

FRANK TONG
CURRICULUM VITAE

Department of Psychology
301 Wilson Hall
Vanderbilt University
Nashville TN 37203
tel: (615) 322-1780
fax: (615) 343-8449
email: frank.tong@vanderbilt.edu
<http://www.psy.vanderbilt.edu/faculty/tongf/>

EDUCATION

1990–1995	Queen’s University, Canada	B.S. in Psychology
1995–1998	Harvard University	M.A. in Experimental Psychology
1998–1999	Harvard University	Ph.D. in Experimental Psychology <i>Awarded on November 16, 1999</i>

ACADEMIC APPOINTMENTS

1999 – 2000	McDonnell-Pew Post-Doctoral Research Fellow University of California, Los Angeles, Department of Psychology
2000 – 2004	Assistant Professor Princeton University, Department of Psychology
2004 – 2007	Assistant Professor Vanderbilt University, Department of Psychology
2007 – 2012	Associate Professor Vanderbilt University, Department of Psychology
2012 – 2018	Full Professor Vanderbilt University, Department of Psychology Vanderbilt Univ Medical School, Ophthalmology and Visual Sciences
2019	Centennial Professor Vanderbilt University, Department of Psychology

RESEARCH FOCI

- Neural bases of visual perception, attention, object recognition, and working memory
- Integration of psychophysical methods, image processing, computational modeling and advanced neuroimaging approaches to characterize human visual processing
- Development of deep learning networks to model biological vision, object recognition and attentional selection

AWARDS AND HONORS

1990 – 1995	Full undergraduate scholarship plus stipend, Queen's University
1992 – 1993	NSERC Summer Research Award
1994	Ann Adamson Award in Psychology, Queen's University
1995	Medal in Psychology for highest GPA, Queen's University
1995 – 1997	Merit-Based Graduate Fellowship, Harvard University
1995 – 1999	NSERC Post-Graduate Scholarship
1999 – 2002	<i>McDonnell-Pew</i> Training Fellowship in Cognitive Neuroscience
2003 – 2004	<i>Robert K. Root Preceptorship</i> , Princeton University
2004 – 2005	<i>Scientific American 50</i> . Award to honor 50 individuals, teams, companies or other organizations for accomplishments in research, business, or policy making in 2004 – 2005
2006	<i>Young Investigator Award</i> , Cognitive Neuroscience Society
2008	<i>Chancellor's Award for Research</i> , Vanderbilt University
2009	<i>Young Investigator Award</i> , Vision Sciences Society
2010	<i>Troland Research Award in Psychology</i> , National Academy of Sciences

PUBLICATIONS

- Tong, F., Nakayama, K., Vaughan, J. T., & Kanwisher, N. (1998). Binocular rivalry and visual awareness in human extrastriate cortex. *Neuron*, *21*, 753-759.
- Kanwisher, N., Tong, F., & Nakayama, K. (1998). The effects of face inversion on the human fusiform face area. *Cognition*, *68*, B1-B11.
- Tong, F., & Nakayama, K. (1999). Robust representations for faces: Evidence from visual search. *Journal of Experimental Psychology: Human Perception and Performance*, *25*, 1016-1035.
- Tong, F., Nakayama, K., Moscovitch, M., Weinrib, O., & Kanwisher, N. (2000). Response properties of the human fusiform face area. *Cognitive Neuropsychology*, *17*, 257-279.
- Cohen, J. D., & Tong, F. (2001). The face of controversy: *Science*, *293*, 2405-2407.
- Tong, F. (2001). Brain at work: Play by play. *Nature Neuroscience*, *4*, 560-562.
- Tong, F. (2001). Competing theories of binocular rivalry: A possible resolution. *Brain and Mind*, *2*, 55–83.
- Tong, F., & Engel, S. A. (2001). Interocular rivalry revealed in the human cortical blind-spot representation. *Nature*, *411*, 195-199.
- Tong, F. (2003). Out of body experiences: From Penfield to present. *Trends in Cognitive Sciences*, *7*, 104-106.
- Tong, F. (2003). Primary visual cortex and visual awareness. *Nature Reviews Neuroscience*, *4*, 219-229.
- Tong, F. (2004). Splitting the spotlight of visual attention. *Neuron*, *42*, 524-526.

- Meng, M. & Tong, F. (2004). Can attention bias bistable perception? Differences between binocular rivalry and ambiguous figures. *Journal of Vision*, 4, 539-551.
- Awater, H., Kerlin, J. K., Evans, K. K., & Tong, F. (2005). Cortical representation of space around the blind spot. *Journal of Neurophysiology*, 94, 3314-3324.
- Kamitani, Y., & Tong, F. (2005). Decoding the visual and subjective contents of the human brain. *Nature Neuroscience*, 8, 679-685.
- Meng, M., Remus, D. R., & Tong, F. (2005). Filling-in of visual phantoms in the human brain. *Nature Neuroscience*, 8, 1248-1254.
- Kamitani, Y., & Tong, F. (2006). Decoding seen and attended motion directions from activity in the human visual cortex. *Current Biology*, 16, 1096-1102.
- Tong, F., Meng, M., & Blake, R. (2006). Neural bases of binocular rivalry. *Trends in Cognitive Science*, 10, 502-511.
- McKeeff, T. J., Remus, D. R., & Tong, F. (2007). Temporal limitations in object processing across the human ventral visual pathway. *Journal of Neurophysiology*, 98, 382-393.
- McKeeff, T. J., & Tong, F. (2007). The timing of perceptual decisions for ambiguous face stimuli in the human ventral visual cortex. *Cerebral Cortex*, 17, 669-678.
- Meng, M., Ferneyhough, E., Tong, F. (2007). Dynamics of perceptual filling-in of visual phantoms revealed by binocular rivalry. *Journal of Vision*, 7(13):8, 1-15.
- Pearson, J., Clifford, C., & Tong, F. (2008). The functional impact of mental imagery on conscious perception. *Current Biology*, 18, 982-986.
- Yamashita, O., Sato, M.-A., Yoshioka, T., Tong, F., Kamitani, Y. (2008). Sparse estimation automatically selects voxels relevant for the decoding of fMRI activity patterns. *Neuroimage*, 42, 1414-1429.
- Brouwer, G. J., Tong, F., Hagoort, P., van Ee, R. (2009). Perceptual incongruence influences bistability and cortical activation. *PLoS ONE*, 4(e5056), 1-14.
- Dux, P. E., Tombu, M. N., Harrison, S., Rogers, B. P., Tong, F., & Marois, R. (2009). Training improves multitasking performance by increasing the speed of information processing in human prefrontal cortex. *Neuron*, 63, 127-138.
- Harrison, S. A., & Tong, F. (2009). Decoding reveals the contents of visual working memory in early visual areas. *Nature*, 458, 632-635.
- McKeeff T. J., McGugin, R. W., Tong, F., Gauthier I. (2010). Expertise increases the functional overlap between face and object perception. *Cognition*, 117, 355-360.
- 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, 325-330.
- Genç, E., Bergmann, J., Tong, F., Blake, R., Singer, W., & Kohler, A. (2011). Callosal connections of primary visual cortex predict the spatial spreading of binocular rivalry across the visual hemifields. *Frontiers in Human Neuroscience*, 5(161), 1-12.
- Jehee, J. F. M., Brady, D. K., & Tong, F. (2011). Attention improves encoding of task-relevant features in the human visual cortex. *Journal of Neuroscience*, 31, 8210-8219.

- McGugin, R. W., McKeeff T. J., Tong, F., Gauthier I. (2011). Irrelevant objects of expertise compete with faces during visual search. *Attention, Perception and Pscyhophysics*, 73, 309-317.
- Pearson, J., Rademaker, R. L., & Tong, F. (2011). Evaluating the mind's eye: The metacognition of visual imagery. *Psychological Science*, 22, 1535-1542.
- Tong, F. (2011). Aligning brains and minds. *Neuron*, 72, 199-201.
- Jehee, J. F. M., Ling, S., Swisher, J. D., Tong, F. (2012). Perceptual learning selectively refines orientation representations in early visual cortex. *Journal of Neuroscience*, 32, 16747-16753.
- Kietzmann, T. C., Swisher, J. D., König, P., & Tong, F. (2012). Prevalence of selectivity for mirror-symmetric views of faces in the ventral and dorsal visual pathways. *Journal of Neuroscience*, 32, 11763-11772.
- Hong, S. W., Tong, F., & Seiffert, A. E. (2012). Direction-selective patterns of activity in human visual cortex suggest common neural substrates for different types of motion. *Neuropsychologia*, 50(4):514-21.
- Hong, S. W., Xu, L., & Tong, F. (2012). The hand-reversal illusion revisited. *Frontiers in Integrative Neuroscience*, 6(83), 1-6.
- Rademaker, R. L., Tredway, C. H., Tong, F. (2012). Introspective judgments predict the precision and likelihood of successful maintenance of visual working memory. *Journal of Vision*, 12(13):21, 1-13.
- Swisher, J. D., Sexton, J. A., Gatenby, J. C., Gore, J. C., & Tong, F. (2012). Multishot versus single-shot pulse sequences in very high field fMRI: a comparison using retinotopic mapping. *PLoS One*, 7(4), e34626, 1-12.
- Tong, F., Harrison, S., Dewey, J., & Kamitani, Y. (2012). Relationship between BOLD amplitude and pattern classification of orientation-selective activity in the human visual cortex. *Neuroimage*, 63, 1212-1222.
- Tong, F., & Pratte, M. S. (2012). Decoding patterns of human brain activity. *Annual Review of Psychology*, 63, 483-509.
- Pratte, M. S., Ling, S., Swisher, J. D., & Tong, F. (2013). How attention extracts objects from noise. *Journal of Neurophysiology*, 110(6), 1346-1356.
- Tong, F. (2013). Imagery and visual working memory: one and the same? *Trends in Cognitive Sciences*, 17(10) 489-490.
- Lorenc, E. S., Pratte, M. S., Angeloni, C. F., & Tong, F. (2014). Expertise for upright faces improves the precision but not the capacity of visual working memory. *Attention, Perception, and Psychophysics*, 76(7), 1975-1984.
- Pratte, M. S., & Tong, F. (2014). Spatial specificity of working memory representations in the early visual cortex. *Journal of Vision*, 14(3):22, 1-12.
- Poltoratski, S., & Tong, F. (2014). Hysteresis in the dynamic perception of scenes and objects. *Journal of Experimental Psychology: General*, 143(5):1875-1892.
- Cohen, E. C., & Tong, F. (2015). Neural mechanisms of object-based attention. *Cerebral Cortex*, 25(4), 1080-1092.

- Kietzmann, T. C., Poltoratski, S., König, P., Blake, R., Tong, F., & Ling, S. (2015). The occipital face area is causally involved in facial viewpoint perception. *Journal of Neuroscience*, *35*, 16398-16403.
- Ling, S., Pratte, M. S., & Tong, F. (2015). Attention alters orientation processing in the human lateral geniculate nucleus. *Nature Neuroscience*, *18*(4), 496-498.
- Pratte, M. S., Sy, J. L., Swisher, J. D., & Tong, F. (2016). Radial bias is not necessary for orientation decoding. *Neuroimage*, *127*, 23-33.
- Knapen, T., Swisher, J. D., Tong, F., & Cavanagh, P. (2016). Oculomotor remapping of visual information to foveal retinotopic cortex. *Frontiers in Systems Neuroscience*, *10*(54), 1-12.
- Pratte, M. S., Park, Y. P., Rademaker, R. L., & Tong, F. (2017). Accounting for stimulus-specific variation in precision reveals a discrete capacity limit in visual working memory. *Journal of Experimental Psychology: Human Perception and Performance*, *43*, 6-17.
- Pratte, M. S., & Tong, F. (2017). Integrating theoretical models with functional neuroimaging. *Journal of Mathematical Psychology*, *76B*, 80-93.
- Kietzmann, T. C., Gert, A. L., Tong, F., & König, P. (2017). Representational dynamics of facial viewpoint encoding. *Journal of Cognitive Neuroscience*, *29*, 637-651.
- Rademaker, R. L., van de Ven, V. G., Tong, F., & Sack, A. T. (2017). The impact of early visual cortex transcranial magnetic stimulation on visual working memory precision and guess rate. *PLoS One*, *12*(4). e0175230.
- Poltoratski, S., Ling, S., McCormack, D., & Tong, F. (2017). Characterizing the effects of feature salience and top-down attention in the early visual system. *Journal of Neurophysiology*, *118*(1), 564-573.
- Park, Y. E., Sy, J. L., Hong, S. W., & Tong, F. (2017). Reprioritization of features of multi-dimensional objects stored in visual working memory. *Psychological Science*, *28*, 1773-1785.
- Hong, S. W., & Tong, F. (2017). Neural representation of form-contingent color filling-in in the early visual cortex. *Journal of Vision*, *17*(13):10, 1-10.
- Rademaker, R. L., Park, Y. E., Sack, A. T., & Tong, F. (2018). Evidence of gradual loss of precision for simple features and complex objects in visual working memory. *Journal of Experimental Psychology: Human Perception and Performance*.
- Keefe, J. M., Sy, J. L., Tong, F., & Zald, D. H. (2019). The emotional attentional blink is robust to divided attention. *Attention, Perception, & Psychophysics*, *81*, 205-216.
- Tong, F. (2018). Foundations of Vision. Leading chapter for Volume 2 of Sensation, Perception & Attention, as part of the new 5-volume edition of *The Stevens' Handbook of Experimental Psychology and Cognitive Neuroscience*, John Wixted and John Serences (Eds.).
- Andersen, L. M., Overgaard, M., Tong, F. (2019). Visual expectations change subjective experience without changing performance. *Consciousness & Cognition*, *71*, 59-69.
- Poltoratski, S., Maier, A., Newton, A. T., Tong, F. (2019). Figure-ground modulation in the human lateral geniculate nucleus is distinguishable from top-down attention. *Current Biology*, *29*(12), 2051-2057.

- Poltoratski, & Tong, F. (2020). Resolving the spatial profile of figure enhancement in human V1 through population receptive field modeling. *Journal of Neuroscience*, 40(16) 3292-3303.
- Sy, J. L., Miao, H.-Y., Marois, R., & Tong, F. (2021). Conscious perception can be both graded and discrete. *Journal of Experimental Psychology: General*, 150(8), 1461-1475.
- Jang, H., & Tong, F. (2021). Convolutional neural networks trained with a developmental sequence of blurry to clear images reveal core differences between face and object processing. *Journal of Vision* 21(12):6, 1-18.
- Jang, H., McCormack, D., & Tong, F. (2021). Noise-trained deep neural networks effectively predict human vision and its neural responses to challenging images. *PLoS Biology*, 19(12):e3001418, 1-27.

MANUSCRIPTS SUBMITTED OR UNDER REVIEW

- Park, Y., Patino, A. V., & Tong, F. (*Under review*). Visual working memory capacity for orientation depends critically on stimulus form. *Journal of Vision*.
- Tong, F., Blake, R., & Maier, A. (*Under review*). Vision and consciousness. A chapter submitted for new textbook on *The Visual System*, to be published by Sinauer Associates.

BOOK CHAPTERS

- Tong, F. (2005). Investigations of the neural basis of binocular rivalry. In D. Alais & R. Blake (Eds.), *Binocular rivalry and perceptual ambiguity*, Cambridge, MA: MIT Press.
- Wolfe, J. M., Seiffert, A. E., & Tong, F. (2006). Perception. In E. E. Smith & S. M. Kosslyn (Eds.), *Cognitive Psychology: Mind and Brain*, Prentice Hall.
- Tong, F. & Pearson, J. (2007). Vision. In Baars & Gage (Ed.) *Cognition, Brain, and Consciousness*, Academic Press, London.

PATENTS

- Tong, F., & Jang, H. (2021). Noise-robust neural networks and methods thereof. (U.S. Patent No. 11,030,487). U.S. Patent and Trademark Office.

GRANTS FUNDED

- | | |
|---------------------|---|
| Project Title: | The Neural Basis of Binocular Rivalry and Visual Awareness in Human Visual Cortex |
| Funding Agency: | J. S. McDonnell Foundation and Pew Charitable Trusts |
| Grant Type: | McDonnell-Pew Grant in Cognitive Neuroscience |
| Investigator Role: | PI |
| Dates of Funding: | 09/01/99 – 05/01/03 |
| Total Direct Costs: | \$150,000 |
| Project Title: | Conflict and Control in Perception (Project 2) |
| Funding Agency: | National Institute of Health |
| Grant Type: | NIH Silvio O. Conte Center Grant for Neuroscience Research |

Investigator Role: Co-PI
 Dates of Funding: 09/22/00 – 08/31/05
 Total Direct Costs: \$606,628 (\$936,482 with indirect costs)

Project Title: Neural Mechanisms of Human Visual Perception
 Funding Agency: National Institutes of Health, National Eye Institute
 Grant Type: R01 Investigator Initiated Grant Application
 Grant Number: R01 EY14202-01
 Investigator Role: PI
 Dates of Funding: 09/15/02 – 09/15/06
 Total Direct Costs: \$525,000 (\$815,967 with indirect costs)

Project Title: Neural representations of objects across the human visual pathway
 Funding Agency: National Science Foundation
 Grant Type: Cognitive Neuroscience Initiative
 Grant Number: BCS-0642633
 Investigator Role: Principal Investigator
 Dates of Funding: 04/15/07 – 09/31/12
 Total Direct Costs: \$415,446 (\$637,489 with indirect costs)

Project Title: Neural representation of features in the human visual cortex
 Funding Agency: National Institutes of Health, National Eye Institute
 Grant Type: R01 Investigator Initiated Grant Application
 Grant Number: R01 EY017082
 Investigator Role: PI
 Dates of Funding: 09/01/07 – 08/31/13
 Total Direct Costs: \$1,250,000 (\$1,918,750 with indirect costs)

Project Title: Integrated imaging of brain function at 7 Tesla
 Funding Agency: National Institutes of Health, National Institute of Biomedical Imaging and Bioengineering
 Grant Type: R01 Bioengineering Research Partnerships Grant Application
 Grant Number: 2R01 EB000461-07
 Investigator Role: co-PI (PI: John Gore)
 Dates of Funding: 2/01/2008 – 01/31/2013
 Total Direct Costs: \$3,732,345 (\$5,597,738 with indirect costs)

Project Title: Advances to Decode the Mammalian Visual Pathway: Attentional Mechanisms for Object Recognition
 Funding Agency: Defense Advanced Research Projects Agency (DARPA)
 Grant Type: DARPA Grant Application
 Grant Number: N10AP20003
 Investigator Role: PI
 Dates of Funding: 03/24/2010 – 23/03/2013
 Total Direct Costs: \$284,109 (\$444,793 with indirect costs)

Project Title: Cortical representations of visually specific information in working memory
 Funding Agency: National Science Foundation
 Grant Type: Cognitive Neuroscience Initiative
 Grant Number: BCS-1228526
 Investigator Role: PI

Dates of Funding: 09/15/2012 – 08/31/2016
 Total Direct Costs: \$404,037 (\$613,633 with indirect costs)

Project Title: Neurodiversity Inspired Science and Engineering
 PI: Keivan Stassun
 Funding Agency: National Science Foundation
 Grant Type: Research Traineeship Award (NRT)
 Grant Number: 1922697
 Investigator Role: Co-PI
 Dates of Funding: 01/01/2019 - 08/01/2024
 Total Award: \$3,115,884

Project Title: Core grant in vision research
 PI: David Calkins
 Funding Agency: National Eye Institute, NIH
 Grant Type: P30 core grant
 Grant Number: 2P30EY008126-33
 Investigator Role: Module director for computation core and in vivo imaging core
 Dates of Funding: 12/15/2020 – 08/31/2024
 Yearly Direct Costs: \$654,067 (\$785,975 with indirect costs)

Project Title: Perceptual functions of the human lateral geniculate nucleus
 Funding Agency: National Institutes of Health, National Eye Institute
 Grant Type: R01 Investigator Initiated Grant Application
 Grant Number: 1R01EY029278
 Investigator Role: PI
 Dates of Funding: 09/01/2018 – 07/31/2022
 Total Direct Costs: \$1,000,000 (\$1,533,260 with indirect costs)

Project Title: Enhancing employment for neurodiverse individuals through next-generation, AI-enabled assessments of visuospatial cognition
 PI: Maithilee Kunda
 Funding Agency: National Science Foundation
 Grant Number: 2034013
 Investigator Role: Co-PI
 Dates of Funding: 09/15/2020 – 08/31/2022
 Total award: \$251,998

Project Title: Learning the visual and cognitive bases of lung nodule detection
 Funding Agency: National Institutes of Health, National Cancer Institute
 Grant Type: R01 Investigator Initiated Grant Application
 Grant Number: R01CA240274
 Investigator Role: PI
 Dates of Funding: 12/15/2020 – 11/30/2025
 Total Direct Costs: \$1,174,935 (\$1,820,960 with indirect costs)

INVITED TALKS AND COLLOQUIA

1998 June Invited speaker, McDonnell-Pew Annual Meeting in Cognitive Neuroscience, Montreal, Canada
 1998 November Beckman Laboratories, California Institute of Technology, Pasadena, CA
 1999 October Cognitive Forum, UCLA, Los Angeles, CA

- 2000 December NEC Research Institute, Princeton, NJ
- 2001 February Vision Sciences Series, Harvard University, Cambridge, MA
- 2001 February Brain and Cognitive Sciences Seminar, MIT, Cambridge, MA
- 2001 June Special Symposium on *The Neural Correlates of Awareness*, Cambridge Medical Research Council, Cambridge, UK
- 2002 April Chair and speaker of *Symposium on The Role of V1 in Human Visual Awareness*, Cognitive Neuroscience Society, San Francisco, CA
- 2002 June Invited speaker, Workshop on Binocular Rivalry and Perceptual Ambiguity, San Miniato, Italy
- 2002 August Vision Sciences Laboratory, Harvard University, Cambridge, MA
- 2003 April Departmental Colloquium, McMaster University, Hamilton, Canada
- 2003 May Invited speaker, *Time Colloquium* for Princeton Alumni, Washington DC
- 2003 June Invited speaker, Association for the Scientific Study of Consciousness, Memphis, TN
- 2004 March Departmental Colloquium, University of Pennsylvania, Philadelphia, PA
- 2004 March Departmental Colloquium, John Hopkins University, Baltimore, MD
- 2004 April Satellite Symposium on *Visual Attention and Awareness*, Cognitive Neuroscience Society, San Francisco, CA
- 2004 September Invited speaker, Opening of new MRI center, University of Rochester
- 2004 October Departmental Colloquium, Psychology Dept, Cornell University
- 2004 November Cognitive Neuroscience Seminar, California Institute of Technology
- 2005 June Visual Neuroscience Seminar, Salk Institute
- 2005 June Invited speaker, Neurophilosophy conference, California Institute of Technology
- 2005 December Invited Tutorial Speaker, Neural Information Processing Systems Conference, Vancouver, Canada
- 2006 January Workshop on Brain and Cognition, Taiwan ministry of education, (Invited speakers: Shinsuke Shimojo, Frank Tong, Anne Treisman)
- 2006 May Departmental Colloquium, Department of Neurobiology and Anatomy, University of Texas Medical School
- 2006 June Speaker for Symposium on *Imaging Consciousness: New Methods and Approaches*, Human Brain Mapping Conference, Florence, Italy
- 2006 June Dartmouth Summer Institute in Cognitive Neuroscience, Hanover, NH
- 2006 November Departmental Colloquium, Psychology Dept, University of Louisville
- 2006 April Colloquium, Center for Cognitive Sciences, University of Minnesota
- 2007 May Invited speaker, International Conference on Cognitive and Neural Systems, Boston University (Organizer: Prof. Stephen Grossberg)
- 2007 June Invited speaker, Centre for Vision Research International Conference, York University (Organizer: Prof. Hugh Wilson)
- 2007 October Colloquium, Cognitive Science, University of Arizona
- 2007 November Vision Sciences Seminar, Harvard University
- 2007 November Departmental Colloquium, Psychology Dept, Boston University
- 2008 March Mind, Brain and Behavior Seminar, Harvard University
- 2008 May Invited speaker, Symposium of the Center for Visual Science, Rochester University
- 2008 June Invited speaker, Computational Neuroscience of Vision course, Cold Spring

Harbor

2008 July Departmental Colloquium, Psychology Dept, University College London

2008 September Departmental Colloquium, Psychological and Brain Sciences Dept, Dartmouth University

2009 April Colloquium, Center for Vision Research, York University, Canada

2009 June Panel speaker, World Science Festival, New York, NY

2010 April Colloquium, Center for Brain Science, Harvard University

2010 April Departmental Colloquium, Brown University

2010 April NSF Workshop on Hybrid Neuro-Computer Vision, Columbia University

2010 June Tutorial on fMRI Decoding, Association for the Scientific Study of Consciousness, Toronto, Canada

2010 June Symposium on Brain Decoding, Human Brain Mapping Conference, Barcelona, Spain

2010 Aug Panelist for Board on Behavioral, Cognitive, and Sensory Science, National Academy of Sciences

2010 Sept Invited Speaker, Opening reception of the Spinoza Neuroimaging Center, University of Amsterdam

2010 Oct Departmental Colloquium, Psychology Dept, Queen's University, Canada

2010 Dec Invited speaker, symposium on Neurotechniques, Italian Academy, NYC

2011 Feb Departmental Colloquium, Cambridge University, UK

2011 Feb Invited Talk, University College London, UK

2011 Apr Departmental Colloquium, UC Berkeley

2011 Sept Departmental Colloquium, Johns Hopkins University

2011 Oct Invited Talk, Workshop on High and Ultra-high Field Imaging, University of Minnesota

2012 Feb Speaker, Computational and Systems Neuroscience Workshop, Snowbird, Utah

2012 Apr Departmental Colloquium, UC Davis

2012 Aug Invited speaker, Visual Working Memory Conference, Portland, OR

2012 Sept Invited speaker, MacArthur Network on Law and Neuroscience meeting, Cambridge, MA

2012 Dec Departmental Colloquium, UC San Diego

2013 April Symposium organizer, fMRI pattern analysis, Cognitive Neuroscience, Society, San Francisco, CA

2013 May Invited speaker, Concepts, Actions, and Objects Workshop, Rovereto, Italy

2013 May Departmental Colloquium, York University, Canada

2013 Nov Speaker, University Seminar Series on Visual Perception, Columbia Univ

2014 July Invited speaker, International workshop on neuro-cognitive mechanisms of conscious and unconscious visual perception, Delmenhorst, Germany

2015 Feb Colloquium speaker, Princeton Neuroscience Institute

2015 April Invited speaker, McGovern Institute, MIT

2016 May Colloquium speaker, Psychology Department, Stanford University

2016 June Invited Keynote Speaker, Association for Scientific Study of Consciousness

2016 Dec Colloquium speaker, Psychology Department, Cornell University

2017 Feb Colloquium speaker, Psychology Department, York University

2017 April	Invited speaker, Harvard Vision Lab, Harvard University
2017 June	Colloquium speaker, Psychology Department, Beijing University
2017 Nov	Colloquium speaker, Brain Institute, Florida Atlantic University
2018 May	Colloquium speaker, Psychological Sciences Department, Brown University
2019 April	Colloquium speaker, Psychology Department, Univ of Wisconsin Madison
2020 Oct	Invited speaker, Electrical and Computer Engineering, NC State University
2020 Nov	Keynote speaker, 28 th Object Perception and Memory Conference
2021 Mar	Colloquium speaker, Psychology Department, Northeastern University
2022 Nov	Georgia Tech Neuro Seminar, Psychology Department, Georgia Institute of Technology

PROFESSIONAL ACTIVITIES AND MEMBERSHIPS

1997 – 1998	<i>Organizer</i> of the Vision Science Seminar, Harvard University
2001 Fall	<i>Organizer</i> of the Cognitive Seminar Series, Princeton University
2002 April	<i>Chair</i> of Symposium on “The Role of V1 in Human Visual Awareness”, Cognitive Neuroscience Society, San Francisco, CA
2003 – 2004	<i>Ad Hoc</i> Study Section Member, National Institutes of Health, Sensory, Motor, and Cognitive Neuroscience (ZRG1 F02B)
2004 – 2005	<i>Ad Hoc</i> Study Section Member, National Institutes of Health, Cognitive Neuroscience Study Section (COG)
2007	<i>Ad Hoc</i> Study Section Member, National Institutes of Health, Special Emphasis Panel, Sensorimotor Integration Study Section
2010 Aug	Invited panel member for National Research Council, Board of Behavioral, Cognitive, and Sensory Sciences
2011 May	Invited panel member for national review committee at National Eye Institute
2012 June	<i>Ad Hoc</i> Study Section Member, National Institutes of Health, Sensory, Perceptual and Cognitive Neuroscience (SPC) Study Section
2013 – 2014	<i>Ad Hoc</i> Study Section Member, National Institutes of Health, ZRG1 IFCN-Q
2014	<i>Ad Hoc</i> Study Section Member, National Institutes of Health, K99 NIH/ NEI ZEY1VSN03 review panel
2015 June	<i>Ad Hoc</i> Study Section Member, National Institutes of Health, Sensory, Perceptual and Cognitive Processes (SPC) Panel
2012 – 2016	Board member, Board of Directors, <i>Vision Sciences Society</i>
2013 – 2017	Member of Editorial Committee for the <i>Annual Review of Psychology</i>
2016 – present	Member of the Editorial Board for <i>PLOS Biology</i>
2016 – present	Associate Editor, <i>Cognitive Neuroscience</i>
2016 Oct	<i>Ad Hoc</i> Study Section Member, National Institutes of Health, Sensory, Perceptual and Cognitive Processes (SPC) Panel
2018 June	Panelist for Neural and Cognitive Systems, National Science Foundation
2020	Member of the Vision Sciences Society Young Investigator Award Committee
2021 Jan	Ad Hoc Reviewer for NIMH Board of Scientific Counselors
2021	Chair of the Vision Sciences Society Young Investigator Award Committee
2021 – 2025	Member, National Institutes of Health, Neuroscience of Basic Visual Processes Study Section (NBVP)

Professional Memberships

Association for Psychological Science	Medical Image Perception Society
Association for Scientific Study of Consciousness	Society for Neuroscience
Cognitive Computational Neuroscience Society	Vision Sciences Society

Department and University Service

2002 – 2003	Member of Institutional Review Board, Princeton University
2006 – present	Member of steering committees for 3T MRI and 7T MRI, Vanderbilt University Institute for Imaging Science
2007 – present	Psychology Major Advisor, Vanderbilt University, Vanderbilt University
2008 – 2009	Chair of search committee for assistant professor position in social neuroscience
2009 – 2013	Computer module director for Vanderbilt Vision Research Center
2012 – present	Member of steering committee, Vanderbilt Brain Institute
2014	Chair of search committee for assistant professor position in cognitive neuroscience
2014 – present	Member of the Vanderbilt University Conflict of Interest and Commitment Committee
2018 – present	Computer module director for Vanderbilt Vision Research Center
2019 – present	In vivo imaging module director for Vanderbilt Vision Research Center
2019 – present	Member of Psychology Department's Equity, Diversity, and Inclusion Committee
2019 – 2020	Chair of search committee for 2 assistant professor positions in neuroscience, across Psychology and Vanderbilt Brain Institute

Ad Hoc Reviewing

General Science Journals

Current Biology
Nature
Nature Communications
PLOS: Biology
PNAS
Science

Neuroscience and Neuroimaging Journals

Cerebral Cortex
Cognitive Neuropsychology
Journal of Cognitive Neuroscience
Journal of Neurophysiology
Journal of Neuroscience
Nature Neuroscience
Nature Reviews Neuroscience
Neuroimage
Neuron

Psychology Journals

Cognition
Journal of Experimental Psychology:
Human Perception and Performance
Journal of Vision
Journal of Personality and Social Psychology
Perception
Perception and Psychophysics
Psychological Science
Trends in Cognitive Science
Vision Research

Organizations and Funding Agencies

MacArthur Foundation
Organization for Human Brain Mapping
National Science Foundation
National Institutes of Health
Wellcome Trust

TEACHING AND ADVISING

2001 spring	<i>Graduate Quantitative Methods for Psychology</i> , Princeton University
2001 – 2003	<i>Cognitive Psychology</i> , Princeton University
2002 fall	<i>Graduate Proseminar in Cognitive Psychology</i> , Princeton University
2002 – 2003	Freshman and Sophomore Faculty Advisor, Mathey College, Princeton University
2004 fall	<i>Vision, Brain, and Consciousness</i> , Vanderbilt University
2004 – present	<i>Mind and Brain</i> , Vanderbilt University
2006 – present	<i>Social Cognition and Neuroscience</i> , Vanderbilt University
2008 fall, 2019 spr	<i>The Visual System</i> , Vanderbilt University
2011s, 2013 fall	Honors seminar: <i>Thinking like a neuroscientist</i> , Vanderbilt University
2014 fall, 2019	Advanced graduate course in <i>Vision Science</i> , Vanderbilt University
2020 fall	<i>Computational Neuroscience of Human Vision</i> , Vanderbilt University

Graduate Student Advisees

Ming Meng. PhD received in May 2006, Princeton University.
 Thesis title: Neural mechanisms underlying rivalry, perceptual filling-in, and their interactions
Current position: Professor, Psychology, South China Normal University, Guangzhou, China

Thomas McKeef, PhD received in May 2009, Princeton University
 Thesis title: Temporal limitations of visual object processing
Current positions: Consultant, Ab Initio, Lecturer, Rhode Island School of Design

Tim Kietzmann (external advisee), PhD received in July 2014, University of Osnabruck
 Thesis title: Aspects of object recognition: Sampling, invariance and plasticity
Current position: Assistant Professor, Donders Institute, the Netherlands.

Rosanne Rademaker, visiting Master's student, Maastricht University
 Thesis title: Picture perfect: The training of visual imagery
Current position: Max Planck research group leader, Ernst Strüngmann Institute

Young Eun Park, PhD received in 2017, Vanderbilt University
 Thesis title: The role of stimulus form in visual working memory for orientation
Current position: Senior Analyst, Zendesk

Sonia Poltoratski. PhD received in 2017, Vanderbilt University
 Thesis title: Contextual effects in the early visual system and their modulation by attention
Current position: Senior Research Scientist, Perceptive Automata

Hojin Jang PhD received in 2021, Vanderbilt University
 Thesis title: Exploring the robust nature of human visual object recognition through comparisons with convolutional neural networks
Current position: Postdoctoral fellow, Vanderbilt University

Huiyuan Miao (current advisee), Vanderbilt University

Postdoctoral Fellows

Yukiyasu Kamitani (2003-2004), supported by Japan Society Promotion of Science Grant

Current position: Head of Department of Neuroinformatics, ATR Computational Neuroscience Laboratories; Professor, Kyoto University

Holger Awater (2003-2005)

Current position: Head of Global Brand Team, Bayer

Joel Pearson (2006-2008), supported by CJ Martin Postdoctoral Fellowship

Current position: Professor, University of New South Wales, Sydney, Australia

Janneke Jehee (2007-2010), supported by Rubicon Fellowship from the Netherlands

Current position: Associate Professor, Donders Institute, the Netherlands.

Recipient of the Young Investigator Award (2016), Vision Sciences Society

Sang Wook Hong (2009-2011), supported by NIH ARRA grant supplement

Current position: Associate Professor, Florida Atlantic University

Jascha Swisher (2007-2012), supported by an NRSA F32 fellowship

Current position: Data analytics group lead, Mitre

Elias Cohen (2008-2013)

Current position: Campus Director of Institutional Effectiveness, Washington State University

Samuel Ling (2010-2013), NRSA postdoctoral fellow

Current position: Tenure-track assistant professor, Boston University

Michael Pratte (2010-2015), postdoctoral fellow, supported by NRSA F32 fellowship

Current position: Associate Professor, Mississippi State University

Jocelyn Sy (2011-2017), postdoctoral fellow

Current position: Senior researcher, Pearson Education

David Coggan (2019-present), postdoctoral fellow

Full-Time Research Assistants (BA)

Karla Evans (2000-2002), PhD from Princeton U, now *Lecturer* at University of York, UK

David Remus (2002-2004), PhD recipient, Stanford University, now Senior Quantitative User Experience Researcher, Google

Emma Ferneyhough (2004-2006), PhD recipient, New York University, now Senior Software Engineer, Stitch Fix

Benjamin Wolfe (2008-2010), PhD from UC Berkeley, now assistant professor, University of Toronto

Elizabeth Counterman (2010-2012), PhD recipient, UC Berkeley now postdoctoral fellow at U of Texas, Austin

Christopher Angeloni (2012-2014), now PhD student at University of Pennsylvania

Devin McCormack (2014-2017), now Product Analyst, Zendesk

Kaylee Bashor (2020-present)

Undergraduate Advisees

Amy Wong (2000-2001), Princeton U, subsequently MD recipient, UC San Francisco

Thesis title: Human brain activity during attempts to control perception of ambiguous figures: An fMRI study. Awarded the *Class of 1943 Senior Thesis Prize in Neuroscience*, Department of Psychology, Princeton University.

Sharon Fox (2001-2002), Princeton U, subsequently MD recipient, Harvard Medical School
Thesis title: Caravaggio in a new light: theories of light in his paintings and the scientific basis for its emotive effects. Awarded the *George A. Miller Senior Thesis Prize in Cognitive Science*, Princeton University.

David Kim (2002-2004), Princeton U, now Corporate Counsel at Amazon
Thesis title: Classification of subordinate-level objects using distributed representations in human occipital-temporal cortex. Awarded the *Class of 1943 Senior Thesis Prize in Neuroscience*, Department of Psychology, Princeton University.

Caroline Tredway (2009-2010), Vanderbilt, MD recipient, Emory Univ School of Medicine
Research topic: Rademaker, R. L., Tredway, C. H., Tong, F. (2012). Introspective judgments predict the precision and likelihood of successful maintenance of visual working memory. *Journal of Vision*, 12(13):21, 1-13.

Cameron Neely (2010-2011), Vanderbilt, MD recipient, Univ of Toledo College of Medicine
Research topic: Perception of human faces in complex natural scenes
Recipient of the Vanderbilt Undergraduate Summer Research Program Fellowship

Alexander Lubinski (2013)
Research topic: Simulation analyses comparing fMRI decoding and forward-encoding models
Recipient of the Vanderbilt Undergraduate Summer Research Program Fellowship

William Ju (2016)
Research topic: Development of web-based interface for large-scale online studies of visual working memory
Recipient of the Vanderbilt Undergraduate Summer Research Program Fellowship

Haley Frey (2021)
Thesis title: The role of background information in object recognition by humans and convolutional neural networks
Highest honors, Vanderbilt Undergraduate Neuroscience Program