

Ari Khoudary

pronouns: they/them/theirs

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Education

University of California, Irvine

Ph.D., Cognitive Sciences

Fall 2021-present

M.S., Cognitive Neuroscience

Spring 2024

Affiliate, Center for Neurobiology of Learning and Memory (CNLM)

Fall 2021-present

Affiliate, Center for Theoretical Behavioral Sciences (CTBS)

Winter 2023-present

Advisors: Dr. Aaron Bornstein and Dr. Megan Peters

Boston College

B.S., Psychology (honors) and Philosophy, *magna cum laude*

May 2019

Scholar of the College Thesis: *Securing the Reliability of Episodic Memory*

Advisors: Dr. Maureen Ritchey (psychology) and Dr. Richard Atkins (philosophy)

Research Experience

Research Assistant & Lab Manager, [De Brigard Lab](#), Duke University

Summer 2019-Summer 2021

Undergraduate Research Fellow, [Ritchey Lab](#), Boston College

Fall 2017-Spring 2019

NSF-REU Fellow, [Carrasco Lab](#), New York University

Summer 2018

Peer-reviewed Journal Articles (* denotes equal contribution)

Khoudary, A., Peters, M.A.K.* , Bornstein, A.M.* (2025) Reasoning goals and representational decisions in computational cognitive neuroscience: lessons from the drift diffusion model. *European Journal of Neuroscience*. <https://onlinelibrary.wiley.com/doi/full/10.1111/ejn.70098> [pdf]

Miceli, K.* , Morales-Torres, R.* , **Khoudary, A.**, Faul, L., Parikh, N., & De Brigard, F. (2023). Perceived plausibility modulates hippocampal activity in episodic counterfactual thinking. *Hippocampus*. <https://doi.org/10.1002/hipo.23583> [pdf] [code]

Khoudary, A., Hanna, E., O'Neill, K.G., Iyengar, V., Clifford, S., De Brigard, F.* , Cabeza, R.* , Sinnott-Armstrong, W.* (2022). A Functional Neuroimaging Investigation of Moral Foundations Theory. *Social Neuroscience*, 1-17. <https://doi.org/10.1080/17470919.2022.2148737> [pdf] [code]

Khoudary, A., O'Neill, K., Faul, L., Murray, S., Smallman, R., De Brigard, F. (2022). Neural differences between internal and external episodic counterfactual thoughts. *Philosophical Transactions of the Royal Society B*. <https://doi.org/10.1098/rstb.2021.0337> [pdf] [code]

De Brigard, F., **Khoudary, M.**, & Murray, S. (2022). Times Imagined and Remembered. In Hoerl, C., McCormack, T., & Fernandes, A. (Eds.). *Temporal Asymmetries in Philosophy and Psychology*. Oxford University Press. [pdf] [code]

Mele, A., Nadelhoffer, T., **Khoudary, M.** (2021). Folk psychology and proximal intentions,

Peer-reviewed Conference Proceedings

- Khoudary, A.**, Bornstein, A.M., Peters, M.A.K.* (2025) Subjective and objective cue probability interact to shape perceptual decisions. *Proceedings of the 47th Annual Meeting of the Cognitive Science Society* [camera-ready pdf coming soon!] [code]
- Khoudary, A.**, Peters, M.A.K.*, Bornstein, A.M.* (2022) Precision-weighted evidence integration predicts time-varying influence of memory on perceptual decisions. *Proceedings of the 2022 Conference on Cognitive Computational Neuroscience*. [pdf] [code]

Talks and Presentations (* denotes equal contribution)

- Khoudary, A.**, Peters, M. A. K.*, Bornstein, A.M. (2025) Subjective and objective cue probability interact to shape perceptual decisions. *Poster at the 2025 meeting of The Cognitive Sciences Society*
- Khoudary, A.**, Peters, M. A. K.*, Bornstein, A.M. (2025) A principled model of uncertainty resolution explains dynamic effects of expectations on perceptual decisions. *Talk at the 2025 meeting of The Society for Philosophy and Neuroscience*
- Khoudary, A.** (2024) Reasoning goals and representational decisions in computational cognitive neuroscience: lessons from bounded evidence accumulation. *Talk at the 7th annual meeting of the Deep South Philosophy & Neuroscience workgroup; Poster at the 2024 meeting of the Philosophy of Science Association; UC Irvine Cognitive Sciences Colloquium Series: Student Speaker*
- Khoudary, A.**, Bornstein, A.M.*, Peters, M. A. K.* (2024) Explaining dynamic effects of memory on perceptual decisions. *Data Blitz talk at the 2024 CNLM Spring Meeting*
- Khoudary, A.**, Bornstein, A.M.*, Peters, M. A. K.* (2023) Characterizing dynamic effects of memory on perceptual evidence accumulation. *Poster at the RIKEN CBS Summer Program Poster Session*.
- Khoudary, A.**, Bornstein, A.M.*, Peters, M. A. K.* (2023) Perceptual decisions result from dynamic precision-weighted integration of memory and visual information. *Talk at the 26th Annual Meeting of the Association for the Scientific Study of Consciousness (ASSC)*.
- Khoudary, A.**, Peters, M. A. K.*, Bornstein, A.M.* (2023) Characterizing time-varying effects of memory on perceptual decisions. *Poster at the 2023 International Conference on Learning and Memory*.
- Khoudary, A.**, Peters, M. A. K.*, Bornstein, A.M.* (2022). Precision-weighted evidence integration predicts time-varying influence of memory on perceptual decisions. *Poster at the 2022 Cognitive Computational Neuroscience (CCN) meeting*.
- Khoudary, M.**, O'Neill, K.G., Faul, L., Murray, S., Smallman, R., De Brigard, F. (2021; 2022). Neural differences between internal and external episodic counterfactual thoughts. *Poster presented virtually at the 2021 Neuromatch Conference (NMC). Poster at the 2022 Cognitive Neuroscience Society (CNS) Annual Meeting*.
- Chen, J.*, Elowsky, C.*, **Khoudary, M.***, Revsine, C.* (2020) Predicting fMRI Responses: a Machine

Learning Approach. *Neuromatch Academy project presented in fulfillment of the Interactive Track.*

Khoudary, M., Hanna, E., O'Neill, K.G., Iyengar, V., Clifford, S., De Brigard, F., Cabeza, R., Sinnott-Armstrong, W. (2020; 2021). A Functional Neuroimaging Investigation of Moral Foundations Theory. *Poster at the virtual Cognitive Neuroscience Society (CNS) Annual Meeting.*
Poster at the virtual 2021 meeting of the Society for Philosophy and Psychology (SPP).

Khoudary, M., Cooper, R., Ritchey, M. (2019). Effects of divided attention on item and source memory. *Poster at the Boston College Psychology Undergraduate Research Conference (PURC).*

Khoudary, M. (2019). How attention alters perception. *Talk at Nu Rho Psi outreach event.*

Khoudary, M., Jigo, M., Carrasco, M. (2018). Characterizing the effects of covert exogenous attention on contrast sensitivity across the visual field. *Poster at the NYU Summer Student Research Conference. Talk at the Center for Neural Science Summer Undergraduate Research Program Symposium.*

Awards

Schneiderman-NIMH T32, UCI Center for Neurobiology of Learning and Memory	Spring 2023-present
Jared M. Roberts Memorial Award, UCI Center for Neurobiology of Learning and Memory	Spring 2023
DECADE Outstanding Student Representative Award, University of California, Irvine	Spring 2023
Graduate Research Fellowship Honorable Mention, National Science Foundation	Spring 2023
DECADE Professional Development Award, University of California, Irvine	Winter 2022
Diversity Recruitment Fellowship, University of California, Irvine	Spring 2021
Research Experience for Undergraduates Fellow, National Science Foundation	Summer 2018

Academic Honors

Scholar of the College, Boston College	Spring 2019
Phi Beta Kappa, Boston College	Spring 2019
Order of the Cross and Crown, Boston College	Spring 2019
Dean's List, First Honors	Spring 2016, Spring 2017, Fall 2017, Spring 2018, Fall 2018, Spring 2019
Nu Rho Psi, National Honor Society in Neuroscience	Fall 2018
Psi Chi, National Honor Society in Psychology	Fall 2017
Honors Program, Boston College Psychology Department	Fall 2017
Honors Program, Boston College Morrissey College of Arts and Sciences	Spring 2015

Selected Leadership & Outreach

Colloquium Committee, UC Irvine Cognitive Sciences Department	Spring 2024-present
Mentor, Summer Institute in Neuroscience, UCI CNLM	Summer 2024
Member, Adult Outreach Committee, UCI CNLM Ambassador Program	Fall 2023-present
Representative, Diverse Educational Community & Doctoral Experience, UC Irvine	Fall 2022-present
Founder, Philosophy and Neuroscience Journal Club, Duke University	Spring 2020-Spring 2021

Mentor, Psychology Department Mentorship Program, Boston College
President and Co-Founder, Nu Rho Psi, Boston College
President, Students for Education Reform, Boston College

Fall 2018-Spring 2019
Spring 2018-Spring 2019
Fall 2016-Spring 2018

Professional Experience

Teaching Assistant, Memory, Prof. Aaron Bornstein	Spring 2023
Teaching Assistant, Intro to Human Memory, Prof. Christine Lofgren	Winter 2023
Teaching Assistant, Neurobiology of Cognition, Prof. Alyssa Brewer	Fall 2022
Teaching Assistant, Honors Research Methods, Profs. Aaron Bornstein & Nadia Chernyak	Spring 2022
Teaching Assistant, Intro to Human Memory, Prof. Christine Lofgren	Winter 2022
Teaching Assistant, Sensation and Perception, Prof. Virginia Richards	Fall 2021
Program Coordinator, Summer Seminars in Neuroscience and Philosophy	Summer 2019-Summer 2021

Reviewing

Cerebral Cortex, Memory and Cognition, Journal of Experimental Psychology: General

Skills

Programming and Software

Intermediate proficiency: R; Python; MATLAB; Git; JAGS; PLS and PsychToolbox for MATLAB; PsychoPy
Novice proficiency: JASP; TensorFlow; EEGLAB toolbox for MATLAB

Data Collection (human subjects)

fMRI (8 coil 3T GE MR750)	EEG (BioSemi 64 channel gel)
Behavioral (Qualtrics, Amazon Mechanical Turk, Prolific)	Eye Tracking (EyeLink 1000)

References

Aaron Bornstein, Ph.D.

Assistant Professor
Cognitive Sciences
University of California, Irvine
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Megan Peters, Ph.D.

Associate Professor
Cognitive Sciences
University of California, Irvine
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Felipe De Brigard, Ph.D.

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Philosophy
Psychology & Neuroscience
Center for Cognitive Neuroscience
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Maureen Ritchey, Ph.D.

Associate Professor
Psychology & Neuroscience
Boston College
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