

# 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

Graduate Student Researcher, [Bornstein](#) and [Peters](#) labs, UC Irvine Fall 2021-present

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 Publications (\* denotes equal contribution)

**Khoudary, A.**, Peters, M.A.K.\*, Bornstein, A.M.\* (under revision) Reasoning goals and representational decisions in computational cognitive neuroscience: a case study from bounded evidence accumulation. *European Journal of Neuroscience*. <https://osf.io/preprints/psyarxiv/aqxhr> [code]

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> [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> [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> [code]

- Khoudary, A.**, Peters, M.A.K.\* , Bornstein, A.M.\* (2022) Precision-weighted evidence integration predicts time-varying influence of memory on perceptual decisions. *Conference on Cognitive Computational Neuroscience*. [[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. [[code](#)]
- Mele, A., Nadelhoffer, T., **Khoudary, M.** (2021). Folk psychology and proximal intentions, *Philosophical Psychology*, 34:6, 761-783, DOI: [10.1080/09515089.2021.1915471](https://doi.org/10.1080/09515089.2021.1915471) [[code](#)]

## Talks and Presentations (\* denotes equal contribution)

- Khoudary, A.** (2024) A philosophical perspective on the collapsing bounds debate. *UC Irvine Cognitive Sciences Colloquium Series: Student Speaker*
- 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*
- 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

Phi Beta Kappa, Boston College	Spring 2019
Scholar of the College, 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 2023-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
Contributor, DIBS Methods Meetings Journal Club, Duke University	Fall 2020-Spring 2021
Founder, Philosophy and Neuroscience Journal Club, Duke University	Spring 2020-Spring 2021
Mentor, Psychology Department Mentorship Program, Boston College	Fall 2018-Spring 2019

President and Co-Founder, Nu Rho Psi, Boston College  
Tutor, Connor's Family Learning Center, Boston College  
President, Students for Education Reform, Boston College

Spring 2018-Spring 2019  
Fall 2017-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, <a href="#">Summer Seminars in Neuroscience and Philosophy</a>	Summer 2019-Summer 2021

## Skills

### *Programming and Software*

Intermediate proficiency: R; Python; MATLAB; Git; JAGS; PLS Toolbox for MATLAB; PsychoPy  
Novice proficiency: JASP; TensorFlow; EEGLAB, MGL, and Psych toolboxes 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)

### *Languages*

Arabic (Native Levantine; novice Modern Standard)

## References

### **Aaron Bornstein, Ph.D.**

*Assistant Professor*  
Cognitive Sciences  
University of California, Irvine  
[aaron.bornstein@uci.edu](mailto:aaron.bornstein@uci.edu)

### **Megan Peters, Ph.D.**

*Associate Professor*  
Cognitive Sciences  
University of California, Irvine  
[megan.peters@uci.edu](mailto:megan.peters@uci.edu)

### **Felipe De Brigard, Ph.D.**

*Associate Professor*  
Philosophy  
Psychology & Neuroscience  
Center for Cognitive Neuroscience  
Duke University  
[felipe.debrigard@duke.edu](mailto:felipe.debrigard@duke.edu)

### **Maureen Ritchey, Ph.D.**

*Associate Professor*  
Psychology & Neuroscience  
Boston College  
[maureen.ritchey@bc.edu](mailto:maureen.ritchey@bc.edu)