

February 23, 2024

## Mariam Aly

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[www.alylab.org](http://www.alylab.org)

### FIELDS OF SPECIALIZATION

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**Disciplines:** Psychology | Cognitive Neuroscience

**Topics:** Long-term Memory | Perception | Attention

**Methods:** Behavior | Functional Neuroimaging | Neuropsychology

### EDUCATION

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Ph.D. (Psychology)	University of California, Davis <i>Primary advisor: Dr. Andrew Yonelinas</i> <i>Secondary mentor: Dr. Charan Ranganath</i>  <i>Dissertation: Functional Characteristics and Neural Underpinnings of State- and Strength-Based Visual Perception</i>  <i>Published as:</i> <i>Aly &amp; Yonelinas, 2012, PLoS ONE</i> <i>Aly, Ranganath, &amp; Yonelinas, 2013, Neuron</i> <i>Aly, Ranganath, &amp; Yonelinas, 2014, Journal of Cognitive Neuroscience</i>	2010 – 2013
M.A. (Psychology)	University of California, Davis <i>Primary advisor: Dr. Andrew Yonelinas</i> <i>Secondary mentor: Dr. Charan Ranganath</i>	2008 – 2010
H.B.Sc. (Psychology)	University of Toronto <i>Advisors: Dr. Morris Moscovitch and Dr. Ian Spence</i>	2004 – 2008

### ACADEMIC APPOINTMENTS

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Affiliated Faculty	Cognitive Science, Barnard College	2022 –
Affiliate Member	Zuckerman Mind Brain Behavior Institute, Columbia University	2019 –
Training Faculty	Doctoral Program in Neurobiology and Behavior Columbia University	2019 –
Assistant Professor	Department of Psychology, Columbia University <i>One-year tenure-clock extension due to COVID-19</i>	2017 –
Postdoctoral Research Associate	Princeton University <i>Advisor: Dr. Nicholas Turk-Browne</i>	2013 – 2017

## HONORS, AWARDS, & FELLOWSHIPS

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Fellow of the UC Irvine Center for the Neurobiology of Learning and Memory	2023
Presidential Award for Outstanding Teaching, <i>Columbia University</i>	2022
Rising Star, <i>Association for Psychological Science</i>	2019
Psychonomic Society Fellow (FPsyS)	since 2018
Provost's Dissertation Year Fellowship, <i>University of California, Davis</i>	2012 – 2013
Floyd and Mary Schwall Dissertation Year Fellowship, <i>University of California, Davis</i>	2012 – 2013
Don Owings Memorial Prize, <i>University of California, Davis</i> <i>for 1<sup>st</sup> place talk at the Department of Psychology Spring Conference</i>	2012
University College Medal for Best Degree in Science, <i>University of Toronto</i>	2008
Rose Sheinin Award, <i>University of Toronto</i> <i>for most outstanding female student graduating in a science program</i>	2008
McNab Scholarship in Psychology, <i>University of Toronto</i>	2008
Reuben Wells Leonard Open Scholarship, <i>University of Toronto</i>	2007
John Davidson Ketchum Memorial Scholarship in Psychology, <i>University of Toronto</i>	2007
Natural Sciences and Engineering Research Council of Canada <i>Undergraduate Student Research Award; \$4,500 CAD</i>	2006
Dr. James A. & Connie P. Dickson Scholarship in the Sciences and Mathematics, <i>University of Toronto</i>	2006
Department of Psychology Student Award, <i>University of Toronto</i>	2006
Vincent Bladen In-Course Scholarship, <i>University of Toronto</i>	2005
Queen Elizabeth Scholarship	2004 – 2008
University of Toronto Scholar	2004 – 2008
Dean's List Scholar, <i>University of Toronto</i>	2004 – 2008
Entrance Scholarship, <i>University of Toronto</i>	2004
First Year Honor's List, <i>University of Toronto</i>	2004

## FUNDING

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### Principal Investigator or Co-Investigator

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National Institutes of Health Research Project Grant (R01EY034436)	2023 – 2028
<i>National Eye Institute</i>	
<i>Title: Hierarchies of spatiotemporal anticipation in the human brain</i>	
<i>Role: PI</i>	
<i>MPI: Dr. Christopher Baldassano</i>	
<i>Award Amount Including Supplement: \$2,106,300 (total direct + indirect costs; direct costs = \$1,295,563)</i>	
<i>Award Amount Excluding Supplement: \$2,034,841.00 (total direct + indirect costs; direct costs = \$1,250,000)</i>	
<i>Supplement Amount: \$71,459 (direct + indirect costs; direct costs = \$45,563)</i>	
National Science Foundation Innovations in Graduate Education Grant (DGE-2224777)	2022 – 2025
<i>Division of Graduate Education</i>	
<i>Title: Reviewer Zero: Changing the culture of peer review to increase diversity, equity, &amp; inclusion</i>	
<i>Role: PI</i>	
<i>Other PIs: Dr. Amanda Diekman; Dr. Pablo Gomez</i>	
<i>Total Award Amount: \$498,860 (total direct + indirect costs; direct costs = \$318,038)</i>	
<i>Columbia Award Amount: \$107,709 (total direct + indirect costs; direct costs = \$65,477)</i>	

<p><b>Canadian Institutes of Health Research Project Grant</b>  <i>Institute of Neurosciences, Mental Health, and Addiction</i>  <i>Title: Investigating the Dynamics of Thought using Brain Connectivity and Experience Sampling</i>  <i>Role: Co-Investigator</i>  <i>Principal Investigator: Dr. Kalina Christoff; Other Co-Investigators: Dr. Jessica Andrews-Hanna; Dr. Caitlin Mills</i>  <i>Amount: \$795,600 CAD (direct costs)</i></p>	2020 – 2025
<p><b>National Science Foundation CAREER Award (BCS-1844241)</b>  <i>Division of Behavioral and Cognitive Sciences</i>  <i>One-year no-cost extension due to COVID-19</i>  <i>Title: How Memory Contributes to Goal-Directed Attention</i>  <i>Role: PI</i>  <i>Amount: \$889,840 (total direct + indirect costs; direct costs = \$583, 509)</i></p>	2019 – 2025
<p><b>NARSAD Young Investigator Grant (Brain &amp; Behavior Research Foundation, Grant #27893)</b>  <i>Title: Balancing Internally- and Externally-Focused Thought in the Brain</i>  <i>Role: PI</i>  <i>Amount: \$69,454 (direct costs)</i></p>	2020 – 2022
<p><b>Zuckerman Institute Seed Grant for MR Studies (CU-ZI-MR-S-0016)</b>  <i>Title: Multiple Timescales of Prediction in the Brain During Naturalistic Perception</i>  <i>Role: PI</i>  <i>Co-PI: Dr. Christopher Baldassano</i>  <i>60 scanning hours = \$36,000 in scanning costs</i></p>	2019 – 2021
<p><b>Provost's Grant for Junior Faculty who Contribute to the Diversity Goals of the University</b>  <i>Title: Complementary Forms of Goal-Directed Behavior</i>  <i>Role: PI</i>  <i>Amount: \$25,000 (direct costs)</i></p>	2018 – 2019
<p><b>Zuckerman Institute Seed Grant for MR Studies (CU-ZI-MR-S-0001)</b>  <i>Title: Modulation of Representational Connectivity by Memory-Guided Attention</i>  <i>Role: PI</i>  <i>64 scanning hours = \$38,400 in scanning costs</i></p>	2018 – 2019
<p><b>Lenfest Junior Faculty Development Grant</b>  <i>Title: Guidance of Attention and Visual Exploration by the Hippocampus</i>  <i>Role: PI</i>  <i>Amount: \$11,000 (direct costs)</i></p>	2018 – 2019
<p><b>Natural Sciences and Engineering Research Council of Canada PGS-D (NSERC-433638)</b>  <i>Doctoral Postgraduate Scholarship (Foreign)</i>  <i>Title: The Role of the Perirhinal Cortex in Associative Memory</i>  <i>Role: PI</i>  <i>Amount: \$63,000 CAD (direct costs)</i></p>	2009 – 2012

Natural Sciences and Engineering Research Council of Canada PGS-M (NSERC-405293) 2008 – 2009  
*Master's Postgraduate Scholarship (Foreign)*  
Title: *Episodic and Procedural Memory Consolidation in Older and Younger Adults*  
Role: PI  
Amount: \$17,500 CAD (direct costs)

#### Other Grants (Non-PI / Non-Co-I Role)

APA Commission on Ethnic Minority Recruitment, Retention, and Training Grant 2020 – 2022  
Title: *Reviewer Zero: Evaluating and Improving the Peer Review Experience for Ethnic Minority Psychologists*  
Role: *Member of the Reviewer Zero Organizing Committee; Key role in running Reviewer Zero; Wrote letter of support*  
PIs: *Dr. Molly Crockett and Dr. Anna Fisher*  
Amount: \$10,000 (direct costs)

## PUBLICATIONS

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**Conventions in the field for authorship of publications:** Senior author (lead Principal Investigator) is listed last. First and last authors have the largest roles. \* indicates individuals with equal contributions.

#### Preprints (under review)

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Favila SE, **Aly M.** (2023). Hippocampal mechanisms resolve competition in memory and perception. *bioRxiv*. <https://doi.org/10.1101/2023.10.09.561548>

Wakeland-Hart C, **Aly M.** (2023). Predicting image memorability from evoked feelings. *PsyArXiv*. <https://psyarxiv.com/grxdz/>

Tarder-Stoll H, Baldassano C\*, **Aly M\***. (2023). The brain hierarchically represents the past and future during multistep anticipation. *bioRxiv*. <https://doi.org/10.1101/2023.07.24.550399>

\*These authors are co-PIs of this work

Tarder-Stoll H, Baldassano C\*, **Aly M\***. (2023). Consolidation enhances multistep anticipatory judgements but diminishes access to perceptual features. *PsyArXiv*. <https://psyarxiv.com/x2f7s>

\*These authors are co-PIs of this work

Kathios N, Bloom PA, Singh A, Bartlett E, Algharazi S, Siegelman M, Shen F, Beresford L, DiMaggio-Potter M, Bennett S, Natarajan N, Ou Yongtian, Loui P, **Aly M\***, Tottenham N\*. (2023). Spontaneous music-evoked memories in cognitively healthy older adults: Associations between emotion, familiarity, and memory across familiar and unfamiliar music. *PsyArXiv*. <https://psyarxiv.com/dpj6g/>

\*These authors are co-PIs of this work

Cohanpour M, **Aly M\***, Gottlieb J\*. (2022). Leveraging vision to understand curiosity. *bioRxiv*. <https://doi.org/10.1101/2022.09.23.509220>

\*These authors are co-PIs of this work

#### Peer-Reviewed Publications

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Thieu M, Wilkins L, **Aly M.** (2024). Episodic-semantic linkage for \$1000: New semantic knowledge is more strongly coupled with episodic memory in trivia experts. *Psychonomic Bulletin & Review*.

<https://doi.org/10.3758/s13423-024-02469-5>

Featured in *Scientific American*: <https://www.scientificamerican.com/article/jeopardy-winner-reveals-entwined-memory-systems-make-a-trivia-champion/>

Yonelinas A, Hawkins C, Abovian A, **Aly M.** (2024). The role of recollection, familiarity, and the hippocampus in episodic and working memory. *Neuropsychologia*, 193, 108777.

<https://doi.org/10.1016/j.neuropsychologia.2023.108777>

**Aly M,** Colunga E, Crockett MJ, Goldrick M, Gomez P, Kung FYH, McKee PC, Pérez M, Stilwell SM, Diekman AB. (2023). Changing the culture of peer review for a more inclusive and equitable psychological science. *Journal of Experimental Psychology: General*, 152, 3546–3565. <https://doi.org/10.1037/xge0001461>

Poskanzer C, **Aly M.** (2023). Switching between external and internal attention in hippocampal networks. *The Journal of Neuroscience*, 43, 6538–6552. <https://doi.org/10.1523/JNEUROSCI.0029-23.2023>

Silston B, Ochsner KN, **Aly M.** (2023). Threat impairs flexible use of a cognitive map. *Motivation and Emotion*, 47, 908-927. <https://doi.org/10.1007/s11031-023-10036-z>

Bornstein AM, **Aly M,** Feng SF, Turk-Browne NB, Norman KA, Cohen JD. (2023). Associative memory retrieval resolves anticipated uncertainty of upcoming perceptual decisions. *Cognitive, Affective, and Behavioral Neuroscience*, 23, 645–665. <https://doi.org/10.3758/s13415-023-01092-6>

Featured by the Psychonomic Society:

<https://featuredcontent.psychonomic.org/when-looks-are-deceiving-our-memory-can-help/>

Jayakumar M, Balusu C, **Aly M.** (2023). Attentional fluctuations and the temporal organization of memory. *Cognition*, 235, 105408, 1-32. <https://doi.org/10.1016/j.cognition.2023.105408>

Bloom PA, Bartlett E, Kathios N, Algharazi S, Siegelman M, Shen F, Beresford L, DiMaggio-Potter M, Singh A, Bennett S, Natarajan N, Lee H, Sajid S, Joyce E, Fischman R, Hutchinson SJ, Pan S, Tottenham N\*, **Aly M\***. (2023). Effects of familiar music exposure on deliberate retrieval of remote episodic and semantic memories in healthy aging adults. *Memory*, 31, 428-456. <https://doi.org/10.1080/09658211.2023.2166078>

\*These authors are co-PIs of this work

Hirschstein Z, **Aly M.** (2023). Long-term memory and working memory compete and cooperate to guide attention. *Attention, Perception, & Psychophysics*, 85, 1517-1549. <https://doi.org/10.3758/s13414-022-02593-1>

Bloom PA, VanTieghem M, Gabard-Durnam L, Gee DG, Flannery J, Caldera C, Goff B, Telzer EH, Humphreys KL, Fareri DS, Shapiro M, Algharazi S, Bolger N, **Aly M,** Tottenham N. (2022). Age-related change in task-evoked amygdala-prefrontal circuitry: A multiverse approach with an accelerated longitudinal cohort aged 4-22 years. *Human Brain Mapping*, 43, 3221-3244. <https://doi.org/10.1002/hbm.25847>

Lee CS, **Aly M,** Baldassano C. (2021). Anticipation of temporally structured events in the brain. *eLife*. 10:e64972. <https://doi.org/10.7554/eLife.64972>

(reviewed and accepted prior to publication model change in 2023)

Featured in a Journal Club article in *PNAS*:

<https://www.pnas.org/post/journal-club/several-brain-regions-help-us-anticipate-whats-going-to-happen-next>

Ruiz NA\*, Thieu MK\*, **Aly M.** (2021). Cholinergic modulation of hippocampally mediated attention and perception. *Behavioral Neuroscience*, 135, 51-70. <https://doi.org/10.1037/bne0000405> \*These authors contributed equally

Ruiz NA, Meager MR, Agarwal S, **Aly M**. (2020). The medial temporal lobe is critical for spatial relational perception. *Journal of Cognitive Neuroscience*, 32, 1780-1795. [https://doi.org/10.1162/jocn\\_a\\_01583](https://doi.org/10.1162/jocn_a_01583)

Schaumberg AJ, Juarez-Nicanor W, Choudhury SJ, Pastrían LG, Pritt BS, Prieto Pozuelo M, Sotillo Sánchez R, Ho K, Zahra N, Sener BD, Yip S, Xu B, Rao Annavarapu S, Morini A, Jones KA, Rosado-Orozco K, Mukhopadhyay S, Miguel C, Yang H, Rosen Y, Ali RH, Folaranmi OO, Gardner JM, Rusu C, Stayerman C, Gross J, Suleiman DE, Sirintrapun SJ, **Aly M\***, Fuchs TJ\*. (2020). Interpretable multimodal deep learning for real-time pan-tissue pan-disease pathology search on social media. *Modern Pathology*, 33, 2169-2185. <https://doi.org/10.1038/s41379-020-0540-1>

\*These authors are co-PIs of this work

Günseli E, **Aly M**. (2020). Preparation for upcoming attentional states in the hippocampus and medial prefrontal cortex. *eLife*. 9:e53191. <http://doi.org/10.7554/eLife.53191>  
(reviewed and accepted prior to publication model change in 2023)

Tarder-Stoll H\*, Jayakumar M\*, Dimsdale-Zucker HR, Günseli E, **Aly M**. (2020). Dynamic internal states shape memory retrieval. *Neuropsychologia*, 138, 107328. <http://doi.org/10.1016/j.neuropsychologia.2019.107328>

\*These authors contributed equally

Córdova NI, Turk-Browne NB, **Aly M**. (2019). Focusing on what matters: Modulation of the human hippocampus by relational attention. *Hippocampus*, 29, 1025-1037. <https://doi.org/10.1002/hipo.23082>

**Aly M**, Turk-Browne NB. (2018). Flexible weighting of diverse inputs makes hippocampal function malleable. *Neuroscience Letters*, 680, 13-22. <http://doi.org/10.1016/j.neulet.2017.05.063>

**Aly M**, Chen J, Turk-Browne NB, Hasson U. (2018). Learning naturalistic temporal structure in the posterior medial network. *Journal of Cognitive Neuroscience*, 30, 1345–1365. [https://doi.org/10.1162/jocn\\_a\\_01308](https://doi.org/10.1162/jocn_a_01308)

Borders AA, **Aly M**, Parks CM, Yonelinas AP. (2017). The hippocampus is particularly important for building associations across stimulus domains. *Neuropsychologia*, 99, 335-342.  
<https://doi.org/10.1016/j.neuropsychologia.2017.03.032>

**Aly M**, Turk-Browne NB. (2017). How hippocampal memory shapes, and is shaped by, attention. In *The Hippocampus from Cells to Systems*. (Eds. Deborah E. Hannula and Melissa C. Duff). Springer International Publishing AG: Switzerland. pp. 369-403. [https://doi.org/10.1007/978-3-319-50406-3\\_12](https://doi.org/10.1007/978-3-319-50406-3_12)

**Aly M**, Turk-Browne NB. (2016). Attention promotes episodic encoding by stabilizing hippocampal representations. *Proceedings of the National Academy of Sciences*, 113, E420-E429.  
<https://doi.org/10.1073/pnas.1518931113>

**Aly M**, Turk-Browne NB. (2016). Attention stabilizes representations in the human hippocampus. *Cerebral Cortex*, 26, 783-796. <http://doi.org/10.1093/cercor/bhv041>

**Aly M**, Wansard M, Segovia F, Yonelinas AP, Bastin C. (2014). Cortical and subcortical contributions to state- and strength-based perceptual judgments. *Neuropsychologia*, 64, 145-156.  
<https://doi.org/10.1016/j.neuropsychologia.2014.09.025>

Elfman KW, **Aly M**, Yonelinas AP. (2014). Neurocomputational account of memory and perception: Thresholded and graded signals in the hippocampus. *Hippocampus*, 24, 1672-1686. <http://doi.org/10.1002/hipo.22345>

**Aly M**, Ranganath C, Yonelinas AP. (2014). Neural correlates of state- and strength-based perception. *Journal of Cognitive Neuroscience*, 26, 792-809. [https://doi.org/10.1162/jocn\\_a\\_00532](https://doi.org/10.1162/jocn_a_00532)

Koen JD, **Aly M**, Wang WC, Yonelinas AP. (2013). Examining the causes of memory strength variability: Recollection, attention failure, or encoding variability? *Journal of Experimental Psychology: Learning, Memory, & Cognition*, 39, 1726-41. <http://doi.org/10.1037/a0033671>

**Aly M**, Ranganath C, Yonelinas AP. (2013). Detecting changes in scenes: The hippocampus is critical for strength-based perception. *Neuron*, 78, 1127-37. [ Selected for journal cover ] <https://doi.org/10.1016/j.neuron.2013.04.018>

**Aly M**, Yonelinas AP. (2012). Bridging consciousness and cognition in memory and perception: Evidence for both state and strength processes. *PLoS ONE*, 7(1):e30231, 1-16. <https://doi.org/10.1371/journal.pone.0030231>

**Aly M**, Yonelinas AP, Kishiyama M, Knight RT. (2011). Damage to the lateral prefrontal cortex impairs familiarity but not recollection. *Behavioral Brain Research*, 225, 297-304. <https://doi.org/10.1016/j.bbr.2011.07.043>

Yonelinas AP, **Aly M**, Wang W, Koen JD. (2010). Recollection and familiarity: Examining controversial assumptions and new directions. *Hippocampus*, 20, 1178-94. <http://doi.org/10.1002/hipo.20864>

**Aly M**, Knight RT, Yonelinas AP. (2010). Faces are special but not too special: Spared face recognition in amnesia is based on familiarity. *Neuropsychologia*, 48, 3941-8. <https://doi.org/10.1016/j.neuropsychologia.2010.09.005>

**Aly M**, Moscovitch M. (2010). The effects of sleep on episodic memory in older and younger adults. *Memory*, 18, 327-34. <https://doi.org/10.1080/09658211003601548>

### **Editorials, Commentaries, & Perspectives**

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**Aly M.** (in press). Dying to live. In *Growing Up in Science*. (Ed. Weiji Ma). Princeton University Press.

**Aly M**, Ansari S, Colunga E, Crockett MJ, Diekman AB, Goldrick M, Gomez P, Kung FYH, McKee PC, Pérez M, Stilwell SM. (2024). Mentorship practices that improve the culture of peer review. *Nature Reviews Psychology*, 3, 2-3. <https://doi.org/10.1038/s44159-023-00261-1>

**Aly M.** (2020). Brain dynamics underlying memory for lifetime experiences. *Trends in Cognitive Sciences*, 24, 780-781. <https://doi.org/10.1016/j.tics.2020.06.010>

**Aly M.** (2019). Studying and experiencing mental illness. *Journal of Science Stories*. <https://storiesinscience.org/2019/06/12/studying-and-experiencing-mental-illness/>  
Featured in *Nature's* daily briefing: <https://www.nature.com/articles/d41586-019-01898-w>

**Aly M.** (2018). The key to a happy lab life is in the manual. *Nature*, 561, 7. <https://doi.org/10.1038/d41586-018-06167-w>

My lab manual is publicly available and has been used all over the world to inspire other lab manuals. <https://github.com/alylab/labmanual>

It is featured on Columbia's "Managing a Research Group" website:

<https://research.columbia.edu/managing-research-group>

**Aly M**, Ranganath C. (2018). New perspectives on the hippocampus and memory. *Neuroscience Letters*, 680, 1-3. <https://doi.org/10.1016/j.neulet.2018.05.047>

**Aly M**. (2018). In sight, in mind. *eLife*, 7:e35663, 1-3. <http://doi.org/10.7554/eLife.35663>

## CONFERENCE PRESENTATIONS

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Poskanzer C, Tarder-Stoll H, Javid R, **Aly M**. (April 2024). Predicting the future comes at a cost to encoding the present. Poster at the Cognitive Neuroscience Society Meeting. Toronto, ON.

Tarder-Stoll, Baldassano C\*, **Aly M**\*. (April 2024). Flexible updating of hippocampal representations guides multi-step prediction. Poster at the Cognitive Neuroscience Society Meeting. Toronto, ON.

Wakeland-Hart C, **Aly M**. (April 2024). Predicting image memorability from evoked feelings. Poster at the Cognitive Neuroscience Society Meeting. Toronto, ON.

Tarder-Stoll, Baldassano C\*, **Aly M**\*. (Nov 2023). Prospective and retrospective representations of temporal structure across hippocampal and visual regions. Poster at the Society for Neuroscience Meeting. Washington, DC.

Javid R, Poskanzer C, Tarder-Stoll H, **Aly M**. (Nov 2023). Predicting the future comes at a cost to encoding the present. Poster at the Annual Biomedical Research Conference for Minoritized Scientists. Phoenix, AZ.

Jayakumar M, Tsegai-Moore AS, Nemeth C, Khine M, **Aly M**. (Nov 2023). Pupil size at encoding predicts the temporal organization of memory. Poster at the Psychonomic Society Annual Meeting. San Francisco, CA.

Favila SE, **Aly M**. (Sept 2023). Resolving competition in memory-guided attention. Talk by M. Aly at the Memory Disorders Research Society Meeting. Los Angeles, CA.

Tarder-Stoll H, Baldassano C\*, **Aly M**\*. (May 2023). Multistep anticipation improves with consolidation but loses perceptual detail. Data blitz at the Context and Episodic Memory Symposium. Walt Disney World, Florida. \**co-PIs*

Favila SE, **Aly M**. (May 2023). Hippocampal and visual cortex contributions to resolving competition during memory-guided attention. Poster at the Vision Sciences Society Meeting. St. Pete Beach, FL.

Favila SE, **Aly M**. (March 2023). Hippocampal differentiation and visual cortex anticipation resolve competition during memory-guided attention. Poster at the Cognitive Neuroscience Society Meeting. San Francisco, CA.

Poskanzer C, **Aly M**. (March 2023). Switching between external and internal attention in hippocampal networks. Poster at the Cognitive Neuroscience Society Meeting. San Francisco, CA.

Thieu MK, Wilkins L, **Aly M**. (March 2023). Episodic-Semantic Linkage for \$1000: Episodic memory bolsters acquisition of new semantic knowledge in trivia experts. Poster at the Cognitive Neuroscience Society Meeting. San Francisco, CA.

Favila SE, **Aly M**. (Sept 2022). Resolving competition during memory-guided visual attention. Talk at the Manhattan Area Memory Meeting. New York, NY.



Hirschstein Z, **Aly M**. (Sept 2022). Cooperation and competition in memory-guided attention. Talk at the Manhattan Area Memory Meeting. New York, NY.

Tarder-Stoll H, Baldassano C\*, **Aly M\***. (Sept 2022). Top-down modulation of multi-step anticipation in changing environments. Talk at the Manhattan Area Memory Meeting. New York, NY. \**co-PIs*

Cohanpour M, **Aly M\***, Gottlieb J\*. (April 2022). Towards a mechanistic account of perceptual curiosity. Poster at the Cognitive Neuroscience Society Meeting. San Francisco, CA.

\**co-PIs*

Favila SE, **Aly M**. (April 2022). Resolving competition during memory-guided visual attention. Poster at the Cognitive Neuroscience Society Meeting. San Francisco, CA.

Hirschstein Z, **Aly M**. (April 2022). Cooperation and competition in memory-guided attention. Poster at the Cognitive Neuroscience Society Meeting. San Francisco, CA.

Tarder-Stoll H, Baldassano C\*, **Aly M\***. (April 2022). Top-down modulation of multi-step anticipation in changing environments. Poster at the Cognitive Neuroscience Society Meeting. San Francisco, CA.

\**co-PIs*

Cohanpour M, **Aly M\***, Gottlieb J\*. (Nov 2021). Towards a mechanistic account of perceptual curiosity. Poster at the Society for Neuroscience (Virtual) Meeting.

\**co-PIs*

Singh A, Bloom PA, Bartlett E, Kathios N, Algharazi S, Tottenham N\*, **Aly M\***. (Nov 2021). Temporal structure of episodic and semantic details within autobiographical memory recall. Data Blitz presented at the Harvard Women in Psychology Trends in Psychology Summit.

\**co-PIs*

Kathios N, Bloom PA, Bartlett E, Algharazi S, **Aly M\***, Tottenham N\*. (Nov 2021). Self-reported emotion valence evoked by popular music in healthy aging. Poster presented at the International Conference of Students of Systematic Musicology.

\**co-PIs*

Singh A, Bloom PA, Bartlett E, Kathios N, Algharazi S, Tottenham N\*, **Aly M\***. (Oct 2021). Temporal structure of episodic and semantic details within autobiographical memory recall. Poster presented at the 11<sup>th</sup> Annual oSTEM (Virtual) Conference.

\**co-PIs*

Silston B, Ochsner K, **Aly M**. (Oct 2021). Threat impairs flexible use of a cognitive map. Talk by M. Aly at the Memory Disorders Research Society (Virtual) Meeting.

Jayakumar M, Balusu C, **Aly M**. (Aug 2021). Spontaneous attentional fluctuations and the temporal organization of recall. Poster at the Context and Episodic Memory Symposium. Philadelphia, PA.

Bloom PA, VanTieghem M, Gabard-Durnam L, Gee D, Flannery J, Caldera C, Telzer E, Humphreys KL, Fareri D, Shapiro M, Bolger N, **Aly M**, Tottenham N. (April 2021). Age-related change in stimulus-elicited amygdala-prefrontal circuitry: A longitudinal multiverse approach. Flash talk at the Society for Research in Child Development Biennial Meeting, Virtual.

Bloom PA, Bartlett E, Kathios N, Algharazi S, Siegelman M, Shen F, Beresford L, DiMaggio-Potter M, Tottenham N\*, **Aly M\***. (March 2021). Effects of familiar music exposure on retrieval of remote episodic and semantic memories in healthy aging adults. Poster at the Cognitive Neuroscience Society Virtual Meeting.

*\*co-PIs*

Cohanpour M, **Aly M\***, Gottlieb J\*. (March 2021). Towards a mechanistic account of perceptual curiosity. Poster at the Cognitive Neuroscience Society Virtual Meeting.

*\*co-PIs*

Dimsdale-Zucker HR, **Aly M\***, Baldassano C\*. (March 2021). Using contexts defined by temporal structure to guide memory. Poster at the Cognitive Neuroscience Society Virtual Meeting.

*\*co-PIs*

Favila SE, **Aly M.** (March 2021). Resolving competition during memory-guided visual exploration. Poster at the Cognitive Neuroscience Society Virtual Meeting.

Jayakumar M, Balusu C, **Aly M.** (March 2021). Spontaneous attentional fluctuations and the temporal organization of recall. Poster at the Cognitive Neuroscience Society Virtual Meeting.

Schaumberg AJ, Stayerman C, Yip S, Mukhopadhyay S, Pastrían LG, Prieto Pozuelo M, Sener BD, Rao Annavarapu S, Morini A, Jones KA, Rosado-Orozco K, Miguel Ruiz C, Yang H, Rosen Y, Folaranmi OO, Gardner JM, Gross J, Suleiman DE, Takashi, F, Riddle N, Ong M, Cecchini M, Gibier JB, Pijuan L, Lu MY, Fuchs TJ, **Aly M\***, Mahmood F\*. (Oct 2020). Deep learning of attention-guided multimodal histopathology search on social media. Poster at Pathology Visions. [ awarded Best Poster by a Trainee ]

Extended abstract published in J Pathol Inform. 2021; 12: 37. PMID: PMC8546358

*\*co-PIs*

Bloom PA, VanTieghem M, Gabard-Durnam L, Gee D, Flannery J, Caldera C, Goff B, Telzer E, Humphreys K, Shapiro M, Bolger N, **Aly M**, Tottenham N. (Aug 2020). Age-related change in stimulus-elicited amygdala-prefrontal circuitry: a longitudinal multiverse approach. Poster at the Flux 2020 Virtual Congress.

Tarder-Stoll H, Baldassano C, **Aly M.** (May 2020). Multi-step prediction and integration in naturalistic environments. Poster presented at the Cognitive Neuroscience Society meeting. Physical meeting canceled because of the COVID-19 pandemic. Poster presented virtually.

Günseli E, **Aly M.** (Oct 2019). Memory-guided attentional states are established by the hippocampus and medial prefrontal cortex. Poster at the Society for Neuroscience Meeting. Chicago, IL.

Lee C, **Aly M**, Baldassano C. (Oct 2019). Anticipation of temporally structured events in the brain. Poster at the Society for Neuroscience Meeting. Chicago, IL.

Ruiz N, **Aly M.** (Oct 2019). Cholinergic modulation enhances hippocampally-dependent spatial relational attention. Poster at the Society for Neuroscience Meeting. Chicago, IL.

Schaumberg AJ, Juarez W, Choudhury SJ, Pastrían LG, Pritt BS, Prieto Pozuelo M, Sotillo Sánchez R, Ho K, Zahra N, Sener BD, Yip S, Xu B, Rao Annavarapu S, Morini A, Jones KA, Rosado-Orozco K, Mukhopadhyay S, Miguel C, Yang H, Rosen Y, Ali RH, Folaranmi O, Gardner JM, Rusu C, Stayerman C, Gross J, Suleiman D, Sirintrapun SJ, **Aly M\***, Fuchs TJ\*. (Oct 2019). Machine learning for real-time search and prediction of disease state to aid pathologist collaboration on social media. Poster at Pathology Visions. Orlando, FL. [ awarded Best Image Analysis poster ]  
Extended abstract published in J Pathol Inform. 2020; 11: 1. PMID: PMC7003557

*\*co-PIs*

Günseli E, **Aly M.** (May 2019). Memory-guided attentional states are established by the hippocampus and medial prefrontal cortex. Talk by E. Günseli at the Manhattan Area Memory Meeting. Princeton, NJ.

Silston B, Ochsner K, **Aly M.** (May 2019). Threat impairs flexible use of a cognitive map. Talk by B. Silston at the Manhattan Area Memory Meeting. Princeton, NJ.

**Aly M.** (May 2019). Beyond memory and perception: Operations and representations in the brain. Discussion talk at the Context and Episodic Memory Symposium. Philadelphia, PA.

Günseli E, **Aly M.** (May 2019). Establishing memory-driven attentional goals via hippocampus and medial prefrontal cortex. Poster at the Context and Episodic Memory Symposium. Philadelphia, PA.

Lee C, **Aly M,** Baldassano C. (May 2019). Anticipation of temporally structured events in the brain. Poster at the Context and Episodic Memory Symposium. Philadelphia, PA.

Ruiz N, **Aly M.** (May 2019). Cholinergic modulation enhances hippocampally-dependent spatial relational attention. Poster at the Context and Episodic Memory Symposium. Philadelphia, PA.

Silston B, Ochsner K, **Aly M.** (May 2019). Threat impairs flexible use of a cognitive map. Poster at the Context and Episodic Memory Symposium. Philadelphia, PA.

Günseli E, **Aly M.** (March 2019). Switching between attention and memory in the hippocampus and medial prefrontal cortex. Poster at the Cognitive Neuroscience Society meeting. San Francisco, CA.

Ruiz N, **Aly M.** (March 2019). Cholinergic modulation enhances hippocampally-dependent spatial relational attention. Poster at the Cognitive Neuroscience Society meeting. San Francisco, CA.

Silston B, Ochsner K, **Aly M.** (March 2019). Threat impairs flexible use of a cognitive map. Poster at the Cognitive Neuroscience Society meeting. San Francisco, CA.

Schaumberg AJ, Juarez W, Choudhury SJ, Pastrian LG, Pritt BS, Pozuelo MP, Sanchez RS, Ho K, Zahra N, Sener BD, Yip S, Xu B, Annavarapu SR, Morini A, Jones KA, Rosado-Orozco K, Sirintrapun SJ, **Aly M\***, Fuchs TJ\*. (Sept 2018). Large-scale annotation of histopathology images from social media. Poster at the Memorial Sloan-Kettering Cancer Center csBio Annual Retreat. Skytop, PA, USA. [ awarded best poster ]

*\*co-PIs*

Schaumberg AJ, Juarez W, Choudhury SJ, Pastrian LG, Pritt BS, Pozuelo MP, Sanchez RS, Ho K, Zahra N, Sener BD, Yip S, Xu B, Annavarapu SR, Morini A, Jones KA, Rosado-Orozco K, Sirintrapun SJ, **Aly M\***, Fuchs TJ\*. (Aug 2018). Large-scale annotation of histopathology images from social media. Poster presented by high school students W. Juarez and S. Choudhury, with graduate student A. Schaumberg advising, at the Weill Cornell High School Science Immersion Program Poster Session. New York, NY, USA. [ awarded best poster ]

*\*co-PIs*

Schaumberg AJ, Juarez W, Choudhury SJ, Pastrian LG, Pritt BS, Pozuelo MP, Sanchez RS, Ho K, Zahra N, Sener BD, Yip S, Xu B, Annavarapu SR, Morini A, Jones KA, Rosado-Orozco K, Sirintrapun SJ, **Aly M\***, Fuchs TJ\*. (Aug 2018). Large-scale annotation of histopathology images from social media. Poster at the 11th Annual Computational Biology and Medicine Symposium. Delaware, PA, USA.

*\*co-PIs*

Ruiz N, **Aly M.** (May 2018). The hippocampus is necessary for spatial relational attention. Talk by N. Ruiz at the Manhattan Area Memory Meeting. New York, NY.

**Aly M.** (Jan 2018). Attentional state as a context in hippocampal memory. Talk at the Winter Conference on the Neurobiology of Learning and Memory. Park City, Utah.

**Aly M**, Chen J, Turk-Browne NB, Hasson U. (Nov 2016). Narrative coherence and temporal structure in the posterior medial network. Poster at the Society for Neuroscience Meeting. San Diego, CA.

Antony J, Baldassano C, **Aly M**, Norman KA, Turk-Browne NB. (Nov 2016). Using an inverted encoding model to reconstruct spatial position and forward planning in a virtual reality environment. Poster at the Society for Neuroscience Meeting. San Diego, CA.

Bornstein AM, **Aly M**, Feng SF, Turk-Browne NB, Norman KA, Cohen JD. (Nov 2016). First you remember, then you see: Dynamic sampling from learned associations biases perceptual inference. Poster at the Society for Neuroscience Meeting. San Diego, CA.

**Aly M**, Chen J, Turk-Browne NB, Hasson U. (May 2016). Narrative coherence and temporal structure in the posterior medial network. Talk at the Manhattan Area Memory Meeting. New York, NY.

**Aly M**, Turk-Browne NB. (Oct 2015). Attention promotes episodic encoding by stabilizing hippocampal representations. Talk at the Society for Neuroscience Meeting. Chicago, IL.

Bornstein AM, **Aly M**, Feng SF, Turk-Browne NB, Norman KA, Cohen JD. (Oct 2015). Memory-guided perception: Sampling from past experience during perceptual inference. Poster at the Society for Neuroscience Meeting. Chicago, IL.

**Aly M**, Turk-Browne NB. (May 2015). Attention promotes episodic encoding by stabilizing hippocampal representations. Talk at the Manhattan Area Memory Meeting. Princeton, NJ.

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

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

Córdova NI, **Aly M**, Turk-Browne NB. (Nov 2014). Focusing on what matters: Modulation of the human hippocampus by relational attention. Poster at the Society for Neuroscience Meeting. Washington, DC.

**Aly M**, Turk-Browne NB. (June 2014). Attention stabilizes representations in the human hippocampus. Talk at the Manhattan Area Memory Meeting. New York, NY.

**Aly M**, Turk-Browne NB. (May 2014). Top-down attention modulates representational stability in the medial temporal lobe. Poster at the Vision Sciences Society Meeting. Abstract published in *J Vision*, 14, 631. St. Pete Beach, FL.

**Aly M**, Turk-Browne NB. (May 2014). Attention stabilizes representations in the human hippocampus. Data blitz talk at the Context and Episodic Memory Symposium. Philadelphia, PA.

**Aly M**. (May 2014). Putting attention in context: Behavioral and neural modulation of mnemonic representations. Discussion talk at the Context and Episodic Memory Symposium. Philadelphia, PA.

**Aly M**, Turk-Browne NB. (Nov 2013). Attentional states in the medial temporal lobe. Poster at the Learning to Attend, Attending to Learn Conference. San Diego, CA.

**Aly M**, Yonelinas AP, Ranganath C. (April 2013). A critical role for the hippocampus in assessing the strength of perception. Poster at the Cognitive Neuroscience Society meeting. San Francisco, CA.

Borders A, **Aly M**, Yonelinas AP. (April 2013). Associative recognition in amnesia: Crossing stimulus domains matters, temporal separation does not. Poster at the Cognitive Neuroscience Society meeting. San Francisco, CA.

Yonelinas AP, **Aly M**. (Nov 2012). From memory to perception: The medial temporal lobe and visual discrimination. Talk by A.P. Yonelinas at the Psychonomic Society Meeting. Minneapolis, MN.

**Aly M**, Yonelinas AP, Ranganath C. (Oct 2012). Separating state and strength processes in the detection of visual change: Neural correlates of perceiving and knowing. Talk at the Society for Neuroscience Meeting. New Orleans, LA.

**Aly M**, Yonelinas AP, Ranganath C. (Aug 2012). A critical role for the medial temporal lobe in assessing the varying strength of perception. Poster at the Bay Area Memory Meeting. Davis, CA.

**Aly M**, Yonelinas AP, Ranganath C. (May 2012). Investigating conscious awareness based on state and strength processes. Talk at the Department of Psychology Conference, UC Davis. Davis, CA.

Koen JD, **Aly M**, Wang WC, Kroll NEA, Yonelinas AP. (Nov 2011). The necessity of theoretical validation in signal-detection models of recognition memory. Poster at the Psychonomic Society Meeting. Seattle, WA.

**Aly M**, Yonelinas AP. (Aug 2011). Watching perception (and memory) unfold: Step functions and gradual transitions. Talk at the Bay Area Memory Meeting. Berkeley, CA.

**Aly M**, Yonelinas AP. (Nov 2010). Recollection and familiarity in long-term memory, perception, and everything in between. Poster at the Psychonomic Society Meeting. St. Louis, MO.

**Aly M**, Yonelinas AP. (Aug 2010). Recollection and familiarity in long-term memory, perception, and everything in between. Talk at the Bay Area Memory Meeting. Stanford, CA.

Koen JD, Yonelinas AP, Parks CM, **Aly M**, Ranganath C. (Aug 2010). The neural correlates supporting recognition memory of temporally continuous and discontinuous associations: An fMRI study. Talk by J.D. Koen at the Bay Area Memory Meeting. Stanford, CA.

Yonelinas AP, **Aly M**. (July 2010). Memory, perception, and everything in between. Talk by A.P. Yonelinas at the Cognitive Sciences Association for Interdisciplinary Learning. Hood River, OR.

Koen JD, Yonelinas AP, Ranganath C, Parks CM, **Aly M**. (Nov 2010). Medial-temporal lobe contributions to encoding novel across-domain associations: An examination of temporal discontinuity. Talk by J.D. Koen at the Society for Neuroscience Meeting. San Diego, CA.

## INVITED TALKS

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### Invited Seminars & Colloquia

University of Michigan (Cognition & Cognitive Neuroscience Forum)	Jan 2024
Carnegie Mellon University (Psychology & Neuroscience Colloquium)	Jan 2024
University of California, Berkeley (Cognition Colloquium)	Nov 2023
Purdue University (Cognitive & Mathematical and Computational Psychology Colloquium)	Nov 2023
University of Minnesota (Neuroscience Seminar Series)	Oct 2023
Rotman Research Institute (Rounds Series)	Oct 2023
Washington University in St. Louis (Psychological & Brain Sciences Distinguished Visiting Speaker Series)	Sept 2023
Leibniz Research Centre for Working Environment and Human Factors (Neurocognition & Work Series)	June 2023
University of Pennsylvania (MindCORE Seminar Series)	Jan 2023
Brown University (Social-Cognitive Seminar Series)	Dec 2022
University of British Columbia (Psychology Colloquium)	Oct 2022
University of Arizona (Careers in Cognitive Neuroscience)	Sept 2022

Lehigh University (Cognitive Area Group Meeting)	Sept 2021
Vanderbilt University (Cognitive Science/Cognitive Neuroscience Seminar)	Sept 2021
Innovators in Cognitive Neuroscience (joint seminar: Dartmouth, Penn, Yale, MIT, Princeton, Harvard, Columbia, Gallaudet)	Aug 2021
University of Cambridge (MRC Cognition and Brain Sciences Unit, Chaucer Club)	May 2021
Cornell University (Annual Neisser Lecture, Students' Choice Speaker, Depts. Psych. & Human Dev.)	May 2021
University of Chicago (Cognitive Workshop)	May 2021
University of California, Riverside (Cognition and Cognitive Neuroscience Brown Bag)	April 2021
University of Texas at Dallas (Center for Vital Longevity Science Series)	April 2021
Queen's University (Cognitive Neuroscience Brown Bag)	April 2021
Vrije Universiteit Amsterdam (Cognitive Psychology Colloquium)	April 2021
University of California, Davis (Perception, Cognition, & Cognitive Neuroscience Brownbag)	Jan 2021
Ludwig Maximilian University of Munich (Experimental / Neuro-Cognitive Psychology Colloquium)	Nov 2020
Royal Holloway, University of London (Psychology Seminar)	Nov 2020
University of California, Los Angeles (Cognitive Psychology Forum)	Oct 2020
New York University (Cognition and Perception Colloquium)	Oct 2020
University of Oxford (Behavioral and Cognitive Neuroscience Seminar)	Oct 2020
University of Notre Dame (Cognition, Brain, and Behavior Seminar)	Oct 2020
Northwestern University (Cognitive Brain Mapping Group)	Oct 2020
York University (Clinical Neuropsychology Series)	Oct 2020
University College London (Brain Meeting Seminar, Wellcome Centre for Human Neuroimaging)	Sept 2020
Georgia Tech (Neuro Seminar Series)	Sept 2020
University of Oslo (Cognitive Neuroscience Seminar)	Sept 2020
Rotman Research Institute (Rounds Series)	Nov 2019
Dartmouth College (Cognitive Brown Bag)	Oct 2019
Max Planck Institute for Cognitive and Brain Sciences (Mind Meeting Seminar Series)	Aug 2019
New York State Psychiatric Institute (Clinical, Cognitive, and Computational Neuroscience Seminar)	Aug 2019
Duke University (Cognitive & Cognitive Neuroscience Colloquium Series)	Nov 2018
Columbia University (Theoretical Neuroscience Seminar)	Sep 2018
New York University (Cognition and Perception Seminar)	Sep 2018
Boston University (Brain, Behavior, and Cognition Seminar)	May 2018
University of Waterloo (Theoretical Neuroscience Seminar)	Nov 2017
SUNY Downstate Medical Center (Neural and Behavioral Science Seminar)	Oct 2017
Columbia University Medical Center (Movement Disorders Seminar)	Aug 2017
Columbia University Medical Center (Cognitive Neuroscience Seminar)	May 2017
Baylor College of Medicine (Core for Advanced MRI [CAMRI] Seminar)	April 2017
University of Massachusetts, Amherst (Neuroscience and Behavior Colloquium Series)	March 2017
Icahn School of Medicine at Mount Sinai (Cognition Club)	Feb 2017
University of Arizona (Cognitive Science Colloquium Series)	Oct 2016
University of Oregon (Department of Psychology talk)	Feb 2016
Columbia University (Department of Psychology talk)	Dec 2015
University of Toronto (Psychology Department talk)	July 2011

### **Invited Symposia, Workshops, Discussions, & Panels**

Hippocampal Predictions Link Perception and Memory <i>Cognitive Neuroscience Society Meeting (Organized Symposium); Toronto, Ontario</i>	April 2024
Peer Review 101 <i>Black in Neuro x Reviewer Zero Workshop illuminating the hidden curriculum of peer review</i> <i>Diversity Salon, Northwestern University</i>	Nov 2023
<i>Diversity, Equity, and Inclusion series for Psychology graduate students</i> <i>Topic: Reviewer Zero: Changing the culture of peer review</i>	May 2023
Grants and External Funding Panel: NSF, NIH, DoD, VA, Acts of Congress, and other funding sources – writing, reviewing, and committees	Feb 2023

<i>Brigham and Women's Hospital Postdoc Association Career Development Series</i>	
Developing a Leadership Vision: Best Practices for Developing and Implementing Lab Manuals	Nov 2022
<i>American Society for Biochemistry and Molecular Biology</i>	
Effective Teaching and Mentoring in the Classroom and the Lab	Oct 2022
<i>Brigham and Women's Hospital Postdoc Association Career Development Series</i>	
Open Science Room Table Talk: Lab Culture	June 2022
<i>Organization for Human Brain Mapping, Open Science Special Interest Group</i>	
From Post-Doc to Tenure-Track Faculty: What's the Process Like?	March 2022
<i>Brigham and Women's Hospital Postdoc Association Career Development Series</i>	
Academic Application Boot Camp, Columbia University	Sept 2021
<i>Office of Postdoctoral Affairs and the Zuckerman Institute Programs Office</i>	
<i>Topic: Establishing positive lab culture with a lab manual</i>	
Navigating a Career in Academia	June 2021
<i>Organization for Human Brain Mapping, Student and Postdoc Special Interest Group</i>	
McDonnell Academy International Symposium, Washington University	canceled
<i>Workshop: Memory, Culture, and Brain</i>	
<i>Session: Inside the Head</i>	
<i>Originally scheduled for Oct 2020; canceled due to COVID-19</i>	
Candid Conversations with Faculty, Northwestern University	Oct 2020
Columbia University Career Panel Series: Academic Careers	June 2020
<i>Office of Postdoctoral Affairs</i>	
Pursuing Academic Research Following Graduate School, Association for Psychological Science	canceled
<i>Originally scheduled for May 2020; canceled because of COVID-19</i>	
Professional Development Panel, Cognitive Neuroscience Society Trainee Association	May 2020
Stories in Science Journal Club, Columbia Neuroscience Society	Nov 2019
The Ubiquitous and Adaptive Function of Episodic Memory	Oct 2019
<i>Memory Disorders Research Society Annual Meeting (Organized Symposium); New York, NY</i>	
Creating a Lab Manual	Oct 2019
<i>Office of Research Compliance &amp; Training, and Zuckerman Mind Brain Behavior Institute, Columbia University</i>	
Social Media for Early Career Researchers, Columbia University Postdoctoral Society	May 2019
Creating a Course, Center for Teaching and Learning, Columbia University	April 2019
Communicating Science, Women in Science at Columbia: After Hours Series, Columbia University	Jan 2019
Science of Understanding, Madison, WI	July 2018
Women in Science at Columbia: Research Symposium, Columbia University	April 2018
<i>Facing forward: Effective science communication</i>	
Research Methods Symposium, Teachers College, Columbia University	April 2017
<i>Brain and being: Subjectivity in the age of neuroimaging</i>	
The Lapsing Brain: How Attentional Fluctuations Impact Cognition	March 2017
<i>Cognitive Neuroscience Society Meeting (Invited Symposium); San Francisco, CA</i>	

## INVITED SOCIETY MEMBERSHIPS

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Memory Disorders Research Society	2017 –
<i>Executive Committee Member</i>	2023 –
<i>Justice, Equity, Diversity, &amp; Inclusion Committee Member</i>	2021 – 2023

## TEACHING

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Cognitive Neuroscience, Columbia University	2019 –
<i>Course instructor (undergraduate lecture course; one semester a year)</i>	

Non-mnemonic Functions of Memory Systems, Columbia University <i>Course instructor (graduate &amp; advanced undergraduate seminar; one semester a year)</i>	2018 –
The Brain & Memory, Columbia University <i>Course instructor (undergraduate seminar; one semester a year)</i>	2017 –
Computational Neuroscience: Vision, Cold Spring Harbor Lab <i>Lecturer (summer school; lectures: Vision from the Retina to the Hippocampus; Attention and Perception in Memory Systems)</i>	upcoming in 2024
Research Seminar in Cognition, Columbia University <i>Guest lecturer (graduate seminar; course instructor: Dr. Lila Davachi)</i>	2021
Mind, Brain, & Behavior, Columbia University <i>Course instructor (undergraduate lecture course)</i>	2018
Communicating Science, Columbia University <i>Guest lecturer (graduate seminar; course instructor: Dr. Rae Silver)</i>	2018
Communicating Science, Columbia University <i>Guest lecturer (graduate seminar; course instructor: Dr. Rae Silver)</i>	2017
Human Learning, University of California, Davis <i>Teaching assistant &amp; lab instructor (undergraduate lecture course; course instructor: Dr. Andrew Yonelinas)</i>	2012
Cognitive Neuroscience, University of California, Davis <i>Teaching assistant (undergraduate lecture course; course instructor: Dr. George R. Mangun)</i>	2011
Introduction to Cognitive Psychology, University of California, Davis <i>Teaching assistant &amp; guest lecturer (undergraduate lecture course; course instructor: Dr. Steven J. Luck)</i>	2010
Introduction to Cognitive Psychology, University of California, Davis <i>Teaching assistant (undergraduate lecture course; course instructor: Dr. Katherine Gibbs)</i>	2008

## MENTORING

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### Postdoctoral Researchers

Serra Favila, Columbia University (NIH D-SPAN F99/K00 Award) <i>(faculty at Brown University starting 2024)</i>	2019 –
Halle Dimsdale-Zucker, Columbia University (NIH NRSA Postdoctoral Fellowship [F32]) <i>(now: faculty at UC Riverside)</i>	2019 – 2021
Eren Günseli, Columbia University <i>(now: faculty at Sabancı University)</i>	2017 – 2019

### PhD Students (Primary advisor or co-advisor)

Zall Hirschstein, Columbia University	2023 –
Craig Poskanzer, Columbia University	2021 –
Cheyenne Wakeland-Hart, Columbia University (NSF GRFP award)	2021 –
Manasi Jayakumar, Columbia University	2018 –
Michael Cohanpour, Columbia University (NIH NRSA Predoctoral Fellowship [F31])	2019 – 2023



Hannah Tarder-Stoll, *Columbia University* 2018 – 2023

### PhD Students (Secondary advisor)

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Jorge Mallea, *Columbia University* 2020 –  
Celia Durkin, *Columbia University* 2018 – 2023  
Jonathan Nicholas, *Columbia University* 2018 – 2023  
Paul Bloom, *Columbia University (NSF GRFP Award)* 2018 – 2022  
Monica Thieu, *Columbia University (NSF GRFP Honorable Mention)* 2018 – 2022  
Brian Silston, *Columbia University* 2019 – 2021  
Ellen Tedeschi, *Columbia University* 2017 – 2020  
Erin Kendall Braun, *Columbia University* 2016 – 2018

### PhD Students (Outside project supervisor)

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Nick Hoang, *University of Toronto* 2021 – 2024

### Lab Staff

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Narjes Al-Zahli, *Columbia University* 2023 –  
Raheema Javid, *Columbia University, Columbia Access to Doctoral Readiness Post-Bac Program* 2023 –  
Aria Tsegai-Moore, *Columbia University, Bridge to PhD Scholar* 2021 – 2023  
Zall Hirschstein, *Columbia University (now: PhD Student at Columbia University)* 2020 – 2023  
Nicholas Ruiz, *Columbia University (now: PhD Student at Temple University)* 2017 – 2020

### Undergraduate Students

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Kaylee Wang, *Columbia University (Honors student)* 2020 – 2022  
Edoardo Spolaore, *Columbia University (Honors student)* 2019 – 2021  
Tamar Mosulishvili, *Columbia University (Honors student)* 2018 – 2020  
Nikita Datta, *Columbia University (Honors student)* 2017 – 2019  
Sahiba Singh, *Princeton University (Honors student)* 2015 – 2016  
Cathy Li, *University of California, Davis* 2012 – 2013  
Sara Fraser, *University of California, Davis* 2012  
Michelle Dylla, *University of California, Davis* 2011 – 2012  
Garrett Kronland, *University of California, Davis* 2011  
Rita Kao, *University of California, Davis* 2010 – 2011  
Ashna Singh, *University of California, Davis* 2010 – 2011  
Elyse Wallash, *University of California, Davis* 2008 – 2010

### Other Mentorship

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Women in Learning mentor (<https://www.womeninlearning.com/>) 2020 –

## COMMITTEES FOR GRADUATE STUDENTS

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### Master's Degree Committees

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Craig Poskanzer, *Psychology, Columbia University* 2023  
*Title: Switching between external and internal attention in hippocampal networks*

Cheyenne Wakeland-Hart, *Psychology, Columbia University* 2023  
*Title: Predicting image memorability from evoked feelings*

Manasi Jayakumar, *Psychology, Columbia University* 2020  
*Title: The influence of attentional fluctuations on temporal organization of memory*

Jorge Mallea, <i>Psychology, Columbia University</i> Title: <i>Probability, uncertainty, and reward rate affect different aspects of anticipatory behavior</i>	2020
Hannah Tarder-Stoll, <i>Psychology, Columbia University</i> Title: <i>Multi-step prediction and integration in naturalistic environments</i>	2020
Paul Bloom, <i>Psychology, Columbia University</i> Title: <i>Longitudinal growth charts for amygdala reactivity to emotional faces: A multiverse approach</i>	2019
Celia Durkin, <i>Psychology, Columbia University</i> Title: <i>The temporal dynamics of abstraction</i>	2019
Jonathan Nicholas, <i>Psychology, Columbia University</i> Title: <i>Uncertainty-based arbitration between incremental and episodic control over decisions</i>	2019
Monica Thieu, <i>Psychology, Columbia University</i> Title: <i>Emotion expression and categorial perception</i>	2019
Brian Silston, <i>Psychology, Columbia University</i> Title: <i>Effects of threat on ongoing cognition and behavior in dynamic virtual environments</i>	2017
Ellen Tedeschi, <i>Psychology, Columbia University</i> Title: <i>The effects of aging on curiosity and memory</i>	2017

#### **Dissertation Proposal Committees**

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Jorge Mallea, <i>Psychology, Columbia University</i>	2023
Manasi Jayakumar, <i>Psychology, Columbia University</i>	2022
Matthew Siegelman, <i>Psychology, Columbia University</i>	2022
Hannah Tarder-Stoll, <i>Psychology, Columbia University</i>	2022
Paul Bloom, <i>Psychology, Columbia University</i>	2021
Celia Durkin, <i>Psychology, Columbia University</i>	2021
Jonathan Nicholas, <i>Psychology, Columbia University</i>	2021
Monica Thieu, <i>Psychology, Columbia University</i>	2021
Brian Silston, <i>Psychology, Columbia University</i>	2019
Nicholas Singletary, <i>Neurobiology &amp; Behavior, Columbia University</i>	2019
Ellen Tedeschi, <i>Psychology, Columbia University</i>	2019
Zachary Bucknoff, <i>Psychology, Columbia University</i>	2018
Matti Vuorre, <i>Psychology, Columbia University</i>	2017
Judy Xu, <i>Psychology, Columbia University</i>	2017

#### **Dissertation Defense Committees**

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Hannah Tarder-Stoll, <i>Psychology, Columbia University</i> Title: <i>Flexible representations of temporal structure guide multistep prediction</i>	2023
Michael Cohanpour, <i>Neurobiology &amp; Behavior, Columbia University</i> Title: <i>The cognitive and neural mechanisms of curiosity</i>	2023
Matthew Siegelman, <i>Psychology, Columbia University</i> Title: <i>Generating structured stimuli for investigations of human behavior and brain activity with computational models</i>	2023

Celia Durkin, <i>Psychology, Columbia University</i> Title: <i>The Beholder's Share: Bridging art and neuroscience to study subjective experience</i>	2023
Nicholas Singletary, <i>Neurobiology &amp; Behavior, Columbia University</i> Title: <i>How we know when we don't know enough: Neural representations of probabilistic inference and information demand</i>	2023
Jonathan Nicholas, <i>Psychology, Columbia University</i> Title: <i>Hindsight for foresight: Adaptive uses of memory in value-based decision making</i>	2023
Dara Huggins-James, <i>Psychology, Columbia University</i> Title: <i>A diversity-conflict model of inclusion</i>	2022
Paul Bloom, <i>Psychology, Columbia University</i> Title: <i>Into the multiverse: Methods for studying developmental neuroscience</i>	2022
Monica Thieu, <i>Psychology, Columbia University</i> Title: <i>Exploring perception and categorization of social and affective stimuli</i>	2022
Brian Silston, <i>Psychology, Columbia University</i> Title: <i>Motivational influences on environmental and information exploration, cognition, memory and behavior</i>	2021
Nora Rouast, <i>Experimental Psychology, University of Oxford</i> Title: <i>Mutual influences between memory and attention</i>	2021
Zachary Bucknoff, <i>Psychology, Columbia University</i> Title: <i>Motivator and moralizer: How agency shapes choice and judgment</i>	2020
Ellen Tedeschi, <i>Psychology, Columbia University</i> Title: <i>Knowledge for the sake of knowledge: Understanding the relationship between curiosity, exploration and reward</i>	2020
Linbi Hong, <i>Electrical Engineering, Columbia University</i> Title: <i>Mapping the spatiotemporal interactions of the human brain's attention reorienting and arousal systems using multimodal recording techniques</i>	2019
Emily Cowan, <i>Cognitive Neuroscience, New York University</i> Title: <i>The effect of sleep on the neural organization of memory traces</i>	2019
Raphael Gerraty, <i>Psychology, Columbia University</i> Title: <i>Brain network mechanisms in learning behavior</i>	2018
Erin Kendall Braun, <i>Psychology, Columbia University</i> Title: <i>Brain Mechanisms of adaptive memory: Neuromodulation and behavior in humans</i>	2018
Judy Xu, <i>Psychology, Columbia University</i> Title: <i>Understanding the behavioral and neurocognitive relation between mind wandering and learning</i>	2018
Matti Vuorre, <i>Psychology, Columbia University</i> Title: <i>Using visual illusions to examine action-related perceptual changes</i>	2018
Hongmi Lee, <i>Cognitive Neuroscience, New York University</i> Title: <i>Mnemonic content representations in human posterior parietal cortex</i>	2018
Andrew Heusser, <i>Cognitive Neuroscience, New York University</i>	2016

Title: *The role of neural oscillations in the encoding and organization of sequential events*

## UNIVERSITY SERVICE

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### Columbia University Psychology Department Service

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Colloquium Committee, <i>organizing departmental colloquia</i> (Co-chairs: Dr. Rae Silver & Dr. Nim Tottenham)	2020 – 2023
Faculty advisor for Columbia University's Psi Chi Honor Society	2017 – 2023
Faculty mentor for Psychology Department post-docs, <i>career development sessions for post-docs</i>	2017 – 2023
Summer Internship Program in Psychological Science, <i>faculty mentor</i>	2022
Graduate Funding Committee, <i>financial planning related to graduate student costs</i>	2018 – 2019
Faculty Search Committee, <i>for tenure-track assistant professor; joint search with Zuckerman Institute</i>	2018 – 2019
Space Committee, <i>to evaluate space needs of the department and plan for its future</i>	2017 – 2019
Faculty Search Committee, <i>for lecturer positions</i>	2017 – 2018
Edward E. Smith Memorial Award Committee, <i>selecting outstanding graduate students for an award</i>	2017

### Columbia University Service Beyond the Department

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Faculty advisor for Columbia's chapter of Synapse, <i>social support for individuals with brain injuries</i>	2019 –
Selection Committee for the Presidential Awards for Outstanding Teaching	2023
Faculty Search Committee, <i>for tenure-track assistant professor at Barnard Psychology</i>	2022 – 2023
Junior Faculty Advisory Board	2019 – 2021
Chair of the Cognitive and Behavioral Neuroscience University Seminar (Co-chair: Dr. Herb Terrace)	2017 – 2020
Presidential Scholars in Society and Neuroscience, <i>application reviewer</i>	2020
Faculty panel for Bridge to Ph.D. participants, <i>graduate admissions advice for under-represented groups</i>	2020
Faculty panel of awardees of the Lenfest Junior Faculty Development Grant	2019
Faculty panel for Bridge to Ph.D. participants, <i>graduate admissions advice for under-represented groups</i>	2017

## SERVICE TO THE DISCIPLINE

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### Reviewer — Funding Agencies

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Medical Research Council  
National Institutes of Health  
    Human Complex Mental Function Study Section (temporary member)  
National Science Foundation  
    *Division of Behavioral and Cognitive Sciences*  
    Cognitive Neuroscience Panel  
    Ad-hoc reviewer for Cognitive Neuroscience  
    Ad-hoc reviewer for Perception, Action, & Cognition  
Netherlands Organisation for Scientific Research

### Reviewer — Journals

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<i>Attention, Perception, &amp; Psychophysics</i>	<i>eLife</i>
<i>Behavioural Neurology</i>	<i>eNeuro</i>
<i>Brain</i>	<i>Journal of Cognitive Psychology</i>
<i>Brain Research</i>	<i>Journal of Cognitive Neuroscience</i>
<i>Cerebral Cortex</i>	<i>Journal of Experimental Psychology: Learning, Memory, &amp; Cognition</i>
<i>Cerebral Cortex Communications</i>	<i>Journal of Neuroscience</i>
<i>Cognitive Neuroscience</i>	<i>Memory &amp; Cognition</i>
<i>Cortex</i>	<i>Nature Communications</i>
<i>Current Biology</i>	

Neurobiology of Aging  
 Neurobiology of Learning and Memory  
 Neuron  
 Neuropsychologia  
 Neuroscience & Biobehavioral Reviews  
 PLoS ONE

Psychological Science  
 Psychonomic Bulletin & Review  
 Psychological Review  
 Quarterly Journal of Experimental Psychology  
 Visual Cognition

### Reviewer — Other

NeurIPS Workshop Program Committee 2022  
*reviewed submissions for workshop on “Memory in Artificial and Real Intelligence”*

JoCN and CNS Travel Fellowship Reviews 2022 – 2023  
*reviewed applications for travel fellowships to the annual Cognitive Neuroscience Society meeting; fellowships were provided by the Journal of Cognitive Neuroscience*  
*This fellowship aims to promote geographic diversity at the CNS meeting by providing travel funding for trainees from Oceania and Southeast Asia, South Asia, Africa, and the Western Hemisphere (minus US and Canada)*

### Editorial Roles

Journal of Cognitive Neuroscience, Consulting Editor 2020 –  
 Neuroscience Letters, Guest Editor 2016 – 2018

### Edited Volumes

New Perspectives on the Hippocampus and Memory, Neuroscience Letters 2018  
<https://www.sciencedirect.com/journal/neuroscience-letters/vol/680/suppl/C>

### Organized Conferences

Memory Disorders Research Society, Annual Meeting October 2019  
*with Dr. Daphna Shohamy & Dr. Lila Davachi*

### DEI & Outreach Activities

Trainee Coordinator for Reviewer Zero 2020 –  
*pre-review mentorship network to illuminate hidden curriculum of peer review*

Researcher Catalysts Interview 2024  
*Interview for organization that exposes high school students to researchers in STEM*

Mock Interviews for Cientifico Latino 2022, 2024  
*mock interviews for Latino graduate school applicants in Psychology; <https://www.cientificolatino.com/>*

Black in Neuro Week Sponsor 2022, 2023  
*monetary contributions and in-kind services (career / grad school mentorship)*

Justice, Equity, Diversity, and Inclusion (JEDI) Committee 2021 – 2023  
*DEI for the Memory Disorders Research Society*

Information and advice for prospective graduate students at SACNAS 2021  
*Columbia Psychology booth at the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) National Diversity in STEM Digital Conference*

Mock Interviews for Black in Neuro 2021  
*mock interviews for Black graduate school applicants in Neuroscience; <https://www.blackinneuro.com/>*

Let’s Talk Grad School 2020, 2021

*graduate school advice for under-represented minoritized trainees; organized by Dr. Margaret Echelbarger*

Career development sessions for under-represented minoritized trainees 2020  
*6 virtual sessions on academic jobs for students and post-docs who come from groups under-represented in STEM; sessions were attended by 100+ trainees all over the world*

Participant in the World Science Festival's *Lab Tours for Girls* event 2018

## **MEDIA**

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*Science Friday (WNYC Studios and NPR), February 2024*

<https://www.sciencefriday.com/segments/jeopardy-winner-memory-recall/>

*Interviewed about our paper showing enhanced episodic-semantic coupling in trivia experts (Thieu, Wilkins, & Aly, 2024)*

*Scientific American, February 2024*

<https://www.scientificamerican.com/article/jeopardy-winner-reveals-entwined-memory-systems-make-a-trivia-champion/>

*Interviewed about our paper showing enhanced episodic-semantic coupling in trivia experts (Thieu, Wilkins, & Aly, 2024)*

*The Transmitter, February 2024*

*Interviewed about the challenges to the traditional view of the medial temporal lobe as a memory system*

*Researcher Catalysts, February 2024*

<https://researchercatalyst.wixsite.com/researcher-catalysts/general-8>

*Interview for organization that exposes high school students to researchers in STEM*

*The Transmitter, January 2024*

<https://www.thetransmitter.org/cognition/cognition-in-brainless-organisms-is-redefining-what-it-means-to-learn/>

*Interviewed about learning and cognition in organisms without a central nervous system*

*Psychonomic Society Featured Content, October 2023*

<https://featuredcontent.psychonomic.org/when-looks-are-deceiving-our-memory-can-help/>

*Feature about our research showing how memory helps perceptual decision making (Bornstein, Aly, Feng, Turk-Browne, Norman, & Cohen, 2023)*

*Brain Inspired, December 2022*

<https://braininspired.co/podcast/156/>

*Interviewed about my research for a podcast by Paul Middlebrooks, which explores the relationship between natural and artificial intelligence*

*Brain Banter Podcast, Grey Matters CU, March 2022*

<https://open.spotify.com/episode/324j048T8uZEifnLncBW5Z?si=l0K0e3peSP-0mOzQvImVCg&nd=1>

*Interviewed for a podcast about Columbia faculty's research and experience in academia*

*CBC Radio (CBC Newfoundland Morning), January 2022*

*Interviewed about how the COVID-19 pandemic has affected people's sense of time and memory for life details*

*The Washington Post, January 2022*

<https://www.washingtonpost.com/lifestyle/2022/01/20/pandemic-memory-covid-2020-2021-2022/>

*Interviewed about how the COVID-19 pandemic has affected memory and sense of time*

*The Pathologist, November 2021*

<https://thepathologist.com/diagnostics/pathobot-deep-learning-for-humans-and-machines>

*Interviewed for my role in a large multi-institution, international collaboration that integrates deep learning techniques and social media to help pathologists worldwide seek second opinions*

*Grey Matters, Columbia's Undergraduate Neuroscience Journal, October 2021*

<https://www.greymattersjournalcu.org/post/mind-the-migraine>

*Interviewed about my experience as a migraine sufferer*

*National Public Radio, August 2021*

<https://www.npr.org/2021/08/27/1031255390/reports-of-cheating-at-colleges-soar-during-the-pandemic>

*Interviewed about academic misconduct in online courses during the COVID-19 pandemic*

*Proceedings of the National Academy of Sciences, Journal Club, April 2021*

<https://www.pnas.org/post/journal-club/several-brain-regions-help-us-anticipate-whats-going-to-happen-next>

*Feature about our research showing anticipatory hierarchies in the brain (Baldassano, Aly, & Lee, 2021)*

*American Psychological Association, Monitor, April 2021*

<https://www.apa.org/monitor/2021/04/cover-dismantle-racism>

*Interviewed with other members of Reviewer Zero for the article, "Psychology's urgent need to dismantle racism"*

*The Brain Made Plain, January 2021*

*Interviewed for a cognitive neuroscience podcast by Dr. Jonathan Peelle; aimed at undergraduate students and a lay audience*

*Harvard Women in Psychology, September 2020*

*Featured in the 'By the Brain' section of a monthly newsletter that presents interviews of women in psychology*

*Simply Neuroscience Podcast, College Neuro Network Series, August 2020*

<https://open.spotify.com/episode/67WsZZRTldbS261sXi116S?si=d1417868965b4026>

*Interviewed for podcast about Psychology/Neuroscience programs, for interested high school students*

*Wonder Media Network's Memory Booster Podcast, June 2020*

*Interviewed for podcasts about working memory & visual memory*

*ASBMB Today, November 2018*

<https://www.asbmb.org/asbmb-today/careers/110118/tweeting-for-rules>

*Interviewed about my lab manual, which was featured in Nature (see Editorials, Commentaries, & Perspectives)*

*Women's Health Magazine, October 2017*

<https://www.lesliegoldmanwrites.com/pdfs/who.pdf>

*Interviewed about memory and how to improve it*