

Omri Raccah

Curriculum Vitae

Contact

Department of Psychology
Wu Tsai Institute
Yale University
omri.raccah@yale.edu
[omriraccah.github.io](https://github.com/omriraccah)

Education & Training

Postdoctoral Fellow (2023 - current) at Yale University ([Nicholas B. Turk-Browne](#))
Doctor of Philosophy (2023) in Psychology from New York University ([David Poeppel](#))
Master of Philosophy (2022) in Psychology from New York University ([David Poeppel](#))
Bachelor of Science (2015) in Cognitive Science from University of California, Los Angeles
Designated emphasis in Computing ([Jesse Rissman](#))

Honors & Funding

NIH Ruth L. Kirschstein Postdoctoral NRSA Fellowship (F32 EY035941; 2024-2027)
Wu Tsai Institute Travel Award, Yale University (2025)
Neuroimaging Pilot Grant, Wu Tsai Institute, Center for Neurocognition & Behavior, Yale University (2024)
NSF Graduate Research Fellowship (DGE1839302; 2018-2023)
Henry M. MacCracken Fellowship, New York University (2018-2023)
Dean's Travel Grant, New York University (2023)
Dean's Travel Grant, New York University (2022)
Ted Coon's Travel Grant, New York University (2022)
Association for the Scientific Study of Consciousness (ASSC), People's Choice Prize (2021)
Vice Provost's Recognition Award for Undergraduate Research, UCLA (2015)
Science Research Week Nomination, Department of Psychology, UCLA (2015)

Research Interests

Memory, Auditory Cognition, Perception, Consciousness, Artificial Intelligence

Publications

19. **Raccah, O.**, Agarwal, A., Zhu, Y., & Turk-Browne, N. (2026; *In press*). The human hippocampus supports auditory coding and multisensory integration. *PLOS Biology*. [Preprint](#)
18. Verosky N., **Raccah, O.** (2026; *In Revision*). Music and the structure of episodic memory. *PsyArXiv*. [Preprint](#)
17. Xue, A.M., Hsu, S., LaRocque, K.F., **Raccah, O.**, Gonzalez, A., Parvizi, J., & Wagner, A. (2026; *Under review*). Hippocampal patterns and associative memory: Distinct intracranial EEG temporal encoding patterns support memory. *BioRxiv*. [Preprint](#)
16. **Raccah, O.***, Seltenreich, M.*, Pelofi, C., Lerdahl, F., & Poeppel, D. (2025). Geometric principles of musical scales constitute a representational primitive in melodic processing. *iScience*, 28(11). [Paper](#) * equal contribution
15. **Raccah, O.***, Chen, P.*, Vo, A.V., Poeppel, D., & Gureckis, M. T. (2025; *revised*). Predicting memory distortions in hundreds of narrative recalls. *PsyArXiv*. [Preprint](#) * equal contribution
14. Cao, W., **Raccah, O.**, Chen, P., Poeppel, D., & Tompary, A. (2025; *In revision*). The privileged role of thematic conceptual relations in episodic memory. *PsyArXiv*. [Preprint](#)
13. **Raccah, O.***, Chen, P.*, Gureckis, M. T., Poeppel, D., & Vo, A.V. (2024). The “Naturalistic Free Recall” dataset: four stories, hundreds of participants, and high-fidelity transcriptions. *Scientific Data*, 11(1), 1317. [Paper](#) * equal contribution
12. Salehi, S., Dehaqani, M.R., Schrouff, J., Sava-Segal, C., **Raccah, O.**, Baek, S. (2024). Spatiotemporal hierarchies of face representation in the human ventral temporal cortex. *Scientific Reports*, 14(1), 26501. [Paper](#)
11. Cao, W., **Raccah, O.**, Chen, P., Poeppel, D. (2023). Thematic relations outperform taxonomic relations in a cued recall task. *Proceedings of the Cognitive Science Society Conference*, 45. [Paper](#)
10. **Raccah, O.**, Chen, P., Willke, T., Poeppel, D., & Vo, A.V. (2023). Memory in humans and deep language models: linking hypotheses for model augmentation. *NeurIPS Workshops*, 37. [Paper](#)
9. **Raccah, O.**, Doelling, K., Davachi, L., & Poeppel, D. (2022). Acoustic features drive event segmentation in speech. *Journal of*

8. Norman, Y., **Raccach, O.**, Lui, S., Parvizi, J., & Malach, R. (2021). Hippocampal ripples and their coordinated dialogue with the default mode network during recent and remote recollection. *Neuron*, 109(17), 2767-2780. [Paper](#) * Issue cover
7. **Raccach, O.**, Block, N., & Fox, K. C.R. (2021). Subjective phenomena elicited by intracranial electrical stimulation challenge a global neuronal workspace hypothesis: A reply to objections raised by Naccache et al. *Journal of Neuroscience eLetters (OSF Preprints)*. [Paper](#)
6. **Raccach, O.**, Block, N., & Fox, K. C.R. (2021). Does the prefrontal cortex play an essential role in consciousness? Insights from intracranial stimulation of the human brain. *Journal of Neuroscience*, 41(10), 2076-2087. [Paper](#)
5. Fox, K. C.R., Shi, L., Baek, S., **Raccach, O.**, Foster, B., Saha, S., Margulies, D., Kucyi, A., & Parvizi, J. (2020). Intrinsic network architecture predicts the effects elicited by intracranial electrical stimulation of the human brain. *Nature Human Behaviour*, 4(10), 1039-1052. [Paper](#) * [News and Views](#) by C. Koch
4. Schrouff, J., **Raccach, O.**, Baek, S. R., Rangarajan, V., Salehi, S., Mourao-Miranda, J., Helili, Z., Daitch, A., & Parvizi, J. (2020). Fast temporal dynamics and causal relevance of face processing in the human temporal cortex. *Nature Communications*, 11(1), 656. [Paper](#)
3. Kucyi, A., Daitch, A., **Raccach, O.**, Zhao, B., Zhang, C., Esterman, M., Zeineh, M., Halpern, C. H., Zhang, K., Zhang, J., & Parvizi, J. (2020). Electrophysiological dynamics of antagonistic brain networks reflect attentional fluctuations. *Nature Communications*, 11(1), 325. [Paper](#)
2. **Raccach, O.**, Kucyi, A., Daitch, A., & Parvizi, J. (2018). Direct cortical recordings suggest temporal order of task-evoked responses in human dorsal attention and default networks. *Journal of Neuroscience*, 38(48), 10305-10313. [Paper](#)
1. Fox, K. C.R.*, Yih, J.*, **Raccach, O.**, Pendekanti, S., Limbach, L., Maydam, D., & Parvizi, J. (2018). Changes in subjective experience elicited by direct electrical stimulation of the human orbitofrontal cortex. *Neurology*, 91(16), 1519-1527. [Paper](#)
* equal contribution

Predoctoral Positions

ML/AI Research Intern (2022) at Intel Labs, Brain-Inspired Computing Group ([Vy A. Vo](#) & [Theodore L. Willke](#))

Research Associate (2016-2018) at Stanford University, Department of Neurology ([Josef Parvizi](#))

Research Assistant and Lab Manager (2015-2016) at UCSD, Department of Cognitive Science ([Angela J. Yu](#))

Conference presentations (Selected; first-author only)

Raccach, O.*, Chen, P.*, Vo, A.V., Poeppel, D., & Gureckis, M. T. (2026). Distinct paths to false memory revealed in hundreds of narrative recollections. Talk at Context and Episodic Memory Symposium (CEMS), Philadelphia, PA.

Raccach, O., Agarwal, A., Zhu, Y., & Turk-Browne, N. (2026). Multisensory audiovisual coding in the human hippocampus. Talk at the Vision Sciences Society (VSS), St. Pete Beach, FL.

Raccach, O., Agarwal, A., Zhu, Y., & Turk-Browne, N. (2025). Auditory and multisensory representations in the human hippocampus. Poster at the Society for Neuroscience (SfN), San Diego, CA.

Raccach, O.*, Chen, P.*, Vo, A.V., Gureckis, M. T., & Poeppel, D. (2025). Understanding spontaneous false memories in the naturalistic free recollection of narratives. Poster at the Society for Cognitive Neuroscience (CNS), Boston, MA.

Raccach, O., Seltenreich M., Pelofi, C., Lerdahl, F., & Poeppel, D. (2024). Geometric relationships across notes constitute a primitive in melodic processing. Talk at Annual Auditory Perception, Cognition, & Action Meeting, New York, NY.

Raccach, O.*, Chen, P.*, Vo, A.V., Gureckis, M. T., & Poeppel, D. (2024). Understanding spontaneous false memories in the naturalistic free recollection of narratives. Poster at the NYU Center for Data Science (CDS) Conference, New York, NY.

Raccach, O., Seltenreich M., Pelofi, C., Lerdahl, F., & Poeppel, D. (2024). Geometric relationships across notes constitute a primitive in melodic processing. Talk at the Society for Music Perception and Cognition (SMPC), Banff, Canada.

Raccach, O., Chen, P., Willke, T., Poeppel, D., & Vo, A.V. (2023). Memory in humans and deep language models: Linking hypotheses for model augmentation. Talk at the Conference on Neural Information Processing Systems (NeurIPS), New Orleans, LA.

Raccach, O., Doelling K., Davachi, L., & Poeppel, D. (2022). The influence of semantic context on sequence memory and event segmentation. Talk at the Society for Neuroscience (SfN), San Diego, CA.

Raccach, O., Seltenreich M., Pelofi, C., Lerdahl, F., & Poeppel, D. (2022). Musical scales drive false memories for individual notes in melodies. Talk at the Society for Music Perception and Cognition (SMPC), Portland, OR.

Raccach, O., Block, N., & Fox, K. C.R. (2021). Does the prefrontal cortex play an essential role in consciousness? Insights from intracranial stimulation of the human brain. Talk at the Association for the Scientific Study of Consciousness (ASSC) Conference, Tel Aviv, Israel (virtual) * Awarded prize for top trainee submission

Raccach, O., Doelling K., Davachi, L., & Poeppel, D. (2020). The influence of semantic context on sequence memory and event segmentation. Talk at Context and Episodic Memory Symposium (CEMS), Philadelphia, PA. (virtual)

Raccach, O., Daitch, A., Kucyi, A., & Parvizi, J. (2018). Direct cortical recordings suggest temporal order of task-evoked

responses in human dorsal attention and default networks. Poster presented at the Cognitive Neuroscience Society (CNS), San Francisco, CA.

Raccach, O., Daitch, A., Kucyi, A., & Parvizi, J. (2017). Direct cortical recordings suggest temporal order of task-evoked responses in human dorsal attention and default networks. Poster presented at the Organization for Human Brain Mapping (OHBM), Vancouver, Canada.

Raccach, O., Daitch, A., & Parvizi, J. (2017). Investigating the relative timing of activations and deactivations in the default mode and antagonistic lateral parietal networks using intracranial recording of the human brain. Poster presented at the Society for Neuroscience (SfN), Washington, D.C.

Raccach, O., Ide, J., Ma, N., Hu, S., Li, C., & Yu, A. (2016). A Bayesian model-based investigation of temporal expectancy in inhibitory control. Poster presented at the Society for Neuroscience (SfN), San Diego, CA.

Raccach, O., Ide, J., Ma, N., Hu, S., Li, C., & Yu, A. (2015). Temporal estimation and proactive control in the stop-signal task: a Bayesian model-based fMRI approach. Poster presented at the Computational and Systems Neuroscience Conference (COSYNE), Salt Lake City, Utah.

Colloquia / Invited talks

Functional MRI Speaker Series, **University of Michigan** (forthcoming; 2026)
Memory and Neuromodulation lab meeting, **New York University** (2026)
Crossmodal Perception and Plasticity lab meeting, **University of Louvain** (2026)
Murray lab meeting, **University of Lausanne** (2026)
Manhattan Area Memory Meeting (MAMM), **Columbia University** (2026)
Cognitive Science Departmental Colloquium, **Yale University** (2025)
Chen lab Meeting, **Johns Hopkins University** (2025)
Magnetic Resonance Research Center (MRRC) Neuroscience Seminar Series, **Yale University** (2025)
Scholl lab meeting, **Yale University** (2025)
Computational Auditory Perception Group Meeting, **Cornell University** (2024)
Norman and Hasson lab meeting, **Princeton University** (2025)
Kucyi and Tompary lab meeting, **Drexel University** (2024)
Clinical Neuroscience Group Meeting, **Yale University** (2024)
Deep Brain Stimulation Speaker Series, **Yale University** (2024)
Princeton-NYU Music Cognition Symposium, **New York University** (2023)
Cognitive neuroscience area meeting, **Yale University** (2022)
Kahana lab meeting, **University of Pennsylvania** (2022)
Psychological and Brain Sciences Departmental Journal Club, **Johns Hopkins University** (2021)
Whitfield-Gabrieli lab meeting, **Northeastern University** (2021)
Center for Brain, Mind and Consciousness, **New York University** (2021)
Debate panelist, **Society for the Scientific Study of Consciousness Conference** (2021)
Rising Stars in Psychological Sciences Speaker Series, **Princeton University** (2021)
Kahana lab meeting, **University of Pennsylvania** (2020)
Naccache lab meeting, **Paris-Sorbonne University** (2020)
Malach lab meeting, **Weizmann Institute** (2019)
Davachi lab meeting, **Columbia University** (2019)
Aly and Baldassano joint lab meeting, **Columbia University** (2019)
Chen and Honey joint lab meeting, **Johns Hopkins University** (2018)
NYU ECoG Group meeting, **New York University** (2018)
Lau lab meeting, **University of California, Los Angeles** (2016)
Association for Computing Machinery (ACM-UCLA) meeting, **University of California, Los Angeles** (2015)

Teaching

Teaching assistantships:

PSYCH 90: Lab in Cognition and Perception, New York University (2022)
PSYCH 29: Cognition, New York University (2020)
NEPR 205: Neuroanatomy (Ph.D. level), Stanford University (2017)

Lecturer:

Guest lecturer in *Cognitive Science Undergraduate Colloquium*, Yale University (2026)
Guest lecturer in *Columbia Pre-College Program*, Columbia University (2020, 2021, 2023)
Guest lecturer in *Introduction to Neuroscience*, Grace Church High School (2019, 2021)
Guest lecturer in *Biomedical Research Methods High-School Course*, Stanford University (2017)

Mentoring

Rory Ashmeade, 2026, Undergraduate Research Assistant at Yale
Aryan Agarwal, 2024-Present, Undergraduate Research Assistant at Yale
Asa Kucinkas, 2026, Visiting Graduate Student at Yale
Now: Medical Student at University of Lausanne
Weijia Cao, 2021-2023, Master's Thesis Student at NYU
Now: Ph.D. Student at Duke University
Niki Lam, 2019-2020, Undergraduate Research Assistant at NYU
Now: Ph.D. Student at University of Rochester
Aruni Areti, 2016-2017, High School Research Assistant at Stanford University
Now: Postbacc Researcher at University of Pennsylvania

Continued Education

CIFAR Neuroscience of Consciousness Winter School (2023)
Neuromatch Summer School (online, 2021): Deep Learning
Theories and Applications for Neuroscience
Predoctoral Research Program, Stanford University (Summer 2014; Advisors: [Brent Hughes](#) & [Jamil Zaki](#))

Science Outreach (Selected)

Wu Tsai Institute Peer Mentors Program, Mentor, Yale University (2025-2026)
Neuroscience and Cognition High School Bootcamp, Lecturer, Yale University (2026)
Innovators in Cognitive Neuroscience Lecture Series, Postdoc Representative, Yale University (2024)
MindHive Citizen Science Program, Teaching and Mentoring Team (2022)
Cognitive Neuroscience Faculty Search Committee, Student Representative, New York University (2020)
Student-Faculty Liaison, Cognition & Perception Ph.D. Program, New York University (2019-2020)
Stanford Brain Day, Organizer, Stanford University (2017, 2018)
Cognitive Science Annual Undergraduate Conference, Organizer, UCLA (2015)
Artificial Intelligence Student Group (now part of ACM), Founder, UCLA (2013-2015)
Cognitive Science Student Association, Board Member, UCLA (2013-2014)

Media

Interviewed on the [Reeducated Podcast](#) about the interface of education and human memory research
[SciShow Episode](#) featuring our work on intracranial stimulation and the prefrontal cortex
[BrainPost coverage](#) of our study on the temporal dynamics across large-scale brain networks
[BrainPost coverage](#) of our study on the neural foundations of attentional fluctuations

Ad hoc journal reviewing

Current Biology, Frontiers in Human Neuroscience, Cell Reports, Cerebral Cortex, Proceedings of the National Academy of Sciences, Nature Communications, Attention Perception & Psychophysics, Open Mind: Discoveries in Cognitive Science, Proceedings of the Cognitive Science Society Conference, Cognition, Nature Scientific Reports, Frontiers in Psychology, Annals of the New York Academy of Sciences, Brain Structure and Function, Nature Human Behaviour, Journal of Speech, Language, and Hearing Research, Journal of Neuroscience, Science Advances, eLife, Journal of Experimental Psychology: Memory, Learning, and Cognition, Journal of Experimental Psychology: General, Communications Biology, Imaging Neuroscience