

Benjamin A. Wolfe, Ph.D.
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EDUCATION

Ph.D. in Psychology, *Completed May 2015*

University of California at Berkeley, Berkeley, CA

Dissertation: Before the Eye Moves: Remapping, Visual Stability and Perisaccadic Perception

Advisor: Dr. David Whitney

B.A. Degree in Psychology, *Completed May 2008*

Boston University, Boston, MA

RESEARCH INTERESTS

Perception and psychophysics: peripheral vision in the natural world; visual stability; eye movements; interactions between perception and action in real-world tasks (e.g., driving, pedestrian navigation)

RESEARCH EXPERIENCE

September 2016 - Present

Postdoctoral Associate

CSAIL, Massachusetts Institute of Technology

Principal Investigator: Dr. Ruth Rosenholtz

September 2015-August 2016

Postdoctoral Associate

AgeLab, Massachusetts Institute of Technology

Principal Investigators: Dr. Bryan Reimer and Bruce Mehler

August 2010-August 2015

Graduate Student

Whitney Lab, Department of Psychology, UC Berkeley

Principal Investigator: Dr. David Whitney

June 2008-August 2010

Research Associate

TongLab, Department of Psychology, Vanderbilt University

Principal Investigator: Dr. Frank Tong

June 2005-May 2008

Research Assistant

Cerebral Dynamics Laboratory, Department of Anatomy and Neurobiology, Boston University Medical School

Principal Investigators: Dr. R. Jarrett Rushmore and Dr. Antoni Valero-Cabre

PAPERS

Chen, Z., Kosovicheva, A., **Wolfe, B.**, Cavanagh, P., Gorea, A., Whitney, D. (2017). Unifying Visual Space Across the Right and Left Hemifields. *Psychological Science*. (In press)

Wolfe, B.A., Dobres, J., Rosenholtz, R., & Reimer, B. (2017) More Than the Useful Field: Considering Peripheral Vision in Driving. *Applied Ergonomics*. 65, 316-325

Kosovicheva, A. A., **Wolfe, B. A.**, & Whitney, D. Position representations for action lead perception: Evidence from saccades to drifting Gabor targets. (Submitted).

Dobres, J., **Wolfe, B.**, Chahine, N., Reimer, B. (2017). The Effects of Visual Crowding, Text Size, and Positional Uncertainty on Text Legibility at a Glance (Submitted)

Wolfe, B., Fridman, L., Kosovicheva, A., Seppelt, B., Mehler, B., Reimer, B. (2017). Perceiving The Roadway In The Blink Of An Eye – Rapid Perception Of The Road Environment And Prediction Of Events. *Conference Proceedings, Driving Assessment 2017*.

Dobres, J., Chrysler, S. T., **Wolfe, B.**, Chahine, N., & Reimer, B. (2017). Signs of the Times: An Empirical Assessment of the Legibility of Highway Gothic and Clearview Signage Fonts. In *Transportation Research Board 96th Annual Meeting* (No. 17-04920).

Wolfe, B., Dobres, J., Kosovicheva, A., Rosenholtz, R., Reimer, B. (2016), Age-related differences in the legibility of degraded text. *Cognitive Research: Principles and Implications*

Wolfe, B. A., Whitney, D (2015). Saccadic remapping of object-selective information. *Attention, Perception and Psychophysics*. 77:7, 2260-2269.

Wolfe, B. A., Kosovicheva, A. A., Leib, A. Y., Wood, K. & Whitney, D (2015). Foveal input is not required for ensemble perception of emotional faces. *Journal of Vision*. 15(4), 11-11.

Kosovicheva, A. A., **Wolfe, B. A.**, & Whitney, D. (2014). Visual motion shifts saccade targets. *Attention, Perception, & Psychophysics*, 1-11.

Wolfe, B. A., Whitney, D. (2014). Facilitating recognition of crowded faces with presaccadic attention. *Frontiers in Human Neuroscience*. 8:103. doi: 10.3389/fnhum.2014.00103

Wolfe, B.A., Rushmore, R.J., Valero-Cabre, A. (2010). Coping With Spatial Attention in Real Space: A Low-Cost Portable Testing System for the Investigation of Visuo-Spatial Processing in the Human Brain. *Journal of Neuroscience Methods*. 187(2):190-8.

Swisher, J.D., Gatenby, J.C., Gore, J.C., **Wolfe, B.A.**, Moon, C.H., Kim, S.G. Tong., F. (2010). Multiscale pattern analysis of orientation-selective activity in the primary visual cortex. *Journal of Neuroscience*. 30(20):6811-2.

Wolfe, B.A. (2002) ThinkCycle Lite -ThinkCycle for Teens. *Development by Design Conference 2002*

POSTERS AND PRESENTATIONS

Wolfe, B.A., Fridman, L., Kosovicheva, A.K., Reimer, B. & Rosenholtz, R. (2017) Seeing the road in the blink of an eye - rapid perception of the driver's visual environment. Poster presented at the Vision Sciences Society Annual Meeting.

Rosenholtz, R., **Wolfe, B.A.**, Sawyer, B., Kosovicheva, A.K. & Reimer, B. (2017) Perceptual and attentional factors in detection of driving-relevant visual events. Talk presented at the Vision Sciences Annual Meeting.

Wolfe, B., Fridman, L., Kosovicheva, A., Seppelt, B., Mehler, B., Reimer, B. (2017). Perceiving The Roadway In The Blink Of An Eye - Rapid Perception Of The Road Environment And Prediction Of Events. Poster Presented at Driving Assessment Conference, 2017

Wolfe, B.A., Dobres, J., Kosovicheva, A.A., Rosenholtz, R. & Reimer, B. (2016). Reduction in Legibility with Degradation in Older and Younger Observers. Poster presented at the Vision Sciences Society Annual Meeting.

Wolfe, B.A. & Whitney, D. (2015). Object-selective processing of remapped information. Poster presented at the Vision Sciences Society Annual Meeting.

Kosovicheva, A. A., **Wolfe, B.A.**, Cavanagh, P., Gorea, A. & Whitney, D. (2015). Dynamic recalibration of perceived space across the visual hemifields. Poster presented at the Vision Sciences Society Annual Meeting.

Wood, K., **Wolfe, B. A.**, Kosovicheva, A. A., & Whitney, D. (2015). Speeded breakthrough of faces in interocular suppression requires configural information. Poster presented at the Vision Sciences Society Annual Meeting.

Wolfe, B.A., & Whitney, D. (2014). Presaccadic Induction and Spatial Tuning of the Face Aftereffect. Talk presented at the Vision Sciences Society Annual Meeting.

Wood, K., **Wolfe, B. A.**, Kosovicheva, A. A., Leib, A. Y., & Whitney, D. (2014). Foveal input is not required for ensemble coding of emotional faces. Poster presented at the Vision Sciences Society Annual Meeting.

Wolfe, B. A., Kosovicheva, A. A., Leib, A. Y., & Whitney, D. (2013). Beyond fixation: Ensemble coding and eye movements. Poster presented at the Vision Sciences Society Annual Meeting.

Kosovicheva, A. A., **Wolfe, B.A.,** & Whitney, D. (2012). Effects of motion-induced mislocalizations on saccade landing position. Talk presented at the Vision Sciences Society Annual Meeting.

Wolfe, B.A., & Whitney, D. (2012). Presaccadic foveal priming diminishes crowding. Poster presented at the Vision Sciences Society Annual Meeting.

Wolfe, B.A., & Whitney, D. (2011). Egocentric but not allocentric perceptual distortions from saccadic adaptation. Poster presented at the Vision Sciences Society Annual Meeting.

Knapen, T., Swisher, J.D., **Wolfe, B.A.,** Tong, F. & Cavanagh, P. (2010). Phase-Encoded fMRI Investigation of Retinotopic Remapping Responses. Poster presented at the Vision Sciences Society Annual Meeting.

Swisher, J.D., Gatenby, J.C., Gore, J.C., **Wolfe, B.A.,** Moon, C.H., Kim, S.G & Tong, F. (2009). Columnar Irregularities Drive Orientation Decoding in High Resolution fMRI. Poster presented at the Society for Neuroscience Annual Meeting.

Wolfe, B.A., Rowe, C.K., Rushmore, R.J., & Valero-Cabre, A. (2008). Spatial distribution and temporal dynamics of visuo-spatial attention capabilities in human subjects as revealed by transcranial magnetic stimulation (TMS) on parietal systems and associated networks. Poster presented at the International Conference on Cognitive and Neural Systems.

Wolfe, B.A., Rushmore, R.J., & Valero-Cabre, A. (2007). Effects of Parietal Transcranial Magnetic Stimulation on Visuospatial Attention. Poster presented at the Undergraduate Research Opportunity Symposium.

Wolfe, B.A., Rushmore, R.J., & Valero-Cabre, A. (2006). Realspace Psychophysical Testing System for the Assessment of Hemispatial Neglect. Poster presented at the Undergraduate Research Opportunity Symposium.

MEETINGS ATTENDED

Vision Sciences Society Annual Meeting 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017

Toyota Research Institute Workshops 2016 (MIT), 2017 (Stanford)

UC Berkeley Annual Neuroscience Retreat 2010

Bay Area Vision Research Day 2010, 2011, 2012, 2013, 2015

International Conference on Cognitive and Neural Systems 2008

Boston University Undergraduate Research Opportunity Program Symposium 2006, 2007

TEACHING EXPERIENCE

Psychology c61: Mind, Brain and Behavior

January 2015 – May 2015

Taught classroom sections for an introductory undergraduate neuroscience course. Topics include basic neurochemistry, psychoactive drugs, sensation and perception, neuroimaging methods and the study of consciousness.

Psychology 126: Perception

January 2011 – May 2011

Taught classroom sections for an upper-division undergraduate course covering the fundamentals of sensation and perception. Topics include spatial vision, receptive fields, surfaces, color, motion, depth, and visual attention.

Psychology 111: Drugs and the Brain

August 2010 – December 2010

Taught classroom sections for an upper-division undergraduate course covering the fundamentals of drugs and behavior. Topics include psychoactive substances, basic neurochemistry, anthropology of drug use and history of drug law in the United States.

MENTORING EXPERIENCE

AgeLab / MIT AeroAstro c61 Research Program

Fall 2015

Whitney Lab Outreach Program

May 2010 – May 2015

Participated in outreach events at middle and high schools, introducing students to basic problems in visual perception and applications of vision science research. Constructed visual illusion demonstrations for classroom use.

UC Berkeley Psychology Department

August 2014 – May 2015

Supervised undergraduate student honors thesis:

Wood, K., *Faces in the Noise: Separate Contributions of Configural, Featural, and Holistic Information to the Face Inversion Effect under Interocular Suppression* (2015)

UC Berkeley Psychology Department

August 2012 – May 2015

Vision Sciences Society Demo Night

Vision Sciences Society Conference, 2012, 2014

UC Berkeley Undergraduate Research Apprentice Program (URAP)

August 2011 – December 2011

AWARDS AND HONORS

National Science Foundation Graduate Research Fellowship (NSF-GRFP)
May 2011 – May 2014

Berkeley Research Impact Initiative
UC Berkeley initiative to facilitate publication in Open Access journals
Awarded 2014, 2015

Psychology Department Travel Award
May 2015

UC Berkeley Graduate Division Travel Awards
May 2013, May 2014

Boston University Undergraduate Research Opportunity Program (UROP)
Awarded Fall 2005, Spring 2006, Summer 2006, Fall 2006, Spring 2007, Summer 2007, Fall 2007
and Spring 2008

REVIEWING EXPERIENCE

*Journals: Attention, Perception and Psychophysics; Vision Research; Human Factors; Traffic, Injury
and Prevention; Experimental Psychology; Cognitive Research, Principles and Implications; Ergonomics*

*Conferences: IEEE Visualization and Graphics Technical Committee (VGTC), Driving Assessment,
InfoVis, NIPS, AutomotiveUI*

Funding Agencies: US-Israel Binational Science Foundation

REFERENCES

Dr. Ruth Rosenholtz
Senior Staff Scientist, Department of Brain and Cognitive Sciences
Massachusetts Institute of Technology
rruth@mit.edu

Dr. Bryan Reimer
Senior Staff Scientist, AgeLab
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Dr. David Whitney
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dwhitney@berkeley.edu

Dr. Frank Tong
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