# Nicholas B. Turk-Browne

### Curriculum Vitae

July 2017

### **Contact Information**

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# **Academic Appointments**

### **Yale University**

Professor, Department of Psychology

Affiliated Faculty, Child Study Center, Cognitive Science Program,

Interdepartmental Neuroscience Program

### **Princeton University**

Professor, Department of Psychology
Associated Faculty, Princeton Institute for Computational Science & Engineering
Associated Faculty, Princeton Neuroscience Institute
2011–2017
Associate Professor (tenured), Department of Psychology
2014–2016
Assistant Professor, Department of Psychology
2009–2014

### **Education**

Ph.D.	Yale University	Cognitive Psychology (co-advisors: Marvin Chun & Brian Scholl)	2009
M.Phil.	Yale University	Cognitive Psychology	2006
M.S.	Yale University	Cognitive Psychology	2005
H.B.Sc.	University of Toronto	Cognitive Science/Artificial Intelligence (advisor: Jay Pratt)	2004

# Awards & Fellowships (selected)

Senior Fellow, Canadian Institute for Advanced Research	2016-2020
Young Investigator Award, Cognitive Neuroscience Society	2017
Young Investigator Award, Vision Sciences Society	2016
Distinguished Scientific Award for Early Career Contribution to Psychology American Psychological Association	2015
Robert L. Fantz Memorial Award, American Psychological Foundation	2014

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Lawrence S. Brodie University Preceptor, Princeton University	2012-2015
Rising Star, Association for Psychological Science	2012
James B. Grossman Dissertation Prize, Yale University	2009
Early Graduate Student Researcher Award, American Psychological Association	2006
Summer Institute in Cognitive Neuroscience Fellowship	2006
Doctoral Postgraduate Scholarship (foreign) Natural Sciences and Engineering Research Council of Canada	2005-2008
Masters Postgraduate Scholarship (foreign) Natural Sciences and Engineering Research Council of Canada	2004-2005

#### Research Interests

### **General Areas**

Perception and Attention Learning and Memory

### **Current Topics (selected)**

Statistical Learning: How do we learn the structure of the world and use it for prediction? Memory-Guided Attention: How can attention both control and be controlled by memory? Background Connectivity: How do brain networks reconfigure to support tasks and goals? Early Development: What is the functional architecture of the infant and toddler brain?

## **Techniques**

Behavioral psychophysics Functional brain imaging Patients with brain damage Theoretical modeling Computational analysis

### **Research Grants**

*National Institutes of Health* (Ro<sub>1</sub> MHo<sub>69456</sub>) Title: Computational, neural, and behavioral studies of competition-dependent learning Role: PI (w/ Ken Norman) Total: \$ 2,343,192 *Intel Corporation* Summary: Optimization and development of high-performance methods for fMRI analysis Role: co-PI Total: \$ 2,041,200 *The John Templeton Foundation* (57876) 2015-2018 Title: Toward a scientific understanding of the human capacity for cognitive control Role: Investigator Total: \$ 2,997,571 *Geneva/Princeton Partnership*, Princeton University 2015-2017 Title: Exploring links between statistical learning abilities and attention Role: PI (w/ Daphne Bavelier) Total: \$ 90,000

*National Institutes of Health* (Ro1 EY021755)

2011-2017

Title: Neural and behavioral interactions between attention, perception, and learning

Role: PI Total: \$ 1,783,748

*National Science Foundation* (ACI1440750)

2014-2016

Title: A software-defined campus network for big-data sciences

Role: co-PI Total: \$ 399,776

David A. Gardner '69 Magic Project, Humanities Council, Princeton University 2015

Title: Drawing as a window into the mind

Role: co-PI Total: \$ 25,750

*The John Templeton Foundation* (36751)

2012-2015

Title: Toward a scientific understanding of the human capacity for cognitive control

Role: Investigator

Total: \$ 3,986,094

*National Science Foundation* (BCS1229597)

2012-2015

Abbrev. title: Cluster for multivariate real-time and whole-brain correlation analysis

Role: co-PI Total: \$ 527,978 (+ \$ 560,000 in-kind donation from Intel)

2012-2015

*US-Israel Binational Science Foundation* (2011315)
Title: Numerical and statistical processes in normal cognition and dyscalculia

Role: PI (w/ Liat Goldfarb)

Total: \$ 150,000

David A. Gardner '69 Magic Project, Humanities Council, Princeton University 2013

Title: Explain me this: how we learn what not to say

Role: co-PI Total: \$ 15,000

J. Insley Blair Pyne Fund, Engineering and Applied Science, Princeton University 2010–2012 Title: Computing and mining the full correlation matrix of human brain imaging datasets

Role: PI Total: \$ 148,684

#### **Publications**

### **Journal Articles**

Aly, M., & Turk-Browne, N. B. (in press). Flexible weighting of diverse inputs makes hippocampal function malleable. *Neuroscience Letters*.

Bejjanki, V. R., da Silveira, R. A., Cohen, J. D., & Turk-Browne, N. B. (in press). Noise correlations in the human brain and their impact on pattern classification. *PLoS Computational Biology*.

deBettencourt, M. T., Norman, K. A., & Turk-Browne, N. B. (in press). Forgetting from lapses of sustained attention. *Psychonomic Bulletin & Review*.

Cohen, J. D., et al. (2017). Computational approaches to fMRI analysis. *Nature Neuroscience*, 20, 304-313.

Kim, G., Norman, K. A., & Turk-Browne, N. B. (2017). Neural differentiation of incorrectly predicted memories. *Journal of Neuroscience*, *37*, 2022-2031.

Schapiro, A. C., Turk-Browne, N. B., Botvinick, M. M., & Norman, K. A. (2017). Complementary learning systems within the hippocampus: A neural network modeling approach to reconciling episodic memory with statistical learning. *Philosophical Transactions of the Royal Society B*, 372, 20160049.

- Schlichting, M. L., Guarino, K. F., Schapiro, A. C., Turk-Browne, N. B., & Preston, A. R. (2017). Hippocampal structure predicts statistical learning and associative inference abilities during development. *Journal of Cognitive Neuroscience*, 29, 37-51.
- Aly, M., & Turk-Browne, N. B. (2016). Attention promotes episodic encoding by stabilizing hippocampal representations. *Proceedings of the National Academy of Sciences*, 113, E420-E429.
- Aly, M., & Turk-Browne, N. B. (2016). Attention stabilizes representations in the human hippocampus. *Cerebral Cortex*, *26*, 783-796.
- Córdova, N. I., Tompary, A., & Turk-Browne, N. B. (2016). Attentional modulation of background connectivity between ventral visual cortex and the medial temporal lobe. *Neurobiology of Learning and Memory*, 134, 115-122.
- Fan, J. E., Hutchinson, J. B., & Turk-Browne, N. B. (2016). When past is present: Substitutions of long-term memory for sensory evidence in perceptual judgments. *Journal of Vision*, *16*, 1-12.
- Fan, J. E., & Turk-Browne, N. B. (2016). Incidental biasing of attention from visual long-term memory. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 42, 970-977.
- Fan, J. E., Turk-Browne, N. B., & Taylor, J. A. (2016). Error-driven learning in statistical summary perception. *Journal of Experimental Psychology: Human Perception and Performance*, 42, 266-280.
- Hindy, N. C., Ng, F. Y., & Turk-Browne, N. B. (2016). Linking pattern completion in the hippocampus to predictive coding in visual cortex. *Nature Neuroscience*, *19*, 665-667.
- Hindy, N. C., & Turk-Browne, N. B. (2016). Action-based learning of multistate objects in the medial temporal lobe. *Cerebral Cortex*, 26, 1853–1865.
- Hutchinson, J. B., Pak, S. S., & Turk-Browne, N. B. (2016). Biased competition during long-term memory formation. *Journal of Cognitive Neuroscience*, 28, 187-197.
- Johnson, M. A., Turk-Browne, N. B., & Goldberg, A. E. (2016). Neural systems involved in processing novel linguistic constructions and their visual referents. *Language, Cognition and Neuroscience*, 31, 129-144.
- Schapiro, A. C., Turk-Browne, N. B., Norman, K. A., & Botvinick, M. M. (2016). Statistical learning of temporal community structure in the hippocampus. *Hippocampus*, *26*, 3-8.
- Bays, B. C., Turk-Browne, N. B., & Seitz, A. R. (2015). Dissociable behavioural outcomes of visual statistical learning. *Visual Cognition*, 23, 1072-1097.
- deBettencourt, M. T., Cohen, J. D., Lee, R. F., Norman, K. A., & Turk-Browne, N. B. (2015). Closed-loop training of attention with real-time brain imaging. *Nature Neuroscience*, *18*, 470-475.
- Schnyer, D. M., *et al.* (2015). Neurocognitive therapeutics: From concept to application in the treatment of negative attention bias. *Biology of Mood & Anxiety Disorders*, 5, 1.
- Seidl-Rathkopf, K. N., Turk-Browne, N. B., & Kastner, S. (2015). Automatic guidance of attention during real-world visual search. *Attention, Perception, & Psychophysics*, 77, 1881-1895.
- Wang, Y., Li, K., Cohen, J. D., & Turk-Browne, N. B. (2015). Full correlation matrix analysis (FCMA): An unbiased method for task-related functional connectivity. *Journal of Neuroscience Methods*, 251, 108-119.
- Kim, G., Lewis-Peacock, J. A., Norman, K. A., & Turk-Browne, N. B. (2014). Pruning of memories by context-based prediction error. *Proceedings of the National Academy of Sciences*, 111, 8997-9002.

Kool, W., Conway, A. R. A., & Turk-Browne, N. B. (2014). Sequential dynamics in visual short-term memory. *Attention, Perception, & Psychophysics*, *76*, 1885-1901.

Schapiro, A. C., Gregory, E., Landau, B., McCloskey, M., & Turk-Browne, N. B. (2014). The necessity of the medial temporal lobe for statistical learning. *Journal of Cognitive Neuroscience*, 26, 1736-1747.

Stoeckel, L., *et al.* (2014). Optimizing real time fMRI neurofeedback for therapeutic discovery and development. *NeuroImage: Clinical*, 5, 245-255.

Fan, J. E., & Turk-Browne, N. B. (2013). Internal attention to features in visual short-term memory guides object learning. *Cognition*, 129, 292-308.

Mende-Siedlecki, P., Verosky, S. C., Turk-Browne, N. B., & Todorov, A. (2013). Robust selectivity for faces in the human amygdala in the absence of expressions. *Journal of Cognitive Neuroscience*, 25, 2086–2106.

Schapiro, A. C., Rogers, T. T., Cordova, N. I., Turk-Browne, N. B., & Botvinick, M. M. (2013). Neural representations of events arise from temporal community structure. *Nature Neuroscience*, *16*, 486-492.

Shohamy, D., & Turk-Browne, N. B. (2013). Mechanisms for widespread hippocampal involvement in cognition. *Journal of Experimental Psychology: General*, 142, 1159-1170.

Turk-Browne, N. B. (2013). Functional interactions as big data in the human brain. *Science*, *34*2, 580-584.

Turk-Browne, N. B., Golomb, J. D., & Chun, M. M. (2013). Complementary attentional components of successful memory encoding. *NeuroImage*, *66*, 553-562.

Verosky, S. C., Todorov, A., & Turk-Browne, N. B. (2013). Representations of individuals in ventral temporal cortex defined by faces and biographies. *Neuropsychologia*, *51*, 2100-2108.

Zhao, J., Al-Aidroos, N., & Turk-Browne, N. B. (2013). Attention is spontaneously biased toward regularities. *Psychological Science*, 24, 667-677.

Al-Aidroos, N., Said, C. P., & Turk-Browne, N. B. (2012). Top-down attention switches coupling between low-level and high-level areas of human visual cortex. *Proceedings of the National Academy of Sciences*, 109, 14675-14680.

Hutchinson, J. B., & Turk-Browne, N. B. (2012). Memory-guided attention: Control from multiple memory systems. *Trends in Cognitive Sciences*, *16*, 576-579.

Norman-Haignere, S. V., McCarthy, G., Chun, M. M., & Turk-Browne, N. B. (2012). Category-selective background connectivity in ventral visual cortex. *Cerebral Cortex*, 22, 391-402.

Schapiro, A. C., Kustner, L. V., & Turk-Browne, N. B. (2012). Shaping of object representations in the human medial temporal lobe based on temporal regularities. *Current Biology*, 22, 1622-1627.

Turk-Browne, N. B., Simon, M. G., & Sederberg, P. B. (2012). Scene representations in parahippocampal cortex depend on temporal context. *Journal of Neuroscience*, 32, 7202-7207.

Verosky, S. C. & Turk-Browne, N. B. (2012). Representations of facial identity in the left hemisphere require right hemisphere processing. *Journal of Cognitive Neuroscience*, 24, 1006-1017.

Chun, M. M., Golomb, J. D., & Turk-Browne, N. B. (2011). A taxonomy of external and internal attention. *Annual Review of Psychology*, 62, 73-101.

Zhao, J., Ngo, N., McKendrick, R., & Turk-Browne, N. B. (2011). Mutual interference between statistical summary perception and statistical learning. *Psychological Science*, 22, 1212-1219.

Zhao, J., & Turk-Browne, N. B. (2011). Incidental encoding of numerosity in visual long-term memory. *Visual Cognition*, 19, 928-955.

Turk-Browne, N. B., Norman-Haignere, S. V., & McCarthy, G. (2010). Face-specific resting functional connectivity between the fusiform gyrus and posterior superior temporal sulcus. *Frontiers in Human Neuroscience*, *4*, 176.

Turk-Browne, N. B., Scholl, B. J., Johnson, M. K., & Chun, M. M. (2010). Implicit perceptual anticipation triggered by statistical learning. *Journal of Neuroscience*, 30, 11177-11187.

Turk-Browne, N. B., & Scholl, B. J. (2009). Flexible visual statistical learning: Transfer across space and time. *Journal of Experimental Psychology: Human Perception and Performance*, 35, 195-202.

Turk-Browne, N. B., Scholl, B. J., Chun, M. M., & Johnson, M. K. (2009). Neural evidence of statistical learning: Efficient detection of visual regularities without awareness. *Journal of Cognitive Neuroscience*, 21, 1934-1945.

Leber, A. B., Turk-Browne, N. B., & Chun, M. M. (2008). Neural predictors of moment-to-moment fluctuations in cognitive flexibility. *Proceedings of the National Academy of Sciences*, *105*, 13592-13597.

Turk-Browne, N. B., Isola, P. J., Scholl, B. J., & Treat, T. A. (2008). Multidimensional visual statistical learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 34, 399-407.

Turk-Browne, N. B., Scholl, B. J., & Chun, M. M. (2008). Habituation in infant cognition and functional neuroimaging. *Frontiers in Human Neuroscience*, *2*, 16.

Yi, D. J., Turk-Browne, N. B., Flombaum, J. I., Kim, M. S., Scholl, B. J., & Chun, M. M. (2008). Spatiotemporal object continuity in human ventral visual cortex. *Proceedings of the National Academy of Sciences*, 105, 8840-8845.

Yi, D. J., Turk-Browne, N. B., Johnson, M. K., & Chun, M. M. (2008). When a thought equals a look: Refreshing enhances perceptual encoding. *Journal of Cognitive Neuroscience*, 20, 1371-1380.

Chun, M. M., & Turk-Browne, N. B. (2007). Interactions between attention and memory. *Current Opinion in Neurobiology*, 17, 177-184.

Firestone, A., Turk-Browne, N. B. & Ryan, J. D. (2007). Age-related deficits in face recognition are related to underlying changes in scanning behavior. *Aging, Neuropsychology and Cognition*, *14*, 594-607.

Ryan, J. D., Leung, G., Turk-Browne, N. B., & Hasher, L. (2007). Assessment of age-related changes in inhibition and binding using eye movement monitoring. *Psychology & Aging*, 22, 239-250.

Turk-Browne, N. B., Yi, D. J., Leber, A. B., & Chun, M. M. (2007). Visual quality determines the direction of neural repetition effects. *Cerebral Cortex*, 17, 425-433.

Xu, Y., Turk-Browne, N. B., & Chun, M. M. (2007). Dissociating task performance from fMRI repetition attenuation in ventral visual cortex. *Journal of Neuroscience*, *27*, 5981-5985.

Turk-Browne, N. B., Yi, D. J., & Chun, M. M. (2006). Linking implicit and explicit memory: Common encoding factors and shared representations. *Neuron*, 49, 917-927.

Turk-Browne, N. B., Jungé, J. A., & Scholl, B. J. (2005). The automaticity of visual statistical learning. *Journal of Experimental Psychology: General*, 134, 552-564.

Turk-Browne, N. B., & Pratt, J. (2005). Attending to eye movements and retinal eccentricity: Evidence for the activity distribution model of attention reconsidered. *Journal of Experimental Psychology: Human Perception and Performance*, 31, 1061-1066.

Pratt, J., & Turk-Browne, N. B. (2003). The attentional repulsion effect in perception and action. *Experimental Brain Research*, 152, 376-382.

### **Book Chapters, Commentaries, & Proceedings**

Aly, M., & Turk-Browne, N. B. (2017). How hippocampal memory shapes, and is shaped by, attention. Chapter in D. E. Hannula & M. C. Duff (Eds.), *The Hippocampus from Cells to Systems* (pp. 369-403). Springer.

Wang, Y., *et al.* (2016). Real-time full correlation matrix analysis of fMRI data. Paper on presentation at *IEEE International Conference on Big Data*.

Fan, J. E., Yamins, D. L. K., & Turk-Browne, N. B. (2015). Common object representations for visual recognition and production. Paper on presentation at *Cognitive Science Society*.

Schapiro, A. C., & Turk-Browne, N. B. (2015). Statistical learning. Chapter in A. W. Toga & R. A. Poldrack (Eds.), *Brain Mapping: An Encyclopedic Reference* (pp. 501-506). Academic Press.

Wang, Y., *et al.* (2015). Optimizing full correlation matrix analysis of fMRI data on Intel Xeon Phi coprocessors. Paper on presentation at *Supercomputing*.

Fan, J.E., Turk-Browne, N. B., & Taylor, J. A. (2013). Feedback driven tuning of statistical summary representations. Paper on presentation at *Object Perception, Attention, and Memory* published in *Visual Cognition*, 21, 685-689.

Johnson, M. A., Turk-Browne, N. B., & Goldberg, A. E. (2013). Prediction plays a key role in language development as well as processing. Commentary in *Behavioral and Brain Sciences*, *36*, 32-33.

Turk-Browne, N. B. (2012). Statistical learning and its consequences. Chapter in M. D. Dodd & J. H. Flowers (Eds.), *The Influence of Attention, Learning, and Motivation on Visual Search* (pp. 117-146). Springer.

Turk-Browne, N. B. (2012). Statistical learning in perception. Chapter in N. M. Seel (Ed.), *Encyclopedia of the Sciences of Learning* (pp. 3182-3185). Springer.

Scholl, B. J., & Turk-Browne, N. B. (2010). Statistical learning. Chapter in B. Goldstein (Ed.), *Encyclopedia of Perception* (pp. 935-938). Sage Publications.

Zhao, J., & Turk-Browne, N. B. (2010). The perception of number from long-term memory. Paper on presentation at *Cognitive Science Society*.

Chun, M. M., & Turk-Browne, N. B. (2008). Associative learning mechanisms in vision. Chapter in S. J. Luck & A. Hollingworth (Eds.), *Visual Memory* (pp. 209-245). Oxford University Press.

Craik, F. I. M., & Turk-Browne, N. B. (2007). The effects of attention and emotion on memory for context. Chapter in J.S. Nairne (Ed.), *The Foundations of Remembering: Essays in Honor of Henry L. Roediger III* (pp. 159-170). Psychology Press.

# **Conference Presentations (last three years)**

Bu, J., Radulescu, A., Turk-Browne, N. B., & Niv, Y. (May, 2017). Feature-based reward learning biases dimensional attention. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

deBettencourt, M. T., Turk-Browne, N. B., & Norman, K. A. (May, 2017). Enhanced perceptual processing of visual context benefits later memory. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Fan, J., Yamins, D., & Turk-Browne, N. (May, 2017). Visual production induces categorical perception. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

- Hindy, N. C., Avery, E. W., & Turk-Browne, N. B. (May, 2017). Semantic knowledge and action-based visual prediction. Poster at *Vision Sciences Society*, St. Pete Beach, FL.
- Kok, P., & Turk-Browne, N. B. (May, 2017). Prediction facilitates complex shape processing in visual cortex. Talk at *Vision Sciences Society*, St. Pete Beach, FL.
- Aly, M., Chen, J., Turk-Browne, N. B., & Hasson, U. (Nov, 2016). Narrative coherence and temporal structure in the posterior medial network. Poster at *Society for Neuroscience*, San Diego, CA.
- Antony, J. W., Baldassano, C., Aly, M., Norman, K. A., & Turk-Browne, N. B. (Nov, 2016). Reconstructing spatial location and forward planning during navigation. Poster at *Society for Neuroscience*, San Diego, CA.
- Bornstein, A. M., Aly, M., Feng, S. F., Turk-Browne, N. B., Norman, K. A., & Cohen, J. D. (Nov, 2016). First you remember, then you see: Dynamic sampling from learned associations biases perceptual inference. Poster at *Society for Neuroscience*, San Diego, CA.
- deBettencourt, M. T., Turk-Browne, N. B., & Norman, K. A. (Nov, 2016). Externalizing the internal process of context reinstatement through closed-loop neurofeedback. Poster at *Society for Neuroscience*, San Diego, CA.
- Hindy, N. C., Avery, E. W., & Turk-Browne, N. B. (Nov, 2016). Action-based prediction for known and novel associations between real-world objects. Poster at *Society for Neuroscience*, San Diego, CA.
- Hutchinson, J., Wang, Y., & Turk-Browne, N. B. (Nov, 2016). Disentangling remembered and perceived information in the full correlation matrix of human brain activity. Poster at *Society for Neuroscience*, San Diego, CA.
- Kim, G., Norman, K. A., & Turk-Browne, N. B. (Nov, 2016). Differentiation of incorrectly predicted memories after restudy. Poster at *Society for Neuroscience*, San Diego, CA.
- McDougle, S. D., Turk-Browne, N. B., & Taylor, J. A. (Nov, 2016). Recalibration, heuristics, and learning de novo: On the multiple processes of sensorimotor learning and the role of the medial temporal lobe. Poster at *Society for Neuroscience*, San Diego, CA.
- Schapiro, A. C., Turk-Browne, N. B., Botvinick, M. M., & Norman, K. A. (Nov. 2016). Complementary learning systems within the hippocampus: A neural network modeling approach to reconciling episodic memory with statistical learning. Poster at *Society for Neuroscience*, San Diego, CA.
- deBettencourt, M. T., Norman, K. A., & Turk-Browne, N. B. (Jul, 2016). Externalizing mental context reinstatement with closed-loop neurofeedback to support memory retrieval. Poster at *International Conference on Memory*, Budapest, Hungary.
- deBettencourt, M. T., Norman, K. A., & Turk-Browne, N. B. (May, 2016). Lapses of sustained attention cause later forgetting in visual long-term memory. Talk at *Vision Sciences Society*, St. Pete Beach, FL.
- Ellis, C. T., Harding, P., Fan, J. E., & Turk-Browne, N. B. (May, 2016). How temporal context predicts eye gaze for dynamic stimuli. Poster at *Vision Sciences Society*, St. Pete Beach, FL.
- Fan, J. E., Yamins, D. L. K., & Turk-Browne, N. B. (May, 2016). Dynamic visual feedback is sufficient to improve drawing. Poster at *Vision Sciences Society*, St. Pete Beach, FL.
- Higuchi, Y., & Turk-Browne, N. B. (May, 2016). Eye movements determine which of multiple regularities are acquired during statistical learning. Poster at *Vision Sciences Society*, St. Pete Beach, FL.
- Hutchinson, J. B., Wang, Y., & Turk-Browne, N. B. (May, 2016). Overlap and separation of remembered and perceived visual information in the human medial temporal lobe. Poster at *Vision Sciences Society*, St. Pete Beach, FL.
- Hindy, N. C., Ng, F. Y., & Turk-Browne, N. B. (May, 2016). Action-based prediction in the hippocampus. Talk at *Context and Episodic Memory Symposium*, Philadelphia, PA.
- Kim, G., Turk-Browne, N. B., & Norman, K. A. (May, 2016). Incorrectly predicted memories become differentiated after restudy. Talk at *Context and Episodic Memory Symposium*, Philadelphia, PA.
- Schlichting, M. L., Guarino, K. F., Schapiro, A. C., Turk-Browne, N. B., & Preston, A. R. (May, 2016). Structural development of hippocampus and medial prefrontal cortex is related to statistical learning and inference. Poster at *Context and Episodic Memory Symposium*, Philadelphia, PA.

- Aly, M., & Turk-Browne, N. B. (Oct, 2015). Attention promotes episodic encoding by stabilizing hippocampal representations. Talk at *Society for Neuroscience*, Chicago, IL.
- Bejjanki, V. R., & Turk-Browne, N. B. (Oct, 2015). Examining changes in functional connectivity during human perceptual learning with population receptive fields. Poster at *Society for Neuroscience*, Chicago, IL.

Bornstein, A. M., Aly, M., Feng, S. F., Norman, K. A., Turk-Browne, N. B., & Cohen, J. D. (Oct, 2015).

Memory-guided perception: Sampling from past experience during perceptual inference. Poster at *Society for Neuroscience*, Chicago, IL.

deBettencourt, M. T., Turk-Browne, N. B., & Norman, K. A. (Oct, 2015). Reinstating mental context with closed-loop neurofeedback. Poster at *Society for Neuroscience*, Chicago, IL.

Guarino, K. F., Schlichting, M. L., Schapiro, A. C., Turk-Browne, N. B., & Preston, A. R. (Oct, 2015). Development of medial prefrontal cortex is related to statistical learning and inference. Poster at *Society for Neuroscience*, Chicago, IL.

Hindy, N. C., Ng, F. Y., & Turk-Browne, N. B. (Oct, 2015). Action-based predictive coding from different timescales of memory. Talk at *Society for Neuroscience*, Chicago, IL.

Hutchinson, J., & Turk-Browne, N. B. (Oct, 2015). Object-based competition during long-term memory encoding. Talk at *Society for Neuroscience*, Chicago, IL.

Kim, G., Norman, K. A., & Turk-Browne, N. B. (Oct, 2015). Prior contextual associations are weakened based on competition from new contexts. Talk at *Society for Neuroscience*, Chicago, IL.

Panichello, M. F., & Turk-Browne, N. B. (Oct, 2015). Neural fusion of sensation and expectation. Poster at *Society for Neuroscience*, Chicago, IL.

Aly, M., & Turk-Browne, N. B. (May, 2015). Hippocampal representations of attentional state predict the formation of visual memories. Talk at *Vision Sciences Society*, St. Pete Beach, FL.

Cordova, N. I., Tompary, A., & Turk-Browne, N. B. (May, 2015). Attentional switching of connectivity between visual and memory systems. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

deBettencourt, M. T., Norman, K. A., & Turk-Browne, N. B. (May, 2015). Relating sustained attention to visual long-term memory. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Fan, J. E., Yamins, D. L. K., & Turk-Browne, N. B. (May, 2015). How drawing shapes object representations. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Hindy, N. C., Ng, F. Y., & Turk-Browne, N. B. (May, 2015). Neural sources of prediction in visual cortex. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Kim, G., Norman, K. A., & Turk-Browne, N. B. (May, 2015). Storing and updating non-visual features in visual long-term memory. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Aly, M., & Turk-Browne, N. B. (May, 2015). Hippocampal representations of attentional state predict the formation of episodic memory. Poster at *Context and Episodic Memory Symposium*, Philadelphia, PA.

deBettencourt, M. T., Turk-Browne, N. B., & Norman, K. A. (May, 2015). Using real-time fMRI neurofeedback to manipulate mental context. Talk at *Context and Episodic Memory Symposium*, Philadelphia, PA.

Kim, G., Norman, K. A., & Turk-Browne, N. B. (May, 2015). How context memories are updated based on competition. Poster at *Context and Episodic Memory Symposium*, Philadelphia, PA.

Bejjanki, V. R., & Turk-Browne, N. B. (Nov, 2014). Background connectivity in human visual cortex during perceptual learning. Poster at *Society for Neuroscience*, Washington, DC.

Cordova, N. I., Aly, M., & Turk-Browne, N. B. (Nov, 2014). Focusing on what matters: Modulation of the human hippocampus by relational attention. Poster at *Society for Neuroscience*, Washington, DC.

deBettencourt, M. T., Turk-Browne, N. B., & Norman, K. A. (Nov, 2014). Manipulating mental context in a memory task using real-time fMRI. Poster at *Society for Neuroscience*, Washington, DC.

Hutchinson, J., Wang, Y., & Turk-Browne, N. B. (Nov. 2014). Decoding the locus of attention from the full correlation matrix of the human brain. Poster at *Society for Neuroscience*, Washington, DC.

Kim, J. G., Gregory, E., Landau, B., McCloskey, M., Turk-Browne, N. B., & Kastner, S. (Nov, 2014). Repetition effects in ventral visual cortex after bilateral hippocampal loss. Poster at *Society for Neuroscience*, Washington, DC.

Schapiro, A. C., Norman, K. A., Turk-Browne, N. B., & Botvinick, M. M. (Nov, 2014). Rapid learning of complex temporal regularities in the hippocampus: Evidence from fMRI and a neural network model. Talk at *Society for Neuroscience*, Washington, DC.

Schlichting, M. L., Guarino, K. F., Schapiro, A. C., Turk-Browne, N. B., & Preston, A. R. (Nov, 2014). Structural development of hippocampal subfields is related to statistical learning and inference. Poster at *Society for Neuroscience*, Washington, DC.

Schnyer, D. M., et al. (Nov. 2014). Development of real-time fMRI neurofeedback attention training for depression. Poster at *Society for Neuroscience*, Washington, DC.

Manning, J. R., *et al.* (Jun, 2014). Hierarchical topographic factor analysis. Talk at *International Workshop on Pattern Recognition in Neuroimaging*, Tübingen, Germany.

Aly, M., & Turk-Browne, N. B. (May, 2014). Top-down attention modulates representational stability in the medial temporal lobe. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Everaert, J., Fan, J. E., Koster, E. H. W., & Turk-Browne, N. B. (May, 2014). Attentional capture from emotional associations in long-term memory. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Fan, J. E., & Turk-Browne, N. B. (May, 2014). Feature distributions constrain visual object perception. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Hutchinson, J. B., & Turk-Browne, N. B. (May, 2014). Guidance of object-based attention from neural signatures of memory. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Hindy, N. C., Ng, F. Y., & Turk-Browne, N. B. (May, 2014). Linking predictive coding in visual cortex to object representations in the medial temporal lobe. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Pak, S. S., Hutchinson, J. B., & Turk-Browne, N. B. (May, 2014). Intuitive statistics from graphical representations of data. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Panichello, M. F., & Turk-Browne (May, 2014). Sensory and expectation cues are fused during perception. Poster at *Vision Sciences Society*, St. Pete Beach, FL.

Zhao, J., & Turk-Browne, N. B. (May, 2014). The timecourse of the attentional bias to regularities. Talk at *Vision Sciences Society*, St. Pete Beach, FL.

Aly, M., & Turk-Browne, N. B. (May, 2014). Attention stabilizes representations in the human hippocampus. Talk at *Context and Episodic Memory Symposium*, Philadelphia, PA.

Jackson-Hanen, V. E., Tompary, A., deBettencourt, M. T., & Turk-Browne, N. B. (May, 2014). Training of visual categories through real-time fMRI neurofeedback. Poster at *Context and Episodic Memory Symposium*, Philadelphia, PA.

Schapiro, A. C., Norman, K. A., Turk-Browne, N. B., & Botvinick, M. M. (May, 2014). Learning of complex event structure in the hippocampus. Poster at *Context and Episodic Memory Symposium*, Philadelphia, PA.

# **Invited Colloquia**

Cognitive Science	Tufts University	Mar 2018
Cognitive, Computational, & Systems Neuroscience	Washington University	Oct 2017
Center for Lifespan Psychology	Max Planck Institute	Oct 2017
Vision Research Seminar	Vanderbilt University	Apr 2017
Rotman Rounds	Baycrest Hospital	May 2016
Center for Vital Longevity	<b>University of Texas Dallas</b>	Apr 2016
Cognitive Science	University of Maryland	Mar 2016
Institute for Neuroscience	George Washington	Feb 2016
Cognitive Psychology	VU Amsterdam	Feb 2016
Psychology	Stanford University	Jan 2016

# Nicholas B. Turk-Browne

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Psychology Psychology Booth School of Business Cognitive Seminar, Psychology Psychology Psychology	Carnegie Mellon Yale University University of Chicago Carnegie Mellon Columbia University University of Chicago	Nov 2015 Sep 2015 May 2015 Mar 2015 Nov 2014 Oct 2014
Brain Information Communication Group Cognitive Science Cognitive Seminar, Psychology Cognitive Science Psychology Psychology and Safra Brain Research Center	ATR Kyoto University UBC University of Arizona Tel Aviv University University of Haifa	Jul 2014 Jul 2014 Mar 2014 Jan 2014 Dec 2013 Dec 2013
Psychology Cognitive Science and IGERT Center for Memory & Brain Cognition, Brain, & Behavior Seminar, Psychology Human Cognitive and Brain Sciences	Hebrew University Indiana University Boston University Harvard University Max Planck Institute CCNY	Dec 2013 Dec 2013 Oct 2013 Oct 2013 Sep 2013
Psychology Psychology and Neuroscience Psychology (2 talks) Center for Cognitive Neuroscience Psychology Cognition & Perception Seminar, Psychology	Duke University Carnegie Mellon University University of Pennsylvania Western Ontario New York University	Mar 2013 Jan 2013 Jan 2013 Dec 2012 Nov 2012 Oct 2012
Cognitive Neuroscience Series, Psychology Memory in Brain Series, Center for Neural Science Brain and Cognitive Sciences Cognitive Lunch, Psychology Perceptual Science Series, Psychology	Lehigh University New York University University of Rochester Columbia University Rutgers University	Mar 2012 Feb 2012 Nov 2011 Nov 2011 Oct 2011
Institute for the Study of Child Development Cognitive Brown Bag, Psychology Psychology Cognitive Science McGovern Institute Cognitive Series, Psychological and Brain Sciences	UMDNJ University of Delaware University of Nebraska Johns Hopkins University MIT Dartmouth College	Oct 2011 May 2011 Apr 2011 Mar 2011 Mar 2009 Mar 2009
Brain and Cognitive Sciences Psychology Psychology (2 talks) Psychology Psychology (2 talks) Psychological & Brain Sciences (2 talks) Magnetic Resonance Research Center Psychological and Brain Sciences Vision Seminar Series, Brain and Cognitive Sciences	MIT Brown University University of Oregon Princeton University UCLA Johns Hopkins University Yale University Johns Hopkins University MIT	Mar 2009 Feb 2009 Feb 2009 Jan 2009 Dec 2008 Dec 2008 Jul 2008 Mar 2007

# Invited Symposia, Workshops, & Keynotes

Taiwan Cognitive Neuroscience Society	Taipei, Taiwan	Jan 2018
Future Forum	Beijing, China	Oct 2017
Future Forum	Beijing, China	Jun 2017
Cognitive Neuroscience Society	San Francisco, CA	Mar 2017
Alpine Brain Imaging Meeting	Champéry, Switzerland	Jan 2017
Geneva-Princeton Workshop on Human Learning	Geneva, Switzerland	Jan 2017

Predictive Coding Workshop	Dartmouth University	Aug 2016
Canadian Institute for Advanced Research Workshop	London, UK	May 2016
Vision Sciences Society	St. Pete Beach	May 2016
Toronto Area Memory Group	Toronto, ON	May 2016
MURI Winter School (2 talks)	San Diego, CA	Jan 2016
	Toronto, ON	
Canadian Institute for Advanced Research Workshop	•	Dec 2015
Interdisciplinary Advances in Statistical Learning	San Sebastian, Spain	Jun 2015
MEMfest, conference in honor of Marcia Johnson	Yale University	Jun 2015
Association for Psychological Science	New York, NY	May 2015
UT Austin Conference on Learning and Memory	Austin, TX	Apr 2015
ISAT/DARPA Toward Optimal Learning Workshop	Arlington, VA	Dec 2014
National Cancer Institute	Rockville, MD	Nov 2014
Asia-Pacific Conference on Vision	Takamatsu, Japan	Jul 2014
Human Development Workshop	Max Planck Institute	Mar 2014
Brain Connectivity and Behavior Workshop	Whistler, BC	Mar 2014
Canadian Institute for Advanced Research Workshop	Toronto, ON	Jan 2014
Learning to Attend, Attending to Learn Workshop	San Diego, CA	Nov 2013
Memory Disorders Research Society	Toronto, ON	Oct 2013
Radcliffe Symposium on Real-time fMRI	Harvard University	Jul 2013
Advances in Memory Systems	New York University	Apr 2013
Perceptual Expertise Network	Austin, TX	Nov 2012
Memory Disorders Research Society	Davis, CA	Sept 2012
Adaptive Computations Meeting	Santorini, Greece	May 2012
International Conference on Cognitive Neuroscience	Mallorca, Spain	Sept 2011
Annual Retreat, PNI	Princeton University	Sept 2010
Kavli Workshop on Decision Making	Yale University	May 2009
Object Group Meeting	CUNY	Mar 2007
Softer Strap Meeting	201.1	2007

# **Professional Activities**

### **Editorial Roles**

eLife, Reviewing Editor	2017-
Open Mind, Associate Editor	2015-
Visual Cognition, Consulting Editor	2012-
Attention, Perception, & Psychophysics, Associate Editor	2015-2017
Attention, Perception, & Psychophysics, Consulting Editor	2014
Journal of Experimental Psychology: General, Special Section Co-organizer	2013

# **Conference Planning**

Real-time Functional Imaging and Neurofeedback, Executive Committee	2017
Geneva-Princeton Workshop on Human Learning, Co-organizer	2017
Memory Disorders Research Society, Co-organizer	2016
Cognitive Neuroscience Society, Poster Committee Member	2013-2015

# **Advisory Boards**

National Academies Committee on Reducing Counterfeiting Using the Behavioral Sciences	2016-
APA Early Career Award Selection Committee	2016

# Ad Hoc Reviewing - Awards and Grants

Economic & Social Research Council (U.K.)

Israel Science Foundation

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National Institutes of Health National Science Foundation

Natural Sci. & Eng. Research Council of Canada

Swiss National Science Foundation Vienna Science and Technology Fund

### Ad Hoc Reviewing - Journals

Acta Psychologica

Applied Cognitive Psychology

Attention, Perception, & Psychophysics Brain and Language

Brain Research Cerebral Cortex

Cognitive Psyc

Cognitive Psychology Cognitive Science

Consciousness & Cognition

Cortex

**Current Biology** 

Developmental Cognitive Neuroscience

Developmental Science

European Journal of Cognitive Psychology Frontiers in Developmental Psychology

Human Brain Mapping

Journal of Cognitive Neuroscience

Journal of Experimental Child Psychology

Journal of Experimental Psychology (JEP): General

JEP: Human Perception and Performance JEP: Learning, Memory, and Cognition

Journal of Neuroscience

Journal of Neurophysiology

Journal of Vision Memory & Cognition Nature Communications Nature Neuroscience

Nature Reviews Neuroscience

NeuroImage Neuron

Neuropsychologia Neuroscience Letters

Perception

Philosophical Transactions of the Royal Society Proceedings of the National Academy of Sciences

Psychological Science

Psychonomic Bulletin & Review

PLoS Biology

PLoS Computational Biology

Quarterly Journal of Experimental Psychology

Scientific Reports

Science

*Trends in Cognitive Sciences* 

Vision Research Visual Cognition

# **Society Memberships**

American Psychological Association Association for Psychological Science Memory Disorders Research Society (elected) Psychonomic Society (elected) Society for Neuroscience Vision Sciences Society

### **Software Development**

Brain Imaging Analysis Kit (BrainIAK)

NeuroPipe

http://brainiak.org

http://ntblab.github.io/neuropipe

# **Mentoring**

### **Postdoctoral Fellows**

Peter Kok (2016-)

Research: Neural sources of prediction

Honors: Rubicon Fellowship, Netherlands Organisation for Scientific Research (2016–2018)

Nicholas Hindy (2012–2017)

Research: Action-contingent visual coding

Honors: *National Research Service Award*, NIH (F32 EY023162, 2013–2016)

Clinical Loan Repayment Program Award, NIH (2014-2016)

After Princeton: Assistant Professor, University of Louisville (2017–)

Mariam Aly (2013–2017)

Research: Attentional states in memory systems

After Princeton: Assistant Professor, Columbia University (2017–)

J. Benjamin Hutchinson (2011–2016)

Research: Memory-guided attention

Honors: National Research Service Award, NIH (F32 EY021999, 2011–2014)

After Princeton: Assistant Professor, Northeastern University (2017– )

Vikranth Rao Bejjanki (2012–2016)

Research: Connectivity-based perceptual learning

After Princeton: Assistant Professor, Hamilton College (2016–)

Naseem Al-Aidroos (2010–2012)

Research: Attentional modulation of connectivity

Honors: Postdoctoral Fellowship, NSERC (2010–2012)

After Princeton: Assistant Professor, University of Guelph (2012–)

### **Graduate Students**

Lena Skalaban (2016-)

Research: Learning and memory over development

Cameron Ellis (2014– )

Research: Early developmental neuroimaging

Victoria Jackson-Hanen (2014– ; primary advisor: Kenneth Norman)

Research: Associating and forgetting object features

Matthew Panichello (2013–; primary advisor: Timothy Buschman)

Research: Perception as fusion of sensation and expectation

Honors: *Graduate Fellowship*, NDSEG (2015-2018)

Natalia Córdova (2012–2017)

Research: Relational attention and perception

Honors: *Quin Morton Fellowship*, Princeton University (2016–2017)

After Princeton: *Lecturer*, Princeton University (2017– )

Judith Fan (2011–2017)

Research: Internal attention and visual production

Honors: *Graduate Research Fellowship*, NSF (2013–2016)

Early Graduate Student Researcher Award, APA (2013)

Computational Modeling Prize for Perception and Action, Cog Sci Society (2015)

*Glushko Prize in Cognitive Science*, Cog Sci Society (2017)

After Princeton: Postdoctoral Fellow, Stanford University (2017–)

Megan DeBettencourt (2010–2016; co-advisor: Kenneth Norman)

Research: Improving attention and memory with neurofeedback

Honors: *Graduate Research Fellowship*, NSF (2012–2015)

Best Student Presentation, Attention and Learning Workshop (2013)

Student Travel Award, Real-time Neurofeedback Conference (2015)

After Princeton: Postdoctoral Fellow, University of Chicago (2016–)

Ghootae Kim (2011–2016; co-advisor: Kenneth Norman)

Research: Context-based visual prediction

After Princeton: *Postdoctoral Fellow*, University of Oregon (2016– )

Anna Schapiro (2009–2014; co-advisors: Matthew Botvinick, Kenneth Norman)

Research: Role of medial temporal lobe in statistical learning Honors: *Graduate Research Fellowship*, NSF (2010–2013)

After Princeton: Postdoctoral Fellow, Harvard Medical School (2015–)

Jiaying Zhao (2009–2013; co-advisors: Daniel Osherson, Eldar Shafir)

Research: Statistical perception and learning

Honors: *Porter Ogden Jacobus Fellowship*, Princeton University (2012–2013) After Princeton: *Assistant Professor*, University of British Columbia (2013–)

Sara Verosky (2009–2012; primary advisor: Alexander Todorov)

Research: Visual and social representations of facial identity

Honors: Travel Award, Vision Sciences Society (2011)

After Princeton: Postdoctoral Fellow, Harvard University (2012–2014)

Now: *Assistant Professor*, Oberlin College (2015– )

### **Dissertation Defense Committees**

2017: Chaz Firestone; Yi-Chia Chen; Natalia Córdova

2016: Wouter Kruijne; Judy Fan; Jane Keung; Megan deBettencourt; Ghootae Kim

2015: Kathi Seidl-Rathkopf; Wouter Kool

2014: Daniel Ames; Drew Jacoby-Senghor; Peter Mende-Siedlecki; Rachel Montana; Anna Schapiro

2013: Mike Arcaro; Matt Johnson; Jiaying Zhao

2012: Tyson Aflalo; Miriam Bocarsly; Michael Todd; Timothy Schoenfeld; Sara Verosky

2011: Hjalmar Turesson

2010: Greg Detre; Chris Moore; Sara Szczepanski

### **Dissertation Proposal Committees**

2016: Adam Brockett

2015: Judith Fan; Ghootae Kim; Mor Regev; Natalia Córdova

2013: Wouter Kool; Jane Keung

2012: Drew Jacoby-Senghor; Matthew Johnson; Peter Mende-Siedlecki; Anna Schapiro

2011: Michael Arcaro; Laura Suttle

2010: Lauren Silbert; Michael Todd; Sara Verosky

#### **General Exam Committees**

2016: Aaron Kurosu; Angela Radulescu

2015: Asieh Zadbood; Luis Piloto 2013: Judith Fan; Ghootae Kim

2012: Wouter Kool; Kathi Seidl; Kaite Yang

2011: Drew Jacoby-Senghor

2010: Michael Arcaro; Samuel Gershman; Laura Suttle

### <u>Undergraduate Students (selected)</u>

Jarryd Osborne (Princeton '18)

Emily Avery (Princeton '17) multiple poster presentations at conferences

Sahiba Singh (Princeton '16) co-winner Neuroscience thesis prize
Felicia Ng (Princeton '15) graduate student at Carnegie Mellon
Sarah Pak (Princeton '15) poster presentations at *SfN* and *VSS* '12
Morgan Taylor (Princeton '15) research assistant at University of Maryland

Lisa Yankowitz (Princeton '13) graduate student at UPENN

thesis work published in Current Biology Lauren Kustner (Princeton '11)

Harrison Korn (Yale '11) poster presentation at SfN '09 poster presentation at VSS '09 Riana Betzler (Yale '10)

Samuel Norman-Haignere (Yale '10) graduate student at MIT

Phillip Isola (Yale '08) graduate student at MIT, postdoc at Berkeley

# <u>Lab Staff (selected)</u>

Lindsay Rait (2017-) Jennifer Bu (2017– )

Chandra Greenberg (2015-)

Nate Wilson (2014-2015) now graduate student at USF

Victoria Jackson-Hanen (2012–2014) now graduate student at Princeton University Alexa Tompary (2010–2012) now graduate student at New York University Nhi Ngo (2010-2011) now graduate student at Brandeis University

now graduate student at George Mason University Ryan McKendrick (2009–2010)

# **Teaching**

Introduction to Psychology, PSY101 (undergrad lecture/lab course)	2013,2015
Visual Aesthetics, Junior Lab (undergrad lab course)	2012
Research Seminar in Cognitive Psychology, PSY543 (area seminar)	2011,2012
Visual Cognition, PSY305 (undergrad lecture course)	2011
Proseminar in Cognitive Psychology, PSY501 (grad lecture course)	2009.2010.2012.2014.2016

### Service

### Yale University

Primary roles

(	Co-Director of	f Undergra	duate Studies	s, Neuroscience I	Major	2017-

Committees

Chair, Central Campus Scanner Governance Committee	2017-
Member, Neuroscience Major Curriculum Committee	2017-
Member, INP Graduate Student Curriculum Committee	2017-

### **Princeton University**

### Department of Psychology

Primary roles

Associate Chair	2015-2016
Coordinator, Cognitive area	2012-2015

#### Committees

Chair, Undergraduate curriculum committee	2014-2016
Member, Graduate curriculum committee	2014
Member, Developmental faculty search	2013-2014
Member, Junior paper committee	2012-2013

# Nicholas B. Turk-Browne

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Marshau Camiting familtanasanh	
Member, Cognitive faculty search Member, Graduate student recruitment committee	2010-2012
Member, Graduate student recruitment committee  Member, Miller-Schroeder prize committee	2010-2011
-	2010
Other activities	
Representative, Academic Expo	2015
Speaker, Graduate student orientation	2011,2012,2014
Speaker, Building dedication	2014
Speaker, Graduate alumni reunion	2013
Presenter, Class Day	2010
Representative, Majors' Fair	2010
Speaker, Graduate student visiting day	2010
Affiliated units	
Committees	
Member, Executive committee, Canadian Studies	2015-2016
Member, Executive committee, Cognitive Science	2014-2016
Member, Computing steering committee, PNI	2014-2016
Member, Research Computing Advisory Group, PICSciE	2014-2016
Member, Scanner instrumentation committee, PNI	2010-2014
Member, Dale award committee, Forbes College	2011
Member, Essig-Enright and Pyne grants panel, SEAS	2011
Other activities	
Faculty fellow, Butler College	2012-2017
Guest Lecturer, Graduate PNI core course	2014-2016
Guest Lecturer, Neurotechnologies for Analysis of Neural Dynamics	2015
Panelist, Strategic planning workshop, SEAS	2014
Participant, Faculty seminar, Humanities Council	2012
Panelist, New faculty orientation, McGraw Center	2012
Faculty fellow, Forbes College	2010-2012
Academic advisor, Forbes College	2010-2011
<u>University-wide</u>	
Committees	
Member, Committee on Conference and Faculty Appeal	2014-2017
Member, Provost's Priorities Committee	2014-2016
Member, Committee on the Library and Computing	2010-2013
Member, Institutional Review Board for Human Subjects	2010-2013
Other activities	
Speaker, Presidential Retreat on the Natural Sciences	2015
Keynote, Class Leadership Conference dinner	2015
Keynote, Princeton Alumni Association of Canada annual dinner	2013
Speaker, Class of '68 Alumni Seminar	2011