

Department of Neuroscience & Behavior
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Curriculum Vitae
Alex L. White

Research and Teaching Positions

Barnard College	New York, New York	January 2021 – present
<ul style="list-style-type: none">• Assistant Professor		
Stanford University	Stanford, California	September 2019 – November 2020
<ul style="list-style-type: none">• Instructor		
University of Washington	Seattle, Washington	January 2015 – August 2019
<ul style="list-style-type: none">• Research Associate		
Humboldt University Berlin	Berlin, Germany	January 2014 – November 2014
<ul style="list-style-type: none">• Post-doctoral researcher		

Education

New York University	New York City	September 2013
<ul style="list-style-type: none">• Doctor of Philosophy, Cognition & Perception• Dissertation: “<i>Feature-based attention across the visual field.</i>”• Advisor: Professor Marisa Carrasco		
The University of Sydney	Sydney, Australia	July 2008
<ul style="list-style-type: none">• Master of Science (by research), Psychology• Thesis: “<i>The effects of variable neural delays on visual perception and visuomotor timing.</i>”• Advisor: Professor Alex Holcombe		
Yale College	New Haven, Connecticut	May 2007
<ul style="list-style-type: none">• Bachelor of Arts (with distinction, Summa Cum Laude), Cognitive Science• Thesis: “<i>Inattentional blindness, object persistence, and foveal inhibition.</i>”• Advisor: Professor Brian Scholl		

Grants & Funding

- NIH Pathway to Independence Award (R00 EY029366), 2018 - 2023
- Postdoctoral National Research Service Award (F32 EY026785), 2016 - 2018
- University of Washington Vision Training Grant (T32 EY007031), 2015
- New York University Vision Training Grant (T32 EY007135), 2011

Honors and Awards

- National Eye Institute Postdoctoral Travel Grant, 2019
- OPAM Travel Award, 2017 (Object Perception, Attention & Memory Conference)
- Humboldt University Talent Travel Award, 2017
- Fulbright Scholar (to Australia), 2007
- Summa Cum Laude, Yale College, 2007
- Phi Beta Kappa, Yale College, 2006

Courses taught

- “*Introduction to Neuroscience*” at Barnard College, Spring 2022, 2023, 2024
- “*Visual Neuroscience*” at Barnard College, Spring 2021, Fall 2021, Fall 2022, Fall 2023
- “*Senior Research Seminar in Neuroscience*” at Barnard College, Fall 2023-Spring 2024
- “*How to Build a Visual System*” at the University of Puget Sound, Spring 2018.
- “*Perception*” at New York University, Summer 2012.
- “*Sensation and Perception*” at the University of Sydney, summer 2008.

Peer-reviewed publications (* indicated undergraduate collaborator)

Pre-prints under review

- Chauhan, V.S., McCook, K.C.*, & White, A.L. (under review). Voluntary effort to read reshapes stimulus selectivity in the visual word form area. bioRxiv, <https://doi.org/10.1101/2023.10.04.560764>
- White, A.L., Palmer, J., Sanders, G.S.*, Hossain, J.*, & Zabinsky, Z. (under review). Reinventing the redundant target paradigm to distinguish serial and parallel processing of written words. <https://doi.org/10.31234/osf.io/vwgz4>.
- Crotty, N., Massa, N., Tellez, D. White, A.L & Grubb. M. (under review). A preliminary investigation of the interaction between expectation and the reflexive allocation of covert spatial attention.

Published

- Campbell, M.*, Oppenheimer, N. & White, A. L. (2024). Severe processing capacity limits for sub-lexical features of letter strings. *Attention, Perception & Psychophysics*, 86, 643–652. <https://doi.org/10.3758/s13414-023-02830-1>.

- Hossain, J.* & White, A.L. (2023). The transposed word effect is consistent with serial word recognition and varies with reading speed. *Cognition*, 238. <https://doi.org/10.1016/j.cognition.2023.105512>
- White, A.L., Kay, K., Tang, K.A., & Yeatman, J.D. (2023) Engaging in word recognition elicits highly specific modulations in visual cortex. *Current Biology*. <https://doi.org/10.1016/j.cub.2023.02.042>
- Ramamurthy, R., White, A.L. & Yeatman, J.D. (2023). Children with dyslexia show no deficit in exogenous spatial attention but show differences in visual encoding. *Developmental Science*, 27, e13458 <https://doi.org/10.1111/desc.13458>.
- White, A. L., Moreland, J. C., & Rolfs, M. (2022). Oculomotor freezing indicates conscious detection free of decision bias. *Journal of Neurophysiology*, 127, 571–585.
- Ramamurthy, M., White, A. L., Chou, C., & Yeatman, J. D. (2021). Spatial attention in encoding letter combinations. *Scientific Reports*, 11, 1-12.
- Yeatman, J.D. & White, A.L. (2021). Reading: The confluence of vision and language. *Annual Review of Vision Science*, 7, 487–517.
- White, A.L., Palmer, J. & Boynton, G. (2020). Visual word recognition: Evidence for a serial bottleneck in lexical access. *Attention, Perception & Psychophysics*, 82, 2000-2017.
- White, A. L., Boynton, G. M. & Yeatman, J. D. (2019). The link between reading ability and visual spatial attention across development. *Cortex*, 121, 44-59.
- White, A.L., Palmer, J., Boynton, G., & Yeatman, J. D. (2019). Parallel spatial channels converge at a bottleneck in anterior word-selective cortex. *Proceedings of the National Academy of Sciences*, 116, 10087–10096. [PMC6525533](https://pubmed.ncbi.nlm.nih.gov/36525533/).
- White, A.L., Palmer, J. & Boynton, G. (2018). Evidence of serial processing in visual word recognition. *Psychological Science*, 29, 1062 –1071. [PMC6050133](https://pubmed.ncbi.nlm.nih.gov/3050133/).
- Joo, S. J., White, A. L., Strodtman, D. J., & Yeatman, J. D. (2018). Optimizing text for an individual’s visual system: The contribution of crowding to reading difficulties. *Cortex*, 103, 291–301.
- White, A.L., Runeson, E.R.* , Palmer, J., Ernst, Z.R., & Boynton, G.M. (2017). Evidence for unlimited capacity processing of simple features in visual cortex. *Journal of Vision*, 17(6):19, 1-20. [PMC5488877](https://pubmed.ncbi.nlm.nih.gov/288877/)
*The first two authors contributed equally to this work.
- Yashar, A., White, A.L., Fang, W. & Carrasco, M. (2017). Feature singletons attract spatial attention independently of feature priming. *Journal of Vision*, 17(9):7, 1-18. PMID 28800369
- White, A.L. & Rolfs, M. (2016). Oculomotor inhibition covaries with conscious detection. *Journal of Neurophysiology*, 116, 1507-1521. [PMC5040379](https://pubmed.ncbi.nlm.nih.gov/2640379/)
- White, A.L., Rolfs, M. & Carrasco, M. (2015). Stimulus competition mediates the joint effects of spatial and feature-based attention. *Journal of Vision*, 15(14):7, 1-21. PMID: [26473316](https://pubmed.ncbi.nlm.nih.gov/26473316/).
- Grubb, M.A., White, A.L., Heeger, D.J. & Carrasco, M. (2015). Interactions between voluntary and involuntary attention modulate the quality and temporal dynamics of visual processing. *Psychonomic Bulletin & Review*, 22, 437-444. PMID: [PMC4326639](https://pubmed.ncbi.nlm.nih.gov/264326639/).

- White, A.L., Lunau, R. & Carrasco, M. (2013). The attentional effects of single cues and color singletons on visual sensitivity. *Journal of Experimental Psychology: Human Perception and Performance*, 40, 639-652. PMID: [PMC3899109](#).
- White, A. L., Rolfs, M. & Carrasco, M. (2013). Adaptive deployment of spatial and feature-based attention before saccades. *Vision Research*, 85, 26-35. PMID: [PMC3612356](#).
- White, A. L. & Carrasco, M. (2011). Feature-based attention involuntarily and simultaneously improves visual performance across locations. *Journal of Vision*, 11(6):15, 1-10. PMID: [PMC3150523](#).
- Linares, D., Holcombe, A.O. & White, A.L. (2009). Where is the moving object now? Reports of instantaneous position show poor temporal precision ($\sigma = 70$ ms). *Journal of Vision*, 9(13):9, 1-14. PMID: [20055542](#).
- White, A.L., Linares, D., & Holcombe, A.O. (2008). Visuomotor timing compensates for changes in perceptual latency. *Current Biology*, 18, R951 - R953. PMID: [18957248](#).

Other publications

- White, A.L., Boynton, G., & Yeatman, J. D. (2019). You can't recognize two words simultaneously. *Trends in Cognitive Sciences*, 23, 812-814.
- White, A.L. (2017). "Bad timing." *The Cooper Square Review of Science, Medicine and Technology*. [{Online article}](#)
- Kaul, C. & White, A.L. (2010). When feature-based attention distorts neural representations. *The Journal of Neuroscience*, 30, 10261-10262.

Conference Presentations (* indicates undergraduate collaborator)

- White, A.L (2023). Processing bottlenecks in visual word recognition. Poster presented at the meeting of the *Society for the Neurobiology of Language*, Marseille, France.
- Chauhan, V.S., McCook, K.C.*, & White, A.L (2023). Interacting effects of visual features and linguistic processing in the visual word form area. Poster presented at the meeting of the *Society for the Neurobiology of Language*, Marseille, France.
- Oppenheimer, N., Yerabothu, A*. & White, A. (2023). Hemifield Asymmetries in Crowding. Poster presentation at the meeting of the *Vision Sciences Society*, May 2023, St Pete's Beach, Florida.
- Chauhan, V., McCook, K*. & White, A. Interacting effects of stimulus familiarity, attention and language in the visual word form area (2023). Poster presentation at the meeting of the *Vision Sciences Society*, May 2023, St Pete's Beach, Florida.
- Crotty, N.*, Massa, N., Tellez, D., White, A. & Grubb, M. (2023). Attention and expectation jointly modulate the temporal dynamics of visual processing. Poster presentation at the meeting of the *Vision Sciences Society*, May 2023, St Pete's Beach, Florida.

- Grubb, M., Crotty, N., Massa, N., Tellez, D., & White, A. (2023). Expectation modulates the reflexive allocation of covert spatial attention. Poster presentation at the meeting of the *Vision Sciences Society*, May 2023, St Pete's Beach, Florida.
- Mitchell, J., White, A., Yablonski, M., Tanyg, K. & Yeatman, D. (2023). The importance of individual differences in high-level visual cortex for group-level analyses. Poster presentation at the meeting of the *Vision Sciences Society*, May 2023, St Pete's Beach, Florida.
- White, A.L., Kay, K. & Yeatman, J.D. (2022). High specificity of top-down modulation in the visual word form area. Poster presentation at the annual meeting of the *Society for the Neurobiology of Language*, October 2022, Philadelphia, PA.
- White, A.L., Kay, K. & Yeatman, J.D. (2022). High specificity of top-down modulation in word-selective cortex. Oral presentation at the annual meeting of the *Vision Sciences Society*, May 2022, St Pete's Beach, Florida.
- Anupindi, A.* & White, A. L. (2022). The capacity limit for recognizing multiple words depends on their visual field positions and varies across individuals. Poster presentation at the meeting of the *Vision Sciences Society*, May 2022, St Pete's Beach, Florida.
- Campbell, M.S.* & White, A. L. (2022). Capacity limits on multiple word recognition: the case of letter identification. Poster presentation at the meeting of the *Vision Sciences Society*, May 2022, St Pete's Beach, Florida.
- Sanders, G.*, Palmer, J., & White, A. L. (2022). Probing the extent of parallel processing in word recognition with redundant targets. Poster presentation at the meeting of the *Vision Sciences Society*, May 2022, St Pete's Beach, Florida.
- Grubb, M., White, A.L., Massa, N. & Crotty, N. Prediction errors transiently modulate visual processing resources. Poster presentation at the meeting of the *Vision Sciences Society*, May 2022, St Pete's Beach, Florida.
- Ramamurthy, M., White, A.L., Donnelly, P., Tang, K.A., Chou, C., Adebogun, G., & Yeatman, J.D. (2022). Children with dyslexia have a deficit in visual encoding of letter strings, but not in exogenous attention. Poster presentation at the meeting of the *Vision Sciences Society*, May 2022, St Pete's Beach, Florida.
- White, A. Tang, K. & Yeatman, J. (2021). The spatial tuning of the visual word form area depends jointly on stimulus type and task demands. Poster presentation at the (virtual) meeting of the *Vision Sciences Society*, May 2021.
- White, A. Tang, K. & Yeatman, J. (2021). The spatial tuning of the visual word form area depends jointly on stimulus type and task demands. Poster presentation at the (virtual) meeting of the *Vision Sciences Society*, May 2021.
- White, A. Tang, K. & Yeatman, J. (2020). The field of view for word recognition: crowding and hemifield asymmetries. Poster presentation at the (virtual) meeting of the *Vision Sciences Society*, June 2020.

- White, A. Palmer, J., Boynton, G.M. & Yeatman, J. (2019). Parallel spatial channels for word recognition converge at a bottleneck in anterior word-selective cortex. Oral presentation at the annual meeting of the *Vision Sciences Society*, May 2019, St Pete's Beach, Florida.
- White, A. Palmer, J., Yeatman, J., & Boynton, G.M. (2018). Capacity limits for word recognition in brain and behavior. Oral presentation at the annual meeting of the *Society for Neuroscience*, November 2018, San Diego, California.
- White, A. Palmer, J., Yeatman, J., & Boynton, G.M. (2018). Probing the serial bottleneck in visual word recognition. Presented at the annual meeting of the *Vision Sciences Society*, May 2018, St Pete's Beach, Florida.
- White, A. Palmer, J. & Boynton, G.M. (2017). Evidence of a serial process in visual word recognition. Presented at the *Psychonomic Society Meeting*, November 2017, Vancouver, BC.
- White, A. Palmer, J. & Boynton, G.M. (2017). A test of divided attention: Can you recognize two words at once? Talk presented at the *Object Perception, Attention & Memory Conference*, November 2017, Vancouver, BC.
- White, A. Palmer, J. & Boynton, G.M. (2017). Can you recognize two words at once? Presented at the *European Conference on Visual Perception*, August 2017, Berlin, Germany.
- White, A. Palmer, J. & Boynton, G.M. (2017). Evidence of serial processing in visual word recognition. Presented at the annual meeting of the *Vision Sciences Society*, May 2017, St Pete's Beach, Florida.
- White, A. Palmer, J. & Boynton, G.M. (2016). Can you recognize two words at once? Characterizing capacity limits in the visual processing of words. Presented at the annual meeting of the *Vision Sciences Society*, May 2016, St Pete's Beach, Florida.
- White, A. & Rolfs, M. (2015). A common cortical detection mechanism for perception and movement. Presented at the annual meeting of the *Vision Sciences Society*, May 2015, St Pete's Beach, Florida.
- White, A., Rolfs, M. & Carrasco, M. (2014). Stimulus competition modulates the joint effects of spatial and feature-based attention. Presented at the annual meeting of the *Vision Sciences Society*, May 2014, St Pete's Beach, Florida.
- White, A., Lunau, R. & Carrasco, M. (2013). The attentional effects of single cues and color singletons on visual sensitivity. Presented at the annual meeting of the *Vision Sciences Society*, May 2013, Naples, Florida.
- White, A. L., Rolfs, M. & Carrasco, M. The dynamics of spatial and feature-based attention during saccade preparation. Talk presented at the annual meeting of the *Society for Neuroscience*, October 2012, New Orleans, Louisiana.
- White, A., Lunau, R. & Carrasco, M. Single cues enhance contrast sensitivity, but feature singletons do not. Presented at the annual meeting of the *Vision Sciences Society*, May 2012, Naples, Florida.
- White, A., Rolfs, M. & Carrasco, M. Pre-saccadic attention for motion stimuli. Presented at the *European Conference on Visual Perception*, August 2011, Toulouse, France.

- White, A. & Carrasco, M. (2011). The simultaneous and involuntary effect of global feature-based attention on motion sensitivity. Presented at the annual meeting of the *Vision Sciences Society*, May 2011, Naples, Florida.
- White, A. & Carrasco, M. (2010). Measuring the spatial spread of feature-based attention to orientation. Presented at the annual meeting of the *Vision Sciences Society*, May 2010, Naples, Florida.
- White, A. Linares, D. & Holcombe, A. Visuomotor compensation for variation in perceptual latency. Presented at the annual meeting of the *Vision Sciences Society*, May 2009, Naples, Florida.
- White, A. Linares, D. & Holcombe, A. (2008). Visuomotor timing: Compensation for sensory latencies? Presented at the annual meeting of the *Australian Neuroscience Society*, January 2008, Hobart, Tasmania.
- White, A. & Scholl, B. Inattentional Blindness, Object Persistence, and Foveal Inhibition. Paper in preparation; Poster presented at the annual meeting of the *Vision Sciences Society*, May 2007, Sarasota, Florida.

Invited talks

- “Top-down control of visual word recognition.” Cognitive and Behavioral Neuroscience Seminar at Columbia University, January 2024.
- “Top-down control of visual word recognition.” C3N Seminar Series at the New York State Psychiatric Institute, November 2023.
- “Top-down effects in the brain’s reading network.” Colloquium at Trinity College, April 2023.
- “Top-down control in visual word recognition.” Colloquium at New York University, March 2023.
- “Parallel and Serial Processing in the Transposed Word Effect.” Lab meeting at New York University, December 2023.
- “Oculomotor freezing covaries with conscious detection.” Lab meeting at Cambridge University, remotely (T. Bekinschtein’s research group), September 2022.
- “High specificity of top-down modulation in word-selective cortex.” Colloquium at University of Washington, April 2022.
- “High specificity of top-down modulation in word-selective cortex.” Colloquium at Georgia Tech University, March 2022.
- “Processing bottlenecks in visual word recognition.” Facebook Reality Labs, October 2021.
- “Funneling language through the eyes: An investigation of processing capacity in visual word recognition.” Colloquium at University of California, Santa Barbara, April 2021.
- “Funneling language through the eyes: An investigation of processing capacity in visual word recognition.” Colloquium at Columbia University, February 2021.
- “A bottleneck for visual word recognition in brain and behavior.” Colloquium at University of Massachusetts, Amherst, September 2020.
- “A bottleneck for visual word recognition in brain and behavior.” Vision Lunch at Stanford University, May 2019.
- “A bottleneck for visual word recognition in brain and behavior.” U.C. Berkeley, March 2019.

- “Capacity limits for word recognition in brain and behavior.” University of Iowa, October 2018.
- “Can you recognize two words at once?” University of Potsdam, September 2017.
- “Spatial and feature-based attention in visual perception.” University of Colorado, May 2014.
- “The interaction of spatial and feature-based attention.” University of Potsdam, April 2014.
- “The interaction of spatial and feature-based attention.” Humboldt University Berlin, April 2014.
- “Visual Awareness and the Brain.” New York City Atheists Association, July 2012.

Peer reviews for scientific journals

- *Acta Psychologica*
- *Attention, Perception & Psychophysics*
- *Brain Sciences*
- *Cerebral Cortex*
- *Cognition*
- *Current Biology*
- *eLife*
- *iScience*
- *Journal of Cognition*
- *Journal of Cognitive Neuroscience*
- *Journal of Neurophysiology*
- *Journal of Experimental Psychology: General*
- *Journal of Experimental Psychology: Human Perception & Performance*
- *Journal of Experimental Psychology: Learning, Memory & Cognition*
- *Journal of Vision*
- *Nature Communications*
- *Perception*
- *PLoS One*
- *Psychological Research*
- *Psychological Science*
- *Psychonomic Bulletin & Review*
- *Scientific Reports*
- *Vision Research*

Peer reviews for funding agencies

- National Science Foundation, 2023
- Israeli Science Foundation, 2017-2018

Service to the College

- Barnard College Institutional Review Board (IRB), 2021-present

Mentees

- Undergraduate thesis students at Barnard College: Kimya Firoozan, class of 2025; Jannat Hossain, Krystal McCook & Anishka Yerabothu, class of 2024; Liana Eisler, class of 2023; Amritha Anupindi, Maya Campbell & Genevieve Sanders, class of 2022.
- Students in Psychology Undergraduate Research at the University of Washington: Jun-Sang Yoo (B.A. 2015); Kadie-Anne Brown (2016); Evan McCauley (2017); Micah Ketola (2019); Anni Yan (2020); Hasan Uswami (2020); Justin Max Harshman (2020).
- Wanghaoming Fang, M.A. in Psychology at New York University (2014). Thesis: “The role of implicit visual short-term memory in attentional guidance.” Now a Ph.D. student at Michigan State.

- Francesca Cohen, B.A. in Psychology at New York University (2010). Thesis: “The mind’s eye: Performance fields in visual imagery.” Went on to Harvard Law School, class of 2015.

Other service activities

- Co-organizer of Visibility, a community of LGBTQ+ researchers in the Vision Sciences Society
- UW Postdocs United / UAW 4121: Bargaining committee for first postdoc union contract at the University of Washington.

Other Research Experience & Training

- European Summer School in Visual Neuroscience, Rauschholzhausen, Germany: 2012.
- Yale College Dean’s Research Fellowship: Summer 2006: Conducted research at the Yale Perception and Cognition Lab. Supervised by Prof. Brian Scholl.
- Yale Richter Fellowship: Summer 2005: Cognitive psychology research on rhesus macaques at the Cayo Santiago Field Station, Puerto Rico. Supervised by Prof. Laurie Santos.
- Research assistant at the University of Colorado Cognitive Development Center, Summer 2005. Supervised by Prof. Yuko Munakata.