

Mariam Aly

Columbia University
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Academic Appointments

Assistant Professor	Columbia University <i>Department of Psychology</i>	2017 –
	<i>Affiliated Faculty in Cognitive Science (Barnard College)</i>	2022 –
	<i>Affiliate Member of the Zuckerman Mind Brain Behavior Institute</i>	2019 –
	<i>Training Faculty, Doctoral Program in Neurobiology and Behavior</i>	2019 –

Education and Training

Postdoctoral Research Associate	Princeton University <i>Advisor: Dr. Nicholas Turk-Browne</i>	2013 – 2017
Ph.D. (Psychology)	University of California, Davis <i>Advisors: Dr. Andrew Yonelinas and Dr. Charan Ranganath</i>	2010 – 2013
M.A. (Psychology)	University of California, Davis <i>Advisors: Dr. Andrew Yonelinas and 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

Awards, Honors, and Fellowships

Presidential Award for Outstanding Teaching, <i>Columbia University</i>	2022
Rising Star, Association for Psychological Science	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>for 1st place talk at the Department of Psychology Spring Conference, UC Davis</i>	2012
University College Medal for Best Degree in Science, <i>University of Toronto</i>	2008
Rose Sheinin Award <i>for most outstanding female student graduating in a science program,</i> <i>University of Toronto</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</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
Dean's List Scholar, <i>University of Toronto</i>	2004 – 2008
Queen Elizabeth Scholarship	2004 – 2008

Pending Research Grants (Award expected Jan/Feb 2023)

National Institutes of Health Research Project Grant (R01)

National Eye Institute

Title: Hierarchies of spatiotemporal anticipation in the human brain

Role: PI

MPI: Dr. Christopher Baldassano

Funding / Research Support (Principal Investigator or Co-Investigator)

National Science Foundation Innovations in Graduate Education Grant (DGE-2224777) 2022 – 2025

Title: Reviewer Zero: Changing the culture of peer review to increase diversity, equity, & inclusion

Role: PI

Other PIs: Dr. Amanda Diekman; Dr. Pablo Gomez

Canadian Institutes of Health Research Project Grant (INMHA) 2020 – 2025

Title: Investigating the Dynamics of Thought using Brain Connectivity and Experience Sampling

Role: Co-Investigator; Principal Investigator: Dr. Kalina Christoff

Other Co-Investigators: Dr. Jessica Andrews-Hanna; Dr. Caitlin Mills

National Science Foundation CAREER Award (BCS-1844241) 2019 – 2024

Title: How Memory Contributes to Goal-Directed Attention

Role: PI

NARSAD Young Investigator Grant (Brain & Behavior Research Foundation, Grant #27893) 2020 – 2022

Title: Balancing Internally- and Externally-Focused Thought in the Brain

Role: PI

Zuckerman Institute Seed Grant for MR Studies (CU-ZI-MR-S-0016) 2019 – 2021

Title: Multiple Timescales of Prediction in the Brain During Naturalistic Perception

Role: PI

Co-PI: Dr. Christopher Baldassano

Provost's Grant for Junior Faculty who Contribute to the Diversity Goals of the University 2018 – 2019

Title: Complementary Forms of Goal-Directed Behavior

Role: PI

Zuckerman Institute Seed Grant for MR Studies (CU-ZI-MR-S-0001) 2018 – 2019

Title: Modulation of Representational Connectivity by Memory-Guided Attention

Role: PI

Lenfest Junior Faculty Development Grant 2018 – 2019

Title: Guidance of Attention and Visual Exploration by the Hippocampus

Role: PI

Natural Sciences and Engineering Research Council of Canada PGS-D (NSERC-433638) 2009 – 2012

Doctoral Postgraduate Scholarship (Foreign)

Title: The Role of the Perirhinal Cortex in Associative Memory

Role: PI

Natural Sciences and Engineering Research Council of Canada PGS-M (NSERC-405293)
Master's Postgraduate Scholarship (Foreign)
Title: *Episodic and Procedural Memory Consolidation in Older and Younger Adults*
Role: PI

2008 – 2009

Other Grants (Consulting or Minor 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 Organizing Committee*

Pls: *Dr. Molly Crockett and Dr. Anna Fisher*

Preprints

Poskanzer C, **Aly M.** (2022). Switching between external and internal attention in hippocampal networks. *bioRxiv*. <https://doi.org/10.1101/2022.12.20.521285>

Aly M, Colunga E, Crockett MJ, Goldrick M, Gomez P, Kung FYH, McKee PC, Pérez M, Stilwell SM, Diekman AB. (2022). Changing the culture of peer review for a more inclusive and equitable psychological science. *PsyArXiv*. <https://psyarxiv.com/435xz>

Bornstein AM, **Aly M**, Feng SF, Turk-Browne NB, Norman KA, Cohen JD. (2022). Associative memory retrieval resolves anticipated uncertainty of upcoming perceptual decisions. *bioRxiv*. <https://doi.org/10.1101/186817>

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

Jayakumar M, Balusu C, **Aly M.** (2022). Attentional fluctuations and the temporal organization of memory. *PsyArXiv*. <https://psyarxiv.com/j32bn>

Silston B, Ochsner KN, **Aly M.** (2021). Threat impairs flexible use of a cognitive map. *PsyArXiv*. <https://psyarxiv.com/7p69d/>

In Progress Registered Reports

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 S, Pan S, Tottenham N*, **Aly M***. (2022). Effects of familiar music exposure on deliberate retrieval of remote episodic and semantic memories in healthy aging adults. Stage 1 accepted in principle at *Memory*. Stage 2 under review. Manuscript available on *PsyArXiv*. <https://psyarxiv.com/tejb4/>

*These authors are co-PIs of this work

Peer-Reviewed Publications

Hirschstein Z, **Aly M.** (2022). Long-term memory and working memory compete and cooperate to guide attention. *Attention, Perception, & Psychophysics*. <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

Schaumberg AJ, Juarez-Nicanor W, Choudhury SJ, Pastríán 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

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

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

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 and Commentaries

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>

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>

Selected Conference Presentations (last 5 years)

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 11th 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] **co-PIs*
Extended abstract published in J Pathol Inform. 2021; 12: 37. PMID: PMC8546358

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*. (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.

Invited Seminars & Colloquia

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	Aug 2021
(joint seminar: Dartmouth, Penn, Yale, MIT, Princeton, Harvard, Columbia, Gallaudet)	
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 Toronto (Psychology Department talk)	July 2011

Invited Symposia

Memory Disorders Research Society Annual Meeting, <i>New York City</i> <i>Session: The ubiquitous and adaptive function of episodic memory</i>	Oct 2019
Women in Science at Columbia: Research Symposium, <i>Columbia University</i> <i>Session: Facing forward: Effective science communication</i>	April 2018
Research Methods Symposium, <i>Teachers College, Columbia University</i> <i>Session: Brain and being: Subjectivity in the age of neuroimaging</i>	April 2017
Cognitive Neuroscience Society Meeting (Invited Symposium), <i>San Francisco</i> <i>Session: The lapsing brain: How attentional fluctuations impact cognition</i>	March 2017

Invited Workshops, Discussions, & Panels

Grants and External Funding Panel: NSF, NIH, DoD, VA, Acts of Congress, and other funding sources – writing, reviewing, and committees <i>Brigham and Women's Hospital Postdoc Association Career Development Series</i>	Feb 2023
Developing a Leadership Vision: Best Practices for Developing and Implementing Lab Manuals <i>American Society for Biochemistry and Molecular Biology</i>	Nov 2022
Effective Teaching and Mentoring in the Classroom and the Lab <i>Brigham and Women's Hospital Postdoc Association Career Development Series</i>	Oct 2022
Open Science Room Table Talk: Lab Culture <i>Organization for Human Brain Mapping, Open Science Special Interest Group</i>	June 2022
From Post-Doc to Tenure-Track Faculty: What's the Process Like? <i>Brigham and Women's Hospital Postdoc Association Career Development Series</i>	March 2022
Academic Application Boot Camp, <i>Columbia University</i> <i>Office of Postdoctoral Affairs and the Zuckerman Institute Programs Office</i>	Sept 2021

<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
Creating a Lab Manual	Oct 2019
<i>Office of Research Compliance & 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

Chaired Colloquia

Department of Psychology Colloquium, Columbia University and Barnard College	2020 –
<i>Co-chairs: Dr. Rae Silver & Dr. Nim Tottenham</i>	
Cognitive and Behavioral Neuroscience University Seminar, Columbia University	2017 – 2020
<i>Co-chair: Dr. Herbert Terrace</i>	

Teaching

Cognitive Neuroscience, Columbia University	2019 –
<i>Course instructor (undergraduate lecture course; one semester a year)</i>	
Non-mnemonic Functions of Memory Systems, Columbia University	2018 –
<i>Course instructor (graduate & advanced undergraduate seminar; one semester a year)</i>	
The Brain & Memory, Columbia University	2017 –
<i>Course instructor (undergraduate seminar; one semester a year)</i>	
Research Seminar in Cognition	2021
<i>Guest lecturer (graduate seminar; course instructor: Dr. Lila Davachi)</i>	
Mind, Brain, & Behavior, Columbia University	2018
<i>Course instructor (undergraduate lecture course)</i>	
Communicating Science, Columbia University	2018
<i>Guest lecturer (graduate seminar; course instructor: Dr. Rae Silver)</i>	
Communicating Science, Columbia University	2017
<i>Guest lecturer (graduate seminar; course instructor: Dr. Rae Silver)</i>	
Human Learning, University of California, Davis	2012

Teaching assistant & lab instructor (undergraduate lecture course; course instructor: Dr. Andrew Yonelinas)

Cognitive Neuroscience, University of California, Davis 2011
Teaching assistant (undergraduate lecture course; course instructor: Dr. George R. Mangun)

Introduction to Cognitive Psychology, University of California, Davis 2010
Teaching assistant & guest lecturer (undergraduate lecture course; course instructor: Dr. Steven J. Luck)

Introduction to Cognitive Psychology, University of California, Davis 2008
Teaching assistant (undergraduate lecture course; course instructor: Dr. Katherine Gibbs)

Mentoring (postdoctoral researchers)

Serra Favila, *Columbia University (NIH D-SPAN F99/K00 Award)* 2019 –
Halle Dimsdale-Zucker, *Columbia University (NIH NRSA Postdoctoral Fellowship [F32])* 2019 – 2021
faculty at UC Riverside starting 2023
Eren Günseli, *Columbia University (now: faculty at Sabancı University)* 2017 – 2019

Mentoring (PhD students; primary advisor or co-advisor)

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

Mentoring (PhD students; secondary advisor)

Jorge Mallea, *Columbia University* 2020 –
Celia Durkin, *Columbia University* 2018 –
Jonathan Nicholas, *Columbia University* 2018 –
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

Mentoring (PhD students; outside project supervisor)

Nick Hoang, *University of Toronto* 2021 –

Mentoring (lab staff)

Aria Tsegai-Moore, *Columbia University, Bridge to PhD Scholar* 2021 –
Zall Hirschstein, *Columbia University* 2020 –
Nicholas Ruiz, *Columbia University (now: PhD Student at Temple University)* 2017 – 2020

Mentoring (undergraduate students)

Nicole Mbibi, *Columbia University (STAR student)* 2023 –
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, <i>Princeton University (Honors student)</i>	2015 – 2016
Cathy Li, <i>University of California, Davis</i>	2012 – 2013
Sara Fraser, <i>University of California, Davis</i>	2012
Michelle Dylla, <i>University of California, Davis</i>	2011 – 2012
Garrett Kronland, <i>University of California, Davis</i>	2011
Rita Kao, <i>University of California, Davis</i>	2010 – 2011
Ashna Singh, <i>University of California, Davis</i>	2010 – 2011
Elyse Wallash, <i>University of California, Davis</i>	2008 – 2010

Mentoring (other)

Women in Learning mentor (https://www.womeninlearning.com/)	2020 –
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Master's Degree Committees

Manasi Jayakumar, <i>Psychology, Columbia University</i>	2020
Jorge Mallea, <i>Psychology, Columbia University</i>	2020
Hannah Tarder-Stoll, <i>Psychology, Columbia University</i>	2020
Paul Bloom, <i>Psychology, Columbia University</i>	2019
Celia Durkin, <i>Psychology, Columbia University</i>	2019
Jonathan Nicholas, <i>Psychology, Columbia University</i>	2019
Monica Thieu, <i>Psychology, Columbia University</i>	2019
Brian Silston, <i>Psychology, Columbia University</i>	2017
Ellen Tedeschi, <i>Psychology, Columbia University</i>	2017

Dissertation Proposal Committees

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 & 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

Dara Huggins-James, <i>Psychology, Columbia University</i>	2022
Paul Bloom, <i>Psychology, Columbia University</i>	2022
Monica Thieu, <i>Psychology, Columbia University</i>	2022
Brian Silston, <i>Psychology, Columbia University</i>	2021
Nora Rouast, <i>Experimental Psychology, University of Oxford</i>	2021
Zachary Bucknoff, <i>Psychology, Columbia University</i>	2020
Ellen Tedeschi, <i>Psychology, Columbia University</i>	2020
Linbi Hong, <i>Electrical Engineering, Columbia University</i>	2019
Emily Cowan, <i>Cognitive Neuroscience, New York University</i>	2019
Raphael Gerraty, <i>Psychology, Columbia University</i>	2018

Erin Kendall Braun, <i>Psychology, Columbia University</i>	2018
Judy Xu, <i>Psychology, Columbia University</i>	2018
Matti Vuorre, <i>Psychology, Columbia University</i>	2018
Hongmi Lee, <i>Cognitive Neuroscience, New York University</i>	2018
Andrew Heusser, <i>Cognitive Neuroscience, New York University</i>	2016

Columbia University Service: Psychology Department

Colloquium Committee, <i>organizing departmental colloquia (Co-chairs: Dr. Rae Silver & Dr. Nim Tottenham)</i>	2020 –
Faculty advisor for Columbia University's Psi Chi Honor Society	2017 –
Faculty mentor for Psychology Department post-docs, <i>career development sessions for post-docs</i>	2017 –
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: General

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
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

Other Service, DEI, & Outreach Activities

Justice, Equity, Diversity, and Inclusion (JEDI) Committee, <i>DEI for the Memory Disorders Research Society</i>	2021 –
Trainee Coordinator for Reviewer Zero, <i>pre-review mentorship network to provide under-represented minoritized trainees with feedback on manuscripts and grants prior to submission</i>	2020 –
Mock Interviews for Cientifico Latino, <i>participated in mock interviews for Latino graduate school applicants in Psychology; organized by Cientifico Latino https://www.cientificolatino.com/</i>	2022
Information and advice for prospective graduate students, <i>Columbia Psychology booth at the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) National Diversity in STEM Digital Conference</i>	2021
Mock Interviews for Black in Neuro, <i>participated in mock interviews for Black graduate school applicants in Neuroscience; organized by Black in Neuro https://www.blackinneuro.com/</i>	2021
Let's Talk Grad School, <i>graduate school advice for under-represented minoritized trainees, via Zoom sessions; organized by Dr. Margaret Echelbarger</i>	2020, 2021
Career development sessions for under-represented minoritized trainees, <i>organized 6 virtual sessions on academic jobs for students and post-docs who come from groups under-represented in STEM; sessions were attended by over 100 trainees all over the world</i>	2020

Ad Hoc Reviewer — Journals

<i>Attention, Perception, & Psychophysics</i>	<i>Journal of Neuroscience</i>
<i>Behavioural Neurology</i>	<i>Nature Communications</i>
<i>Brain</i>	<i>Neurobiology of Aging</i>
<i>Brain Research</i>	<i>Neurobiology of Learning and Memory</i>
<i>Cerebral Cortex</i>	<i>Neuron</i>
<i>Cerebral Cortex Communications</i>	<i>Neuropsychologia</i>
<i>Cognitive Neuroscience</i>	<i>Neuroscience & Biobehavioral Reviews</i>
<i>Cortex</i>	<i>PLoS ONE</i>
<i>Current Biology</i>	<i>Psychological Science</i>
<i>eLife</i>	<i>Psychonomic Bulletin & Review</i>
<i>eNeuro</i>	<i>Psychological Review</i>
<i>Journal of Cognitive Psychology</i>	<i>Quarterly Journal of Experimental Psychology</i>
<i>Journal of Cognitive Neuroscience</i>	<i>Visual Cognition</i>
<i>Journal of Experimental Psychology: Learning, Memory, & Cognition</i>	

Ad Hoc Reviewer — Funding Agencies

Medical Research Council
National Institutes of Health, <i>Human Complex Mental Function Study Section</i>
National Science Foundation, <i>Division of Behavioral and Cognitive Sciences</i>
Netherlands Organisation for Scientific Research
Presidential Scholars in Society and Neuroscience, <i>Columbia University</i>

Ad Hoc Reviewer — Other

NeurIPS Workshop Program Committee <i>reviewed submissions for workshop on "Memory in Artificial and Real Intelligence"</i>	2022
JoCN and CNS Travel Fellowship Reviews <i>reviewed applications for a travel fellowship to the annual Cognitive Neuroscience Society meeting; fellowships were provided by the Journal of Cognitive Neuroscience</i> <i>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)</i>	2022

Editorial Roles

<i>Journal of Cognitive Neuroscience</i> , Consulting Editor	2020 –
<i>Neuroscience Letters</i> , Guest Editor	2016 – 2018

Edited Volumes

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

Memory Disorders Research Society	2017 –
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Organized the 2019 meeting (with Dr. Daphna Shohamy & Dr. Lila Davachi)

Media

Brain Inspired, December 2022

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

Grey Matters, Columbia's Undergraduate Neuroscience Journal, March 2022

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

CBC Radio (CBC Newfoundland Morning), January 2022

<https://www.cbc.ca/listen/live-radio/1-210-cbc-newfoundland-morning/clip/15892241-assoc.-new-canadians-seeks-volunteers-family-match-program>

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>

Interviewed for an article about a recent paper (Baldassano, Aly, & Lee, 2021, eLife)

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 their monthly newsletter, which 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)

Women's Health Magazine, October 2017

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

Interviewed about memory and how to improve it