Neal W Morton, Ph.D.

Research Associate
Center for Learning and Memory
The University of Texas at Austin

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Education

Ph.D. in Psychology – Cognition and Cognitive Neuroscience — 2009–2014
Vanderbilt University
Advisor: Sean M. Polyn
Committee: Gordon Logan, Geoff Woodman, Brandon Ally

B.A. in Cognitive Science, minor in Chemistry — 2003–2007
University of Pennsylvania
Advisor: Michael J. Kahana
Cum laude with honors

Professional Appointments

Research Associate — 2020–present
The University of Texas at Austin
Center for Learning and Memory
Director: Alison R. Preston

Post-doctoral Fellow — 2014–2020
The University of Texas at Austin
Center for Learning and Memory
Director: Alison R. Preston

Research Coordinator — 2007–2009
University of Pennsylvania
Director: Michael J. Kahana

Grants and Fellowships

National Institute of Mental Health (NIMH) — 2017–2020
Postdoctoral National Research Service Award (F32MH114869)

Center for Learning & Memory, The University of Texas at Austin — 2016
Postdoctoral Fellowship

Vanderbilt University — 2009–2014
University Graduate Honor Fellowship

Research Interests

- Neural basis of episodic memory and structure learning using fMRI, ECoG, and modeling
- Cognitive modeling of temporal context and semantic influences on memory search
- Cortical and hippocampal representations of real-world semantic knowledge
- Computational modeling of decisions based on mnemonic cognitive maps

Manuscripts In Revision and In Preparation

† Undergraduate advisee
± Graduate advisee

Morton NW, Cutler RA, Polyn SM. In prep. Semantic and temporal structure in a neurocognitive model of episodic memory search.

Coughlin C, Schlichting ML, **Morton NW**, Sherrill KR, Moreau M, Preston AR. In prep. Developmental differences in neural function track successful memory-based inference. Invited for a special issue of Developmental Cognitive Neuroscience.

Noh, SM±, **Morton, NW**, & Preston, AR. In prep. How blocked and interleaved sequences shape neural representations to improve learning and memory.

Roome HE, Sherrill KR, **Morton NW**, Karagoz A, Nguyen K, Coughlin CA, Preston AR. In prep. Developmental differences in spatial coding guide the refinement of object location mapping.

Refereed Articles

† Undergraduate advisee * Authors contributed equally
± Graduate advisee

Morton NW, Zippi EL†, Preston AR. In press. Memory reactivation and suppression modulate integration of the semantic features of related memories in hippocampus. Cerebral Cortex.

Pudhiyidath A*±, **Morton NW***, Viveros Duran R†, Schapiro AC, Momennejad I, Hinojosa-Rowland DM†, Molitor RJ±, Preston AR. 2022. Representations of temporal community structure in hippocampus and precuneus predict inductive reasoning decisions. Journal of Cognitive Neuroscience. 34(10) 1736–1760. https://doi.org/10.1162/jocn_a_01864.

Morton NW*, Zippi EL†*, Noh SM±, Preston AR. 2021. Semantic knowledge of famous people and places is represented in hippocampus and distinct cortical networks. Journal of Neuroscience. 41(12) 2762-2779. https://doi.org/10.1523/JNEUROSCI.2034-19.2021.

Molitor RJ±, Sherrill KR, **Morton NW**, Miller, AA, Preston AR. 2021. Memory reactivation during learning simultaneously promotes dentate gyrus/$CA_{2,3}$ pattern differentiation and CA_1 memory integration. Journal of Neuroscience. 41(4) 726-738. https://doi.org/10.1523/JNEUROSCI.0394-20.2020.

Morton NW, Preston AR. 2021. Concept formation as a computational cognitive process. Current Opinion in Behavioral Sciences. 38: 83-89. https://doi.org/10.1016/j.cobeha.2020.12.005.

Morton NW, Schlichting ML, Preston AR. 2020. Events with common structure become organized within a hierarchical cognitive map in hippocampus and frontoparietal cortex. Proceedings of the National Academy of Sciences. 117(47): 29338-29345. https://doi.org/10.1073/pnas.1912338117.

Morton NW. 2020. Psifr: Analysis and visualization of free recall data. Journal of Open Source Software, 5(54):2669. https://doi.org/10.21105/joss.02669.

Morton NW*, Sherrill KR*, Preston AR. 2017. Memory integration constructs maps of space, time, and concepts. Current Opinion in Behavioral Sciences. 17:161-168. https://doi.org/10.1016/j.cobeha.2017.08.007.

Chan SCY, Applegate MC, **Morton NW**, Polyn SM, Norman KA. 2017. Lingering representations of stimuli influence recall organization. Neuropsychologia. 97:72-82. http://dx.doi.org/10.1016/j.neuropsychologia.2017.01.029.

Morton NW, Polyn SM. 2017. Beta-band activity represents the recent past during episodic encoding. NeuroImage. 147:692-702. http://dx.doi.org/10.1016/j.neuroimage.2016.12.049.

Morton NW, Polyn SM. 2016. A predictive framework for evaluating models of semantic organization in free recall. Journal of Memory and Language. 86:119–140. http://dx.doi.org/10.1016/j.jml.2015.10.002.

Polyn SM, McCluey JD, **Morton NW**, Woolard AA, Luksik AS, Heckers S. 2015. Temporal context and the organizational impairment of memory search in schizophrenia. Cognitive Neuropsychiatry. 20(4):296-310. http://dx.doi.org/10.1080/13546805.2015.1031372.

Kragel JE, **Morton NW**, Polyn SM. 2015. Neural activity in the medial temporal lobe reveals the fidelity of mental time travel. Journal of Neuroscience. 35(7):2914-2926. https://doi.org/10.1523/JNEUROSCI.3378-14.2015.

Morton NW. Developing a neurocognitive model of temporal and semantic organization of memory search. 2014. Vanderbilt University, PhD dissertation. https://etd.library.vanderbilt.edu/etd-09232014-174611.

Morton NW, Kahana MJ, Rosenberg EA, Baltuch GH, Litt B, Sharan AD, Sperling MR, Polyn SM. 2013. Category-specific neural oscillations predict recall organization during memory search. Cerebral Cortex. 23(10):2407-2422. https://dx.doi.org/10.1093/cercor/bhs229.

Polyn SM, Kragel JE, **Morton NW**, McCluey JD, Cohen ZD. 2012. The neural dynamics of task context in free recall. Neuropsychologia. 50(4):447-457. https://dx.doi.org/10.1016/j.neuropsychologia.2011.08.025.

Book Chapters

Varga NL, **Morton NW**, Preston AR. In press. Schema, Inference, and Memory. In: Kahana MJ, Wagner AD, editors. Oxford Handbook of Human Memory. Oxford University Press.

Research Software

Morton NW, Zippi EL. 2023. Bender study: Pattern analysis of memory reactivation, suppression, and integration. Zenodo. https://doi.org/10.5281/zenodo.6967582.

Morton NW, Pudhiyidath A, Duran RV, Hinojosa-Rowland DM, & Momennejad I. 2021. Tesser: Behavioral and neural analysis of statistical learning. Zenodo. http://doi.org/10.5281/zenodo.4793426.

Morton NW, Zippi EL, Noh SM, Preston AR. 2021. WikiSim: Using Wikipedia to measure neural representations of semantic knowledge. Zenodo. http://doi.org/10.5281/zenodo.4453780.

Morton NW, Zippi EL, Noh SM, Preston AR. 2021. WikiVector: Tools for encoding Wikipedia articles as vectors. Zenodo. http://doi.org/10.5281/zenodo.4453878.

Morton NW. 2020. Psifr: Analysis and visualization of free recall data. Zenodo. http://doi.org/10.5281/zenodo.4086187.

Morton NW, Polyn SM. 2020. CyMR: Computational modeling of free recall data. Zenodo. http://doi.org/10.5281/zenodo.4557123.

Morton NW, Molitor RJ, Sherrill KR, Miller AA, Preston AR. 2020. PsiReact-Garnet: Hierarchical Bayesian modeling of response time data. Zenodo. http://doi.org/10.5281/zenodo.4329659.

Morton NW. 2020. PsiReact: Hierarchical Bayesian modeling of response time data. Zenodo. http://doi.org/10.5281/zenodo.4282757.

Morton NW. 2020. Representations of common event structure in medial temporal lobe and frontoparietal cortex support efficient inference. Zenodo. http://doi.org/10.5281/zenodo.4313980.

Morton NW. 2020. Mindstorm: Advanced neuroimaging analysis. Zenodo. http://doi.org/10.5281/zenodo.4248135.

Zippi EL, **Morton NW**, Preston AR. 2019. Modeling semantic similarity of well-known stimuli. OSF. https://doi.org/10.17605/OSF.IO/72APM.

Morton NW, Kragel JE, McCluey JD, Polyn SM. 2015. TCM: Implementation of the Temporal Context Model/Context Maintenance and Retrieval model of free recall. https://github.com/prestonlab/tcm.

Lawrence, R, **Morton NW**, Healey MK, Lohnas LJ, McCluey JD, Jeon J, Kahana MJ, Polyn SM. 2008. EMBAM: Episodic memory behavioral analysis in MATLAB. https://github.com/vucml/EMBAM.

Morton NW, Cohen ZD, McCluey JD, Mollison M, Kahana MJ, Polyn SM. 2007. Aperture: Matlab toolbox for univariate and multivariate analysis of EEG data. https://mortonne.github.io/aperture.

Invited Talks

Morton NW. 2022. Learning and accessing complex knowledge: Insights from model-based fMRI. Feldmanhall Lab, Brown University. Providence, RI.

Morton NW. 2021. Building memories from concepts and concepts from memories. Stanford Memory Lab, Stanford University. Stanford, CA.

Morton NW. 2021. Building memories from concepts and concepts from memories. Complex Memory Lab, Washington University in St. Louis. St. Louis, MO.

Morton NW, Zippi EL, Preston AR. 2018. Merging memories: Reactivation of individual event elements during learning predicts memory integration. Department of Psychology, Texas A&M University. College Station, TX.

Morton NW. 2017. Developing a neurocognitive model of memory integration. Vanderbilt Computational Memory Lab, Vanderbilt University. Nashville, TN.

Morton NW. 2011. EEG Analysis Toolbox. Computational Memory Lab, University of Pennsylvania. Philadelphia, PA.

Conference Talks

Morton NW. 2023. Hippocampal-prefrontal representations differentiate outcomes that vary by context. Meeting of the Cognitive Neuroscience Society. San Francisco, CA.

Noh SM, **Morton NW**, Preston AR. 2022. Interleaved learning shapes neural representations in medial prefrontal cortex to enhance categorization of naturalistic stimuli. Neuroscience 2022. San Diego, CA.

Morton NW, Cutler R, Polyn SM. 2022. Semantic and temporal structure in a neurocognitive model of episodic memory search. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Pudhiyidath A, Viveros Duran R, Schapiro AC, Momennejad I, Hinojosa-Rowland DM, Molitor RJ, Preston AR. 2021. Neural representations of temporal schemas in hippocampus and precuneus predict schema-based reasoning. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Schlichting ML, Preston AR. 2020. Representations of common event structure in medial temporal lobe and frontoparietal cortex support efficient inference. Dallas and Austin Area Memory Meeting. Online.

Morton NW, Schlichting ML, Preston AR. 2020. Representations of common event structure in medial temporal lobe and frontoparietal cortex support efficient inference. Context and Episodic Memory Symposium. Online.

Morton NW. 2019. Cognitive control of memory search. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Schlichting ML, Preston AR. 2018. Events with common structure become organized within a hierarchical cognitive map in hippocampus and frontoparietal cortex. Program No. 633.14. 2018 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2018. Online.

Morton NW, Zippi EL, Preston AR. 2018. Tracking semantic item features during encoding reveals mechanisms for assimilating memories into existing schemas. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Preston AR. 2017. Reactivation of individual episodes supports memory integration. Dallas and Austin Area Memory Meeting. Austin, TX.

Morton NW, Preston AR. 2017. Medial prefrontal cortex supports flexible memory retrieval. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Schlichting ML, Preston AR. 2016. A neurocognitive model of memory integration. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Preston AR. 2016. Medial prefrontal cortex supports flexible memory retrieval. Center for Learning and Memory Seminar, The University of Texas at Austin. Austin, TX.

Morton NW, Schlichting ML, Preston AR. 2015. Developing a neurocognitive model of memory integration. Center for Learning and Memory Annual Retreat, The University of Texas at Austin. Austin, TX.

Morton NW, Polyn SM. 2015. A neurally constrained model of temporal and semantic context. Winter Conference on the Neurobiology of Learning and Memory. Park City, UT.

Department Talks

Morton NW, Schlichting ML, Preston AR. 2018. Events with common structure become organized within a hierarchical cognitive map in hippocampus and frontoparietal cortex. Center for Learning and Memory Retreat, The University of Texas at Austin. Austin, TX.

Morton NW, Zippi EL, Preston AR. 2018. Tracking semantic item features during memory integration. Cognitive Neuroscience and Imaging Research Center Seminar, The University of Texas at Austin. Austin, TX.

Morton NW, Preston AR. 2016. Medial prefrontal cortex supports flexible memory retrieval. Center for Learning and Memory Seminar, The University of Texas at Austin. Austin, TX.

Morton NW, Schlichting ML, Preston AR. 2015. Developing a neurocognitive model of memory integration. Center for Learning and Memory Retreat, The University of Texas at Austin. Austin, TX.

Conference Poster Presentations

Morton NW, Pudhiyidath A, Viveros Duran R, Schapiro AC, Momennejad I, Hinojosa-Rowland DM, Molitor RJ, Preston AR. 2021. Neural representations of temporal schemas in hippocampus and precuneus predict schema-based reasoning. Neuroscience Meeting Planner. P858.04. Neuroscience 2021.

Ashmaig O, Sherrill KR, **Morton NW**, Colgin LL, Buchanan RJ, Preston AR, Watrous A. 2021. Oscillatory mechanisms of context dependent cognitive maps in human memory. P881.08. Neuroscience 2021.

Morton NW, Zippi EL, Noh SM, Preston AR. 2021. Semantic knowledge of famous people and places is represented in hippocampus and distinct cortical networks. Program No. P320.08. SfN Global Connectome.

Morton NW, Molitor RJ, Schlichting ML, Mack, ML, McKenzie SA, Preston, AR. 2019. Human hippocampus and medial prefrontal cortex represent hierarchical task schemas. Program No. 170.07. 2019 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience.

Morton NW, Schlichting ML, Preston AR. 2019. Events with common structure become organized within a hierarchical cognitive map in hippocampus and frontoparietal cortex. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Schlichting ML, Preston AR. 2019. Events with common structure become organized within a hierarchical cognitive map in hippocampus and frontoparietal cortex. UT Austin Conference on Learning & Memory. Austin, TX.

Morton NW, Preston AR. 2017. Memory reactivation modulates encoding and retrieval of relational memories. Program No. 339.15. 2017 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience.

Morton NW, Preston AR. 2017. Medial prefrontal cortex supports flexible memory retrieval. UT Austin Conference on Learning & Memory. Austin, TX.

Morton NW, Preston AR. 2016. Medial prefrontal cortex supports retrieval of integrated memories. Program No. 637.24. 2016 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Zippi EL, **Morton NW**, Mack ML, Preston AR. 2016. Mapping cortical representations of semantic similarity using Wikipedia and Google News. Program No. 644.22. 2016 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Morton NW, Preston AR. 2015. Developing a neurocognitive model of memory integration. Program No. 719.23. 2015 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience.

Morton NW, Polyn SM. 2015. A predictive framework for evaluating models of semantic organization in free recall. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Polyn SM. 2015. A predictive framework for evaluating models of semantic organization in free recall. UT Austin Conference on Learning & Memory. Austin, TX.

Morton NW, Polyn SM. 2014. Neural correlates of temporal context evolution in free recall. Annual Meeting of the Psychonomic Society. Long Beach, CA.

Polyn SM, Kragel JE, **Morton NW**. 2014. Medial temporal lobe activity reflecting the precision of mental time travel. Annual Meeting of the Psychonomic Society. Long Beach, CA.

Morton NW, Polyn SM. 2014. Oscillatory neural correlates of semantic organization in free recall. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Polyn SM. 2013. Inter-item distraction dissociates temporal and semantic organization in free recall. Program No. 572.03. 2013 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Polyn SM, **Morton NW**, Kragel JE, McCluey JD. 2013. Incorporating neural signals into computational models of memory search. Program No. 572.01. 2013 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Chan SCY, Applegate MC, Manning JR, **Morton NW**, Polyn SM, Norman KA. 2013. Recall order is predicted by category-specific neural activity of preceding items at study. Program No. 284.15. 2013 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Morton NW, Polyn SM. 2013. A neurally constrained model of category clustering in free recall. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Polyn SM. 2012. A neurally constrained model of category clustering in free recall. 53rd Annual Meeting of the Psychonomic Society. Minneapolis, MN.

Morton NW, Polyn SM. 2012. Manipulating the forward asymmetry of the contiguity effect with categorized stimuli. Context and Episodic Memory Symposium. Bloomington, IN.

Morton NW, Polyn SM. 2011. Category-sensitive neural oscillations predict recall organization during memory search. 52nd Annual Meeting of the Psychonomic Society. Seattle, WA.

Morton NW, Polyn SM. 2011. Oscillatory neural correlates of category cuing during memory search. Context and Episodic Memory Symposium. Philadelphia, PA.

Kragel JE, **Morton NW**, Cohen ZD, McCluey JD, Polyn SM. 2011. Neural correlates of organization in free recall. Context and Episodic Memory Symposium. Philadelphia, PA.

Morton NW, Polyn SM. 2010. Illuminating the dynamics of memory search: Tracking category-related oscillations during free recall. Program No. 396.6. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Cohen ZD, **Morton NW**, Polyn SM. 2010. Using the context maintenance and retrieval model to interpret task-related neural activity in free recall. Program No. 396.7. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Polyn SM, **Morton NW**, Kahana MJ. 2010. Using intracranial oscillatory patterns to bridge cognitive and neural theories of memory search. Program No. 413.23. 2010 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Morton NW, Polyn SM. 2010. Illuminating the dynamics of memory search: Tracking category-related oscillations during free recall. Context and Episodic Memory Symposium. Philadelphia, PA.

Polyn SM, **Morton NW**, Kahana MJ. 2009. Unraveling subsequent memory: Tracking category-specific and category-general neural patterns using scalp EEG. Program No. 279.4. 2009 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience.

Polyn SM, **Morton NW**, Kahana MJ. 2008. Bridging cognitive and neural theories of memory search with the Context Maintenance and Retrieval model. Program No. 870.21. 2008 Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience.

Morton NW, Burke JF, Hollidge BS, Polyn SM, Kahana MJ. 2008. Recency and contiguity in a temporal-context model of paired-associate learning. Poster presented at the 41st Annual Meeting of the Society for Mathematical Psychology. Washington, DC.

Morton NW, Polyn SM, Kahana MJ. 2007. Tracking encoding task context during free recall using scalp EEG. Program No. 526.1. 2007 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Polyn SM, Koshkin VS, **Morton NW**, Kahana MJ. 2007. Tracking category-related neural patterns during free recall using scalp EEG. Program No. 526.2. 2007 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience.

Polyn SM, **Morton NW**, Kogen DK, Norman KA, Kahana MJ. 2007 Task context and memory accessibility in free recall. Cognitive Neuroscience Society Annual Meeting. New York, NY.

Polyn SM, **Morton NW**, Kogen, DK, Norman KA, Kahana MJ. 2006. Task effects on memory accessibility in free recall. Poster presented at the 47th Annual Meeting of the Psychonomic Society. Houston, TX.

Fellowships, Awards, and Honors

Postdoctoral National Research Service Award, NIMH	2017–2020
Center for Learning & Memory Postdoctoral Fellowship	2016
Center for Learning & Memory Travel Award	2015–2016

Context and Episodic Memory Symposium Student Travel Award 2013–2014
William F. Hodges Teaching Assistant Award 2011–2012
University Graduate Honor Fellowship, Vanderbilt University 2009–2014
Bachelor of Arts with Distinction, University of Pennsylvania 2007
Dean's List, University of Pennsylvania 2006–2007
Robert C. Byrd Honors Scholarship 2003–2007

Institutional Development and Undergraduate Education Service

Teaching Experience

The University of Texas at Austin, Psychology Department

Guest Lecturer, Cognitive Neuroscience (Prof. Alison Preston) 2015, 2017–2018
Guest Lecturer, Cognitive Science (Dr. Suzanne van der Feest) 2018

The University of Texas at Austin, Department of Statistics and Data Sciences

Instructor, Code Development in Python 2020–2021
Instructor, Introduction to Matlab and Intermediate Matlab 2016–2020
Instructor, Matlab (Summer Statistics Institute) 2016

The University of Texas at Austin, Preston Lab Workshops

Workshop Instructor, Preprocessing fMRI data using BIDS and fMRIprep 2022
Workshop Instructor, Using Twitter for science 2021
Workshop Instructor, Migrating to Python 3 2019
Workshop Instructor, Data management and backup 2018
Workshop Instructor, fMRI preprocessing 2017
Workshop Instructor, Improving scan quality and registration 2017

Vanderbilt University, Department of Psychology

Expert Teaching Assistant Panelist and Practice Teaching Leader 2013
Teaching Assistant and Guest Lecturer, Human Memory (Prof. Sean Polyn) 2012
Teaching Assistant, Introduction to Psychology (Prof. Isabel Gauthier) 2011
Teaching Assistant and Guest Lecturer, Cognitive Psychology (Prof. Gordon Logan) 2011
Teaching Assistant, Principles of Experimental Design (Prof. Sean Polyn) 2010

Mentorship and Training Experience

Mentee Awards

National Science Foundation Graduate Research Fellowship Program to undergraduate research assistant, Ellen L. Zippi 2017

University Cooperative Society, The University of Texas at Austin 2015
Undergraduate Research Fellowship to undergraduate research assistant, Ellen L. Zippi

Graduate Research Mentor

Andrei Amatuni 2022
Omer Ashmaig 2022

Ayesha Nadiadwala	2020–present
Anthony Dutcher	2020–2022
Eliya Ben-Asher	2020–2021
Sharon Noh	2020
Athula Pudhiyidath	2019–2020

Undergraduate Honors Thesis Mentor

Ellen L. Zippi, Mapping Cortical Representations of Semantic Similarity Using Wikipedia and Google News — 2017

Undergraduate Research Mentor

Meghana Potturu Medical student, The University of Texas Medical Branch	2019–2021
Rodrigo Viveros	2019–2021
Demetrius Rowland	2019–2020
Ellen L. Zippi (Dean's Scholars Honors Program) Dean's Honored Graduate Ph.D. student, University of California at Berkeley	2015–2017

Professional Service

Professional Memberships

Society for Neuroscience — 2007–present

Conference Reviewer

Annual Meeting of the Cognitive Science Society

Journal Reviewer

†Assisted with review
Cerebral Cortex†
Current Biology†
Current Opinion in Behavioral Sciences†
eLife†
Journal of Cognitive Neuroscience†
Journal of Experimental Psychology: Human Perception and Performance
Journal of Experimental Psychology: Learning, Memory, and Cognition
Journal of Mathematical Psychology
Journal of Memory and Language
Nature†
Nature Communications
Nature Human Behavior
NeuroImage
Neuron†
Neuropsychologia†
Neuroscience Letters†
Proceedings of the National Academy of Sciences†
Psychological Review

Psychonomic Bulletin & Review
Quarterly Journal of Experimental Psychology†
Science Advances†

Community Service

Public Outreach

Expert Panel, UT Brainstorms 2018, 2020
Experiment Demonstration, Memory Matters Public Lecture Series 2016
Presentation, UT Children's Research Center Outreach 2015

Diversity, Equity, and Inclusion Training

Considering Diversity: A Diversity, Equity, and Inclusion Workshop, Education and Outreach Office for Inclusion and Equity, University of Texas at Austin 2022

Related Professional Skills

Programming Languages/Tools

Expert: Python, Cython, MATLAB, Jupyter, Bash, Git, GitHub, PyCharm, Slurm, LaTeX, Adobe Illustrator
Intermediate: R, C++, Docker, Singularity, Unity, HTML, CSS, Sphinx, MTurk, TravisCI, Codecov
Working knowledge: Java, Javascript, Tcl, C#, Django, REDCap

Data Collection Expertise

Functional magnetic resonance imaging (fMRI)
Electroencephalography (EEG)
Electrocorticography (ECoG)
Transcranial direct current stimulation (tDCS)
Eye tracking

Scientific Software Expertise

Psychophysics Toolbox
Python Experiment-Programming Library (PyEPL)
FMRIB Software Library (FSL)
Analysis of Functional NeuroImages (AFNI)
Statistical Parametric Mapping (SPM)
Advanced Normalization Tools (ANTs)
FreeSurfer: Analysis of brain MRI images
Brain Imaging Data Structure (BIDS)
fMRIPrep: A robust preprocessing pipeline for fMRI data
Brain Imaging Analysis Kit (BrainIAK)
PyMVPA: Multivariate pattern analysis in Python
Nilearn: Statistics for neuroimaging in Python
FieldTrip: MEG, EEG and iEEG analysis
EEGLAB: EEG analysis in MATLAB

Emergent: Comprehensive neural network simulator
TensorFlow: Open-source machine learning platform
PyMC: Probabilistic programming in Python
Scikit-Learn: Machine learning in Python
PsiZ: A psychological embedding package

References

Alison R. Preston, Vice Provost for Faculty Development and Dr. A. Wilson Nolle and Sir Raghunath P. Mahendroo Professor in Neuroscience
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