

University of California, Davis
Center for Mind and Brain
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Education

Expected June 2024	Ph.D. Psychology, University of California, Davis Advisor: Dr. Joy Geng
2015 – 2016	M.Sc Cognitive Neuroscience, University of the Basque Country
2010 – 2015	B.A. Psychology, Bennington College

Funding and Awards*Fellowships*

2023 – 2024	University of California President’s Dissertation Year Fellowship (\$53,000)
2020 – 2023	National Defense Science and Engineering Fellowship (\$180,000)
2016 – 2018	National Institutes of Health Intramural Research Training Award (\$80,000)
2011 – 2015	Bennington College Brockway Faculty Scholarship (\$120,000)

Awards

2023	Early Career Scientist Travel Grant, National Eye Institute
2023	Outstanding Mentor Award, UC Davis Psychology
2021	Diverse Mentoring Award, UC Davis Psychology
2021	Travel Award, UC Davis Graduate Student Association
2021	Best Talk Award (tied for 2 nd place), UC Davis Psychology
2020	Best Talk Award (tied for 1 st place), UC Davis Psychology
2020	Most Creative Methodology, UC Davis Psychology
2019	Travel Award, UC Davis Graduate Student Association
2019	Professional Development Travel Award, UC Davis Psychology
2018	NeuroFest Poster Award (3 rd place), UC Davis Neuroscience

Publications

1. **Hall, E.H.**, Forloines, M.R., Henderson, J.M, & Geng, J.J. (*under review*, *Visual Cognition*). Eye gaze during route learning in a virtual task.
2. **Hall, E. H.**, & Geng, J. J. (2024). Object-based attention during scene perception elicits boundary contraction in memory. *Memory & cognition*, 1-13.
3. **Hall, E.H.**, Peacock, C.E., & Henderson, J.M. (2023). Objects are prioritized for attention based upon meaning during passive scene viewing. *Psychonomic Bulletin & Review*, 1-13.
4. Richie-Halford, A., Cieslak, M., Ai, L., [et al, including **Hall, E.H.**] (2022). An analysis-ready and quality controlled resource for pediatric brain white-matter research. *Scientific Data*, 9(1), 616.
5. Loh, Z., **Hall, E.H.**, Cronin, D., Henderson, J.M. (2022). Working memory control predicts fixation duration in scene-viewing. *Psychological Research*. 1-12.

6. **Hall, E.H.**, Bainbridge, W.A., & Baker, C.I. (2021). Highly similar and competing visual scenes lead to diminished memory for details in memory drawings. *Memory*, 30(3), 279-292.
7. Bainbridge, W.A., **Hall, E.H.**, Baker, C.I. (2020). Distinct representational structure and localization for visual encoding and recall during visual imagery. *Cerebral Cortex*, bhaa329.
8. Cronin, D.A., **Hall, E.H.**, Goold, J., Hayes, T.H., & Henderson, J.H. (2020) Eye movements in real-world scene photographs: General characteristics and effects of viewing task. *Frontiers in Psychology* 10: 2915.
9. Bainbridge, W.A, **Hall, E.H.**, & Baker, C.I. (2019). Highly diagnostic and detailed content of visual memory revealed during free recall of real-world scenes. *Nature Communications*, 10, 5.

Conference Presentations

10. **Hall, E.H.** & Geng, J.J. (2023). Object-based Attention in Scene Perception. Psychonomic Society. San Francisco, CA. Talk.
11. **Hall, E.H.**, & Geng, J.J. (2023). Object-based attention during scene perception elicits boundary contraction in memory. Vision Science Society. St. Pete's Beach, FL. Talk.
12. **Hall, E.H.** & Geng, J.J. (2022). Target search leads to tunnel memory for real-world environments. National Defense Science and Engineering conference. Boston, MA. Poster.
13. **Hall, E.H.**, & Geng, J.J. (2021). Thematic object relationships are judged as stronger than taxonomic relationships in a two-alternative forced choice task. Object Perception, visual Attention, and visual Memory. Virtual conference. Poster.
14. Loh, Z., **Hall, E.H.**, Cronin, D.A., & Henderson, J.H. (2021). Assessing the influence of task and working memory capacity on eye-movement characteristics during scene-perception. Western Psychological Association. Virtual conference. Poster.
15. **Hall, E.H.**, & Geng, J.J. (2021). Co-occurrence statistics from vision and language capture thematic relationships between objects. Vision Science Society. Virtual conference. Poster.
16. Bainbridge, W.A., **Hall, E.H.**, & Baker, C.I. (2019). Differences in the neural representations of visual content between encoding and free recall across the brain. Society for Neuroscience. Chicago, IL. Poster.
17. Bainbridge, W.A., **Hall, E.H.**, & Baker, C.I. (2019). Comparing the categorical structure of perceived and recalled images in visual cortex and hippocampus. Vision Sciences Society. St. Pete Beach, FL. Poster.
18. **Hall, E.H.**, Bainbridge, W.A., & Baker, C.I. (2019). Investigating visual free recall of highly similar and competing scene stimuli. Vision Sciences Society. St. Pete Beach, FL. Poster.
19. **Hall, E.H.**, Bainbridge, W.A., & Baker, C.I. (2019). Creating false memories: Investigating visual recall of multiple exemplars in a single category. Cognitive Neuroscience Society. San Francisco, CA. Poster.
20. Bainbridge, W.A., **Hall, E.H.**, & Baker, C.I. (2018). Comparing the neural correlates of visual encoding and free recall. Organization for Human Brain Mapping. Singapore. Poster.
21. **Hall, E.H.**, Bainbridge, W.A., & Baker, C.I. (2018). Comparing memory based on visual recall, visual recognition, and verbal recall. Vision Sciences Society. St. Pete Beach, FL. Poster.
22. Bainbridge, W.A., **Hall, E.H.**, & Baker, C.I. (2018). Visual recall memory contains highly detailed and precise object and spatial information. Vision Sciences Society. St. Pete's Beach, FL. Talk.

23. Bainbridge, W.A., **Hall, E.H.**, & Baker, C.I. (2018). Visual free recall of real-world scenes reveals high capacity and exquisite detail in memory. Cognitive Neuroscience Society. Boston, MA. Poster.
24. **Hall, E.H.**, Bainbridge, W.A., Baker, C.I. (2018). Investigating neural signatures of visual encoding and recall using 7T fMRI. Cognitive Neuroscience Society, Boston, MA. Poster.
25. **Hall, E. H.**, W. A. Bainbridge, C. I. Baker (2017). Quantifying the resolution and capacity of memory during free recall of real-world visual scenes. Society for Neuroscience, Washington, D.C. Poster.

Invited Talks

2024	Carnegie Mellon University, Lab in Multisensory Neuroscience
2024	Meta Reality Labs, Display Systems Team
2023	University of California, Merced, Management of Complex Systems

Additional Research Experience

Internship

2023	Alexa Economics & Measurement, Amazon, <i>Data Science Intern</i> , PI: Xin Tang
	- Developed LSTM to predict customers' Alexa activity over 1 week with 93% accuracy; including extensive feature engineering

Research

2018 – 2020	Visual Cognition Lab, UC Davis, <i>Graduate Research</i> , PI: John Henderson
2016 – 2018	Lab of Brain and Cognition, NIMH, <i>Intramural Research Fellow</i> , PI: Chris Baker
2015 – 2016	Learning and Plasticity Group, BCBL, <i>Masters Research</i> , PI: Doug Davidson

Summer Schools

2024	Neuromatch Academy, NeuroAI
2021	Neuromatch Academy, Deep Learning
2020	Neuromatch Academy, Computational Neuroscience

Teaching and Mentoring

Courses

Spring 2020	Human Memory, <i>Teaching Assistant</i> , UC Davis
Fall 2019	Perception and Sensation, <i>Teaching Assistant</i> , UC Davis
Spring 2019	Introduction to Psychology, <i>Teaching Assistant</i> , UC Davis

Mentees

2023	–	Akshit Prathipati	Neurobiology	
2023	–	Nancy Cao	Psychology	
2022 – 2023		Maya Tochimoto	Cognitive Science	
2019 – 2023		Tiffany Kim	Disease Biology	
2019 – 2021		Ruilin Cai	Computer Science	Pursuing <i>MEng</i> from <i>UCLA</i>
2019 – 2021		Zoe Loh	Cognitive Science	Pursuing <i>PhD</i> from <i>UC Merced</i>
				Provost's Research Fellow
				First-author pub. <i>Psych. Research</i>

Service

Public Engagement

- 2023 Panelist, 1st Annual UCD Cog. Sci. Conference, “Jobs in Cognitive Science”
- 2020 – 2021 Brown Bag Organizer, UCD Perception, Cognition, and Cognitive Neuroscience
- Organized grad talks and outside speakers from *Meta Reality Labs*, *Plos One*, *University of Chicago*, and *Columbia University*
- 2019 – 2022 Post-publication peer reviewer, University of Melbourne, DARPA Score program
- Reviewed credibility of published research articles in business, economics, political science, and psychology
- 2017 – 2018 STEM Ambassador, DC STEM Network
- Speaker at DC public schools and local STEM events about science research opportunities for high school students
- 2018 Coordinator, National Museum of Health & Medicine, “Brain Awareness Week”
- 2016 Coordinator, Eureka! Science Museum, “Brain Awareness Week”

Professional Memberships

Vision Science Society, Females of Vision et al (FoVea), Cognitive Neuroscience Society, Society for the Improvement of Psychological Science, Psychonomic Society

Ad-Hoc Reviewer

Memory, Psychological Research, Psychological Review, Psychonomic Bulletin & Review, Memory & Cognition, Quarterly Journal of Experimental Psychology

Selected Press

- February 8, 2021 New Map of Meaning in the Brain Changes Ideas About Memory. Quanta Magazine.
- May 25, 2021 Our memory is even better than experts thought. Scientific American.
- January 15, 2021 The luck of the draw. Nature Behavioural & Social Sciences: After the Paper.
- February 1, 2019 Remembrance of things (recently) past. Brain Waves: The NIMH Intramural Research Program Newsletter.
- January 28, 2019 Drawing out the visual richness of our lives. Nature Behavioural & Social Sciences: Behind the Paper.
- November 15, 2017 Drawing out visual memories. Society for Neuroscience Meeting Blog.