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Department of Psychological and Brain Sciences, Johns Hopkins University
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

Research History

- 2002-2005 University of Washington, Psychology
 Experiments in visual memory, with Geoffrey Loftus
 Experiments in psycholinguistics, with Lee Osterhout and Albert Kim
- 1999-2004 Massachusetts Institute of Technology, Brain & Cognitive Sciences
 Web-based interactive tutorials in motion and form ([link](#))
 with Edward Adelson and Josh McDermott
- 2001-2002 Massachusetts Institute of Technology, Brain & Cognitive Sciences
 Behavioral and fMRI experiments in learning and memory
 with Anthony Wagner and Lila Davachi
- 2001-2002 Massachusetts Institute of Technology, Brain & Cognitive Sciences
 Behavioral experiments in psychophysics
 with Pawan Sinha and Antonio Torralba

Awards

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

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*.

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

Regev M, Simony E, Lee K, Tan KM, **Chen J**, Hasson U (2018). Propagation of information along the cortical hierarchy as a function of attention while reading and listening to stories. *Cerebral Cortex*.

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

- 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, Willke 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- Buddhika Bellana, Postdoctoral Researcher, Johns Hopkins
- 2018- Hongmi Lee, Postdoctoral Researcher, Johns Hopkins
- 2017- Lisa Musz, Postdoctoral Researcher, Johns Hopkins

Graduate:

- 2020- Xian Li, PhD Student, Johns Hopkins
- 2019- Yoonjung Lee, PhD Student, Johns Hopkins
- 2019- Yiyuan Zhang, Masters Student - Biomedical Engineering, Johns Hopkins
- 2017- Peter Johnson, PhD Student, Johns Hopkins

Undergraduate:

- 2019- Edward Halpin, Undergraduate Research - Psychology, Johns Hopkins
- 2018- Elly Yeom, Undergraduate Research - Psychology, Johns Hopkins
- 2018- Kenz Wilkinson, Undergraduate Research - Psychology, Johns Hopkins
- 2018- Savannah Born, Undergraduate Research - Psychology, Johns Hopkins
- 2018- 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 Neuroscience, Learning and Memory, Nature Communications, Nature Human Behavior, Neurobiology of Learning and Memory, NeuroImage, Neuropsychologia, PLOS One, PNAS, Psych Bulletin & Review, Psychological Science, Science, Scientific Reports, Social and Affective Neuroscience

Conferences: Cognitive Computational Neuroscience

Grants: National Science Foundation, German Research Foundation

Invited Talks

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	Duke University	2019
Psychology	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	Mount Sinai School of Medicine	2016
Psychological & Brain Sciences	Johns Hopkins University	2016
Psychology	University of Toronto	2016
Psychological & Brain Sciences	Dartmouth College	2015
Ebbinghaus Empire Colloquium, Psychology	University of Toronto	2014
Psychology	New York University	2013
Psychology	UC Berkeley	2011
Brain & Cognitive Sciences	MIT	2011

Conference Presentations (Selected Talks)

- 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)

- 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.