sayres R, Amano K, Wandell BA. Visual field coverage of human V4. Optical Society of America Vision Meeting (2009).
- Winawer J, Sayres R, Amano K, Wandell BA. Visual field coverage of human V4. Vision Sciences Society Annual Meeting (2009).
- Yoon JMD, Winawer J, Witthoft, N, Markman, E. Representational requirements for perceptual reorganization. Biennial Meeting of the Society for Research in Child Development, Denver, CO (2009).

- Yoon JMD, Winawer J, Witthoft N, Markman, E. Mooney image perception in preschool-aged children. Vision Sciences Society Annual Meeting (2007).
- Davidenko N, Witthoft N, Winawer J. Gender aftereffects in face silhouettes depend on face-specific processes. Vision Sciences Society Annual Meeting (2007).
- Fedorenko E, Patel A, Casasanto D, Winawer J, Gibson E. Structural integration in language and music: A shared system. CUNY Conference on Human Sentence Processing, UC San Diego (2007).
- Anderson BL, Winawer J. Scission and the perception of lightness. Vision Sciences Society Annual Meeting (2006).
- Davidenko N, Winawer J, Witthoft N. Gender aftereffects in the perception of silhouetted face profiles. Vision Sciences Society Annual Meeting (2006).
- Witthoft N, Winawer J. An objective measure of the effect of adaptation on recognition of famous faces. Vision Sciences Society Annual Meeting (2006).
- Winawer J, Witthoft N, Huk A, Boroditsky L. Common mechanisms for processing of perceived, inferred, and imagined visual motion. Vision Sciences Society Annual Meeting (2005).
- Witthoft N & Winawer J. Anticolors: Behavioral and neural correlates of the conscious experience of a color-grapheme synesthete. Annual general meeting of the UK Synaesthesia Association (2005).
- Winawer J, Witthoft N, Huk A, Boroditsky L. The Neural Basis of a Motion Aftereffect from Mental Imagery of Motion. Cognitive Neuroscience Society Annual Meeting (2005).
- Winawer J, Witthoft N, Huk A, Boroditsky L. Moving Mental Representations. Cognitive Neuroscience Society Annual Meeting (2004).
- Winawer J, Rosenholtz, R, Witthoft N, Boroditsky L. Language, Categorization, and Visual Search. Vision Sciences Society Annual Meeting (2004).
- Winawer J, Huk A, Boroditsky L. Mental imagery of motion causes direction-specific motion adaptation. Cognitive Neuroscience Society Annual Meeting (2003).
- Winawer J, Witthoft N. Modulating the synesthetic experience. European Conference on Visual Perception (2003).
- Witthoft N, Winawer J. Experience dependent synesthesia: A case study. Cognitive Neuroscience Society Annual Meeting (2003).
- Witthoft N, Winawer J. Casting shadows on synesthesia. Vision Sciences Society Annual Meeting, 2003.
- Winawer J, Witthoft N, Wu L, Boroditsky L. Effects of language on color discriminability. Vision Sciences Society Annual Meeting (2003).
- Anderson BL, Winawer J. Layered image representations and the perception of lightness. Vision Sciences Society Annual Meeting (2003).
- Zhu X, Winawer J, Choi J, Wallman J. The effect of defocusing lenses depends on the temporal integration characteristics of the emmetropization mechanism. Association for Research in Vision and Ophthalmology Annual Meeting (2002).
- Kee CS, Hung LF, Qiao Y, Ramamirtham R, Winawer J, Wallman J, Smith EL. Temporal constraints on experimental emmetropization in infant monkeys. Association for Research in Vision and Ophthalmology Annual Meeting (2002).
- Winawer J, Khan S, Wallman J. Enduring Responses to Spectacle Lens-Wear in Chicks. Association for Research in Vision and Ophthalmology Annual Meeting (2001).
- Park TW, Winawer J, Wallman J. In a matter of minutes the eye can know which way to grow. Association for Research in Vision and Ophthalmology Annual Meeting (2001).
- Zhu X, Feldkaemper M, Winawer J, Park TW, Wallman J. What ocular components underlie the inhibition of myopia or hyperopia by glucagon or its antagonist? Association for Research in Vision and Ophthalmology Annual Meeting (2001).

- Winawer J, Zhu X, Park TW, Wallman J. Is myopic blur more important than sharp vision for positive-lens compensation? Association for Research in Vision and Ophthalmology Annual Meeting (2000).
- Wallman J, Winawer J, Zhu X, Park TW. (2000) Might myopic defocus prevent myopia? Proceedings of the Eighth International Conference on Myopia, 138-142.
- Winawer J, Wallman J, Kee C. Differential responses of ocular length and choroid thickness in chick eyes to brief periods of plus and minus lens-wear. Association for Research in Vision and Ophthalmology Annual Meeting (1999).

## Teaching

### Course Instructor

- Spring, 2007: Cognitive Neuroscience (graduate, co-instructor with Nathan Witthoft). Dept of Psychology, Stanford University.
- Fall, 2006: Sensation & Perception (graduate, co-instructor with Nathan Witthoft and Brian Wandell). Dept of Psychology, Stanford University.
- Spring, 2006: Cognitive Neuroscience (graduate, co-instructor with Nathan Witthoft). Dept of Psychology, Stanford University.
- Summer, 2005: Introduction to Cognitive Psychology (undergraduate, co-instructor with Nick Davidenko and Adam November). Dept of Psychology, Stanford University.

### Teaching Assistant

- Fall, 2010: Human Neuroimaging Methods (graduate; Brian Wandell and Robert Dougherty). Dept of Psychology, Stanford University.
- Fall, 2009: Human Neuroimaging Methods (graduate; Brian Wandell and Robert Dougherty). Dept of Psychology, Stanford University.
- Winter, 2007: Applied Vision (graduate, Brian Wandell). Dept of Psychology, Stanford University.
- Spring, 2005: Introduction to Learning and Memory (undergraduate, Anthony Wagner). Dept of Psychology, Stanford University.
- Winter, 2005: Birds to Words: Cognition, Communication, and Language (undergraduate, Anne Fernald and Michael Ramscar). Dept of Psychology, Stanford University.
- Fall, 2004: Introduction to Sensation and Perception (undergraduate, Edward Adelson). Dept of Brain and Cognitive Sciences, MIT.
- Fall, 2003: Introduction to Psychology (undergraduate, Jeremy Wolfe). Dept of Brain and Cognitive Sciences, MIT.

### Guest Lectures

- Fall, 2006: Brain & Behavior (Undergraduate). Dept of Psychology, Stanford University.
- Fall, 2006: Psychology I (Undergraduate). Dept of Psychology, Stanford University.
- Winter, 2006: Graduate Research Methods. Dept of Psychology, Stanford University.
- Fall, 2005: From Birds to Words: Cognition, Communication, and Language (Undergraduate). Dept of Psychology, Stanford University.
- Fall, 2005: Introduction to Cognitive Psychology (Graduate). Dept of Psychology, Stanford University.
- Fall, 2004: Introduction to Cognitive Psychology (Graduate). Dept of Psychology, Stanford University.
- Spring, 2004: Foundations of Cognitive Science (Graduate). Dept of Brain and Cognitive Sciences, MIT.
- Winter, 2003: From Perception to Cognition and Back Again (Undergraduate). Dept of Brain and Cognitive Sciences, MIT.

## **Professional Organizations**

- Vision Sciences Society (since 2002)
- Society for Neuroscience (since 2008)

## **Administrative functions**

- (2007-2011) Coordinator of “Vision Lunch” talk series, Department of Psychology, Stanford.
- (2005) Graduate admissions committee, Department of Psychology, Stanford.
- (2003-2004) Graduate representative to the Department of Brain & Cognitive Sciences, MIT.
- Ad hoc reviewing:
  - PNAS
  - Attention, Perception, and Psychophysics
  - Cognition
  - IEEE Transactions on Medical Imaging
  - Journal of Experimental Psychology
  - Journal of Vision
  - Memory and Cognition
  - Neuroreport
  - Psychonomic Bulletin and Review
  - Vision Research

## **Awards and Honors**

- Visiting teaching award, Stanford Psychology, 2006.
- Winner, “Best static visual illusion”, at European Conference on Visual Perception, 2005.
- Student travel award, Vision Sciences Society Annual Conference, 2005.
- Funded fellow, Dartmouth Summer Institute for Cognitive Neuroscience, 2004.
- UC Davis Center for Mind and Brain Conference Fellowship, 2004.
- Angus MacDonald Award for Excellence in Undergraduate Teaching, MIT, 2003.
- Marjorie & Gerald Burnett Fellowship, MIT, 2002.
- Master’s Student Research Award, City College of New York, 2001.