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Baltimore, MD 21218, USA

Positions

- 2017- Assistant Professor, Psychological and Brain Sciences
Johns Hopkins University
- 2012-2016 Post-Doctoral Researcher, Princeton Neuroscience Institute
Princeton University
Temporal dynamics of brain systems supporting episodic memory
Advisor: Uri Hasson Co-Advisor: Kenneth Norman

Education

- 2005-2011 PhD, Stanford University, Psychology (Neuroscience Area)
Advisor: Anthony Wagner
Dissertation: Prediction and novelty in the human medial temporal lobe
- 1998-2002 BS, Massachusetts Institute of Technology, Brain & Cognitive Sciences

Awards

Kavli Fellow (2020); Google Faculty Research Award (2020); Sloan Research Fellowship (2018); T32 Princeton Quantitative Neuroscience Postdoctoral Training Grant (2013-2015); Graduate Teaching Award, Stanford University (2008); Advanced Human Communication Technologies Research Grant, Media-X Program (2007); National Science Foundation Graduate Fellowship, Honorable Mention (2006 & 2007); Alberta Engvall Siegel Fellowship, Stanford University (2005)

Society Memberships

Society for Neuroscience; Cognitive Neuroscience Society; Memory Disorders Research Society (elected)

Publications (peer-reviewed)

Lee H, Chen J (under review). A generalized cortical activity pattern at internally-generated mental context boundaries during unguided narrative recall. *bioRxiv*: 10.1101/2021.09.07.459300

Lee H, Chen J (under review). Narratives as networks: Predicting memory from the structure of naturalistic events. *bioRxiv*: 10.1101/2021.04.24.441287

Musz E, Lioatile RE, Chen J, Bedny M (under review). Naturalistic audio-movies reveal common spatial organization across "visual" cortices of different blind individuals. *bioRxiv*: 10.1101/2021.04.01.438106

Musz E, Lioiote RE, **Chen J**, Cusack R, & Bedny M (under review). Naturalistic stimuli reveal a critical period in visual cortex development.

Nastase SA, Liu Y-F, Hillman H, Zadbood A, Hasenfratz L, Keshavarzian N, **Chen J**, Honey J, Yeshurun Y, Regev M, Nguyen M, Chang CHC, Baldassano C, Lositsky O, Simony E, Chow MA, Leong YC, Brooks PP, Micciche E, Choe E, Goldstein A, Vanderwal T, Halchenko YO, Norman KA, Hasson U (2021). Narratives: fMRI data for evaluating models of naturalistic language comprehension. *Scientific Data*. *bioRxiv*: 10.1101/2020.12.23.424091

Leong YC, **Chen J**, Willer R, Zaki J (2021). Conservative and liberal attitudes drive polarized neural responses to political content. *Proceedings of the National Academy of Sciences*.

Lee H, Bellana B, **Chen J** (2020). What can narratives tell us about the neural bases of human memory? *Current Opinion in Behavioral Sciences*.

Zuo X, Honey CJ, Barense MD, Crombie D, Norman KA, Hasson U, **Chen J** (2020). Temporal integration of narrative information in a hippocampal amnesic patient. *NeuroImage*.

Sadeh T, **Chen J**, Y Goshen-Gottstein, Moscovitch M (2019). Overlap between hippocampal pre-encoding and encoding patterns supports episodic memory. *Hippocampus*.

Regev M, Simony E, Lee K, Tan KM, **Chen J**, Hasson U (2019). Propagation of information along the cortical hierarchy as a function of attention while reading and listening to stories. *Cerebral Cortex*.

Arcaro MJ, Pinsk MA, **Chen J**, Kastner S (2018). Organizing principles of pulvino-cortical connectivity in humans. *Nature Communications*.

Aly M, **Chen J**, Turk-Browne N, Hasson U (2018). Learning naturalistic temporal structure in the posterior medial network. *Journal of Cognitive Neuroscience*.

Baldassano C, **Chen J**, Zadbood A, Pillow JW, Hasson U, & Norman KA (2017). Discovering event structure in continuous narrative perception and memory. *Neuron*.

Zadbood A, **Chen J**, Leong YC, Norman KA, & Hasson U (2017). How we transmit memories to other brains: constructing shared neural representations via communication. *Cerebral Cortex*.

Vodrahalli K, Chen P-H, Liang Y, Baldassano C, **Chen J**, Yong E, Honey CH, Hasson U, Ramadge PJ, Norman KA, Arora S (2017). Mapping between fMRI responses to movies and their natural language annotations. *NeuroImage*.

Chen J*, Leong YC*, Honey CJ, Yong CH, Norman KA, Hasson U (2017). Shared memories reveal shared structure in neural activity across individuals. *Nature Neuroscience*. (*co-authorship)

Yeshurun Y, Swanson S, Simony E, **Chen J**, Lazaridi C, Honey CJ, Hasson U (2017). Same story, different story: the neural representation of interpretive frameworks. *Psychological Science*.

Lositsky O, **Chen J**, Toker D, Honey CJ, Poppenk JL, Hasson U, Norman KA (2016). Neural pattern change during encoding of a narrative predicts retrospective duration estimates. *eLife*.

- Simony E, Honey CJ, **Chen J**, Lositsky O, Yeshurun Y, A Wiesel, Hasson U (2016). Uncovering stimulus-induced network dynamics during narrative comprehension. *Nature Communications*.
- Honey CJ, **Chen J**, Musch K, Hasson U (2016, commentary). How long is now? The multiple timescales of language processing. *Behavioral and Brain Sciences*.
- Chen J**, Honey CJ, Simony E, Arcaro MJ, Norman KA, Hasson U (2016). Accessing real-life episodic information from minutes versus hours earlier modulates hippocampal and high-order cortical dynamics. *Cerebral Cortex*.
- Chen J**, Hasson U, Honey CJ (2015, commentary). Processing timescales as an organizing principle for primate cortex. *Neuron*.
- Chen PH, **Chen J**, Yeshurun Y, Hasson U, Haxby J, Ramadge PJ (2015). A reduced-dimension fMRI shared response model. *Neural Information Processing Systems*.
- Chen J**, Cook PA, Wagner AD (2015). Prediction strength modulates responses in human area CA1 to sequence violations. *Journal of Neurophysiology*.
- Gonzalez A, Hutchinson JB, Uncapher MR, **Chen J**, LaRocque KF, Foster BL, Rangarajan V, Parvizi J, Wagner AD (2015). Electrocorticography reveals the temporal dynamics of posterior parietal cortical activity during recognition memory decisions. *Proceedings of the National Academy of Sciences*.
- Hasson U, **Chen J**, Honey CJ. Hierarchical process memory: memory as an integral component of information processing (2015). *Trends in Cognitive Sciences*.
- Chen J**, Dastjerdi M, Foster BL, Larocque KF, Rauschecker AM, Parvizi J, Wagner AD (2013). Human hippocampal increases in low-frequency power during associative prediction violations. *Neuropsychologia*.
- Chen J**, Olsen RK, Preston AR, Glover GH, & Wagner AD (2011). Associative retrieval processes in the human medial temporal lobe: hippocampal retrieval success and CA1 mismatch detection. *Learning & Memory*.
- Rauschecker AM, Dastjerdi M, Weiner KS, Witthoft N, **Chen J**, Selimbeyoglu A, Parvizi J (2011). Illusions of visual motion elicited by electrical stimulation of human MT complex. *PLoS ONE*.
- Clausen TP, **Chen J**, Bryant JP, Provenza FD, Villalba J (2010). Dynamics of the volatile defense of winter “dormant” balsam poplar (*Populus balsamifera*). *Journal of Chemical Ecology*.
- Olsen RK, Nichols EA, **Chen J**, Hunt JF, Glover GH, Gabrieli JDE, Wagner, AD (2009). High-resolution fMRI of human medial temporal lobe reveals performance-related sustained and anticipatory activity during delayed-match-to-sample. *Journal of Neuroscience*.

Other Publications (submitted, preprints, and arXiv)

- Musz E, Chen J (submitted). Neural signatures of compression in the retelling of past events.
- Williams J, Margulis E, Nastase S, **Chen J**, Hasson U, Norman KA, Baldassano C (in revision). High-order areas and auditory cortex both represent the high-level event structure of music. *bioRxiv*: 10.1101/2021.01.26.428291

Zhang H, Chen PH, **Chen J**, Zhu X, Turek JS, Willkie TL, Hasson U, Ramadge PJ (2016). A searchlight factor model approach for locating shared information in multi-subject fMRI analysis. *arXiv:1610.03914*.

Chen PH, Zhu X, Zhang H, Turek JS, **Chen J**, Willkie TL, Hasson U, Ramadge PJ (2016). A convolutional autoencoder for multi-subject fMRI data aggregation. *arXiv:1608.04846*.

Teaching

2019- Human Memory Psychology (undergrad), JHU
2018- Real-World Human Data: Analysis & Visualization (undergrad), JHU
2017- Psychological & Brain Sciences Core Topics (grad), JHU
2017 Advanced Research Design and Analysis (grad), JHU
2007-08 Cognitive Neuroscience (undergrad), Stanford
2008 Applied Vision (undergrad), Stanford
2008 Visual Neuroscience (undergrad), Stanford
2007 Neuroscience of Memory (undergrad), Stanford
2007 Statistics for Behavioral Sciences (undergrad), Stanford
2006-07 MATLAB Programming for Psychological Sciences (grad), Stanford

Mentorship

Postdoctoral:

2018- Hongmi Lee, Postdoctoral Researcher, Johns Hopkins
2017- Lisa Musz, Postdoctoral Researcher, Johns Hopkins
2018-2021 Buddhika Bellana, *now faculty at York University Glendon College*

Graduate & Postbac:

2020- Xian Li, PhD Student, Psychology, Johns Hopkins
2020- Savannah Born, Post-Bac Research Coordinator, Johns Hopkins
2019- Yoonjung Lee, PhD Student, Psychology, Johns Hopkins
2019-2020 Yiyuan Zhang, Masters Student - Biomedical Engineering, Johns Hopkins
2017-2018 Peter Johnson, PhD Student, Psychology, Johns Hopkins
2017-2018 Yoonjin Nah, PhD Student, Psychology, Johns Hopkins

Undergraduate:

2021 Subin Han, Undergraduate Research - Neuroscience, Johns Hopkins
2020- Anna Hu, Undergraduate Research - Neuroscience, Johns Hopkins
2020- Kathy Shi, Undergraduate Research - Neuroscience, Johns Hopkins
2020- Michelle Rodriguez, Undergraduate Research - Neuroscience, Johns Hopkins
2020 Leila Connolly, Undergraduate Research - Neuroscience, Johns Hopkins
2019-2020 Edward Halpin, Undergraduate Research - Psychology, Johns Hopkins
2018- Elly Yeom, Undergraduate Research - Psychology, Johns Hopkins
2018-2019 Kenz Wilkinson, Undergraduate Research - Psychology, Johns Hopkins
2018-2020 Savannah Born, Undergraduate Research - Psychology, Johns Hopkins
2018-2020 Katelyn Macholl, Undergraduate Research - Psychology, Johns Hopkins
2017-2019 Xiaoye (Zoey) Zuo, Post-baccalaureate Researcher, Johns Hopkins
2017-2019 Qingwei Zhang, Undergraduate Research - Psychology, Johns Hopkins

2017-2019	Amanda Liu, Undergraduate Research - Psychology, Johns Hopkins
2017-2018	David Park, Undergraduate Research - Psychology, Johns Hopkins
2017-2018	Yoonjin Nah, PhD Student, Johns Hopkins
2016-17	Katherine Lee, Undergraduate Senior Thesis - ORFE, Princeton
2016	Peter Johnson, Undergraduate Senior Thesis - Psychology, Princeton
2013-14	Ioana Ferariu, Undergraduate Research - Psychology, Princeton
2013-14	Biyang Wang, Undergraduate Senior Thesis - Psychology, Princeton
2012-14	Yuan Chang Leong, Research Assistant - Psychology, Princeton
2010-11	Paul Cook, Undergraduate Research - Psychology, Stanford
2009-10	Valerie Ross, Undergraduate Senior Thesis - Psychology, Stanford

Reviewing

Journals: Behavioral Research Methods, Cerebral Cortex, Current Biology, Current Opinion in Behavioral Sciences, eLife, eNeuro, Human Brain Mapping, Journal of Experimental Psychology: General, Journal of Neuroscience, Learning and Memory, Nature Communications, Nature Human Behavior, Neurobiology of Learning and Memory, NeuroImage, Neuron, Neuropsychologia, PLOS One, PNAS, Psych Bulletin & Review, Psychological Science, Science, Scientific Reports, Social Cognitive and Affective Neuroscience

Conferences: Cognitive Computational Neuroscience; ICLR

Grants: CRCNS; National Science Foundation; German Research Foundation

Invited Talks and Workshops

Social-Cognitive Seminar Series (Virtual)	Brown University	2021
Naturalistic Stimuli & Individual Differences (Virtual)	NIMH	2021
Dynamic & Interactive Data Visualizations (Virtual)	NIMH	2021
The Learning Salon (Virtual)	Online	2021
Psychology Colloquium (Virtual)	University of Chicago	2021
New Frontiers Seminar (Virtual)	University of Toronto	2020
Psychology Colloquium (Virtual)	Univ London, Royal Holloway	2020
World Wide Neuro Cognitive Seminar (Virtual)	University of Oxford	2020
Kavli Frontiers of Science Symposium (Virtual)	Kavli Institute	2020
JHU Science of Learning, BBE	Johns Hopkins University	2020
Neuroscience Seminar	Temple University	2019
CCN Breakout Session: Interacting Minds	Berlin, Germany	2019
Kirby Research Center 20 th Ann. Symposium	Johns Hopkins University	2019
Machine Learning in Brain Imaging Series	NIH	2019
Workshop on Concepts, Actions, and Objects	Rovereto, Italy	2019
Zelicof Dinner with the Dean	Johns Hopkins University	2019
JHU Faculty Forum	Johns Hopkins University	2019
Psychology Colloquium	Duke University	2019
Psychology Colloquium	UT Austin	2018
MIND Computational Summer School	Dartmouth College	2018
Student Organized Seminar in Neuroscience	UC Davis	2018
Social & Affective Neuroscience Society Mtg	Brooklyn, NY	2018
MIND Computational Summer School	Dartmouth College	2017
Functional and Restorative Neurosurgery Unit	National Institutes of Health	2017
Neuroscience Group Meeting	Mount Sinai School of Medicine	2016
Psychological & Brain Sciences Dept Talk	Johns Hopkins University	2016
Psychology Dept Talk	University of Toronto	2016
Psychological & Brain Sciences Dept Talk	Dartmouth College	2015

Ebbinghaus Empire Colloquium, Psychology	University of Toronto	2014
Memory Group Meeting	New York University	2013

Conference Presentations (Selected Talks)

- Chen J (2022, upcoming). Minisymposium on “Posterior cingulate cortex: Progress in anatomy and physiology”. Society for Neuroscience; Washington, DC.
- Chen J (2021). Symposium on “The Network Structure of Episodic Thought”. Cognitive Neuroscience Society, Virtual.
- Musz E, Chen J (2019). Shared and converging brain responses across people during self-guided exploration of complex photographs and paintings. Society for Neuroscience; Chicago, IL.
- Zuo X, Honey CJ, Barense MD, Crombie D, Norman KA, Hasson U, Chen J (2019). Temporal integration of information during an auditory narrative in a hippocampal amnesic patient. Society for Neuroscience; Chicago, IL.
- Chen J, Lee H (2019). Behavioral and neural dynamics during naturalistic free spoken recall. Context and Episodic Memory Symposium; Philadelphia, PA.
- Williams J, Baldassano C, Chen J, Hasson U, Norman K (2018). Exploring event structure in song perception. Context and Episodic Memory Symposium; Philadelphia, PA.
- Sadeh T, Chen J, Goshen-Gottstein Y, Moscovitch M (2018). Spontaneous pre-encoding activation of neural patterns predicts memory. Context and Episodic Memory Symposium; Philadelphia, PA.
- Chen J, Barense M, Norman KA, Hasson U, Honey CJ (2017). Is the hippocampus necessary for long-timescale dynamics in the default network? Memory Disorders Research Society; Chicago, IL.
- Chen J, Barense M, Norman KA, Hasson U, Honey CJ (2016). Is the hippocampus necessary for long-timescale dynamics in the default network? Society for Neuroscience, San Diego, CA.
- Chen J, Chow M, Norman KA, Hasson U (2015). Differentiation of neural representations during processing of multiple information streams. Society for Neuroscience, Chicago, IL.
- Chen J, Leong YC, Norman KA, Hasson U (2014). Reinstatement of neural patterns during narrative free recall. Society for Neuroscience, Washington, DC.
- Chen J (2014). Discussant for Polyn, S. Retrieved context in the medial temporal lobe: predicting the organization of human memory. Context and Episodic Memory Symposium, Philadelphia, PA.
- Chen J, Leong YC, Norman KA, Hasson U (2014). Reinstatement of neural patterns during narrative free recall. Context and Episodic Memory Symposium, Philadelphia, PA.
- Chen J, Wagner AD (2010). The effects of prediction strength on associative novelty signals in human CA1 and medial temporal lobe cortex: A high-resolution fMRI study. Society for Neuroscience, San Diego, CA.
- Chen J, Wagner AD (2007). Associative retrieval and mismatch signals in the CA fields of human hippocampus. Bay Area Memory Meeting, Berkeley, CA.

Conference Presentations (Selected Posters)

- Li X, Bellana B, Born S, Hu A, Chen J (2021). The role of agency in memory for narratives: A choose-your-own-adventure paradigm. Context and Episodic Memory Symposium.
- Born S, Bellana B, Chen J (2021). Written description length as an index for context dependence in naturalistic movies. Context and Episodic Memory Symposium.
- Lee H, Chen J (2021). Neural signals at boundaries between internally-generated mental states during narrated memory recall. Cognitive Neuroscience Society Virtual Meeting.
- Lee H, Chen J (2021). Cortical signal at major boundaries between internally-generated mental contexts during narrative recall. Society for Neuroscience Global Connectome: A Virtual Event.
- Lee Y, Lee H, Chen J (2021). Organization of “event-specific” fMRI activity patterns during movie-viewing and spoken recall in posterior medial cortex. Cognitive Neuroscience Society: A Virtual Event.

- Lee Y, Lee H, Chen J (2020). Clustering of BOLD activity patterns in the default mode network during movie-viewing and recall. Context and Episodic Memory Symposium: A Virtual Event.
- Lee H, Chen J (2019). Narratives as networks: predicting memory from the structure of naturalistic events. Society for Neuroscience.
- Bellana B, Lee H, Zuo X, Chen J (2019). Measuring behavioural and neural responses to fluctuations in real-world predictability. Society for Neuroscience.
- Zadbood A, Nastase SA, Chen J, Norman KA, Hasson U (2019). Twisting your memory: how the brain rewrites memories as the understanding of the past changes. Society for Neuroscience.
- Nastase SA, Liu Y-F, Hillman H, Zadbood A, Hasenfratz L, Keshavarzian N, Chen J, Honey CJ, Yeshurun Y, Regev M, Nguyen M, Chang CHC, Baldassano C, Lositsky O, Chow MA, Leong YC, Brooks PP, Goldstein A, Choe G, Norman KA, Hasson U (2019). Narratives: fMRI data for evaluating models of naturalistic language comprehension. Society for Neuroscience.
- Lee H, Chen J (2019). Narratives as networks: predicting memory from the structure of naturalistic events. Conference on Cognitive Computational Neuroscience.
- Bellana B, Lee H, Zuo X, Chen J (2019). Measuring behavioural and neural responses to fluctuations in real-world predictability. Conference on Cognitive Computational Neuroscience.
- Lee H, Chen J (2019). Narratives as networks: predicting memory from the structure of naturalistic events. Context and Episodic Memory Symposium.
- Chen J, Musz E (2018). Temporal precision of narrative free recall impacts neural patterns in the default mode network. Society for Neuroscience.
- Musz E, Loiotile RE, Chen J, Bedny M (2018). Shared naturalistic auditory comprehension leads to shared spatial patterns in visual cortex across congenitally blind individuals. Society for Neuroscience.
- Zuo X, Honey CJ, Barense MD, Chen J (2018). Parcel-based functional-anatomical alignment between brains using a naturalistic stimulus in healthy individuals and a hippocampal amnesic. Society for Neuroscience.
- Chien HY, Chen J, Honey CJ (2018). A hierarchical model for sequence processing predicts effects of context on neural response within cortical hierarchy. Society for Neuroscience.
- Williams JA, Baldassano C, Chen J, Hasson U, Norman K (2018). Neural representations of music in higher-order cortical regions. Society for Neuroscience.
- Musz E, Chen J (2018). Pinpointing versus summarizing events: Temporal precision during recall modulates neural activity. Context and Episodic Memory Symposium.
- Zuo X, Honey CJ, Barense MD, Chen J (2018). Parcel-based functional-anatomical alignment between brains using a naturalistic stimulus in healthy individuals and a hippocampal amnesic. Context and Episodic Memory Symposium.
- Johnson P, Regev M, Hasson U, Chen J (2018). Mapping modality invariance across visual and auditory narratives with between-brain spatial pattern methods. Context and Episodic Memory Symposium.
- Chen J, Leong YC, Norman KA, Hasson U (2014). Reinstatement of neural patterns during narrative free recall. Cognitive Neuroscience Society.
- Chen J, Honey CJ, Simony E, Hasson U (2013). How long is the window of short-term memory under naturalistic conditions? Society for Neuroscience Abstracts.
- Chen J, Dastjerdi M, Foster BL, Shestyuk AY, Rauschecker AM, Parvizi J, Wagner AD (2011). Intracranial electrophysiological correlates of episodic memory in human hippocampus. Society for Neuroscience.
- Chen J, Wagner AD (2009). Prediction error and associative novelty in human hippocampus and medial temporal cortex: A high-resolution fMRI study. Society for Neuroscience.
- Chen J, Shohamy D, Ross V, Reeves B, Wagner AD (2008). The impact of social belief on the neurophysiology of learning and memory. Society for Neuroscience.
- Chen J, Olsen RK, Preston AR, Wagner AD (2007). Associative retrieval and mismatch signals in the CA fields of human hippocampus. Society for Neuroscience.
- Chen J, Shohamy D, Wagner AD (2007). Temporal dynamics of cortical ERPs during episodic and incremental learning. Cognitive Neuroscience Society.
- Chen J, Olsen RK, Preston AR, Wagner AD (2006). Pattern completion and prediction error in human hippocampus: A high-resolution fMRI study. Society for Neuroscience.
- Chen J, Bernstein DM, Loftus GR (2003). Accessible aspects of encoding context in picture memory. Annual meeting of the Northwest Cognition & Memory Society.