Camille Gasser

ccgasser@gmail.com | New York, NY

EDUCATION

2019 - 2024 **PhD in Cognitive Neuroscience**
Columbia University
Advisor: Lila Davachi, PhD
Dissertation Title: "*The paradox of prior knowledge: How both predictability and novelty benefit episodic memory*"

2023 **MPhil in Psychology**
Columbia University

2021 **MA in Psychology**
Columbia University

2017 **BA in Psychology with honors,** *Summa cum Laude*
New York University
Minor: Computer Science & Math

RESEARCH EXPERIENCE

August 2019 - December 2024 **Doctoral Student Researcher,** Davachi Memory Lab
Columbia University, New York, NY

July 2017 - July 2019 **Lab Manager & Research Assistant,** Davachi Memory Lab
New York University & Columbia University, New York, NY

Sept. 2016 - Aug. 2018 **Honors Student & Research Assistant,** Computation & Cognition Lab
New York University, New York, NY

March - Aug. 2017 **Trainee**, Training Program for Computational Neuroscience
New York University, New York, NY

June - Aug. 2015 & 2016 **Research Assistant,** Neuroscape
University of California, San Francisco, CA

Sept. 2015 - Dec. 2015 **Research Intern,** Mood and Personality Disorders Research Program
Icahn School of Medicine, Mt. Sinai, New York, NY

PUBLICATIONS

*, + *denotes equal contribution*

Zadbood, A., Tang, Y., Su, W., Hu, H., Capichioni, G., Yang, S., Wang, J., **Gasser, C.**, Bein, O., Hui, L., Jia, Q., Zhang, T., Hong, Y., Wang, J., Goff, D.*, & Davachi, L.* (2025). Impaired hippocampal circuitry and memory dysfunction in schizophrenia. *Nature Mental Health*. https://doi.org/10.1101/2023.11.05.565219

Bein, O.*, **Gasser, C.*,** Amer, T., Davachi, L.+ & Maril, A.+ (2023). Predictions transform memories: how expected versus unexpected events promote memory integration and separation. *Neuroscience & Biobehavioral Reviews*. https://doi.org/10.1016/j.neubiorev.2023.105368

Gasser, C. & Davachi, L. (2023). Cross-modal facilitation of episodic memory by sequential action execution. *Psychological Science*. https://doi.org/10.1177/09567976231158292

Thorp, J. N., **Gasser, C.,** Blessing, E., & Davachi, L. (2022). Data-driven clustering of functional signals reveals gradients in processing both within the anterior hippocampus and across its long axis. *Journal of Neuroscience*. https://doi.org/10.1523/JNEUROSCI.0269-22.2022

Tarder-Stoll, H., **Gasser, C.**, Yu, W., & Dimsdale-Zucker, H. (2021). Challenges in understanding the role of reactivation in modifying hippocampal representations. *Journal of Neuroscience*. https://doi.org/10.1523/JNEUROSCI.0334-21.2021

Callaghan, B.*, **Gasser, C.***, Silvers, J., VanTieghem, M., Choy, T., O'Sullivan, K., Tompary, A., Davachi, L.+, & Tottenham, N.+ (2021). Age-related increases in posterior hippocampal granularity are associated with remote, detailed episodic memory. *Journal of Neuroscience*. https://doi.org/10.1523/JNEUROSCI.1738-20.2020

Clewett, D., **Gasser, C.**, & Davachi, L. (2020). Pupil-linked arousal signals track the temporal organization of events in memory. *Nature Communications*. https://doi.org/10.1038/s41467-020-17851-9

Halpern, D., Tubridy, S., Wang, H. Y., **Gasser, C.**, Popp, P. J., Davachi, L., & Gureckis, T. M. (2018). Knowledge Tracing Using the Brain. *Proceedings of the 11th International Conference on Educational Data Mining,* Buffalo, NY.

Manuscripts in preparation:

Gasser, C. & Davachi, L. (in prep). Predictable action sequences scaffold memory for temporal structure and modulate hippocampal and cortical encoding activity.

Gasser, C., Tompary, A., & Davachi, L. (in prep). Effects of neural reinstatement on memory decision-making and evaluation.

CONFERENCE PRESENTATIONS

Gasser, C. & Davachi, L. (2024). Action sequences scaffold temporal aspects of episodic memory. *Cognitive Control of Action Workshop*. Princeton, NJ. [talk]

Gasser, C. & Davachi, L. (2023). Interactions between motor learning and novel episodic encoding. *Annual Meeting of the Society for Neuroscience*. Washington, DC. [talk]

Zadbood, A., Tang, Y., Su, W., Hu, H., Capichioni, G., Ando, F., **Gasser, C.**, Bein, O., Yu, W., Wang, J., Goff, D., & Davachi, L. (2023) Evaluating the impaired hippocampal circuitry in schizophrenia sheds light on the neural mechanisms underlying pattern separation. *Annual Meeting of the Society for Neuroscience*. Washington, DC. [poster]

Jayakumar, M., DiGiovanni, A., **Gasser, C.**, Bloom, P.+, Vannucci, A.+. (2023). Summer Internship Program in Psychological Sciences (SIPPS): Engaging students in hands-on research opportunities. *Annual Conference on Teaching*. Portland, OR. [talk]

Gasser, C. & Davachi, L. (2022). Cross-modal facilitation of episodic memory by sequential action execution. *Manhattan Area Memory Meeting (MAMM)*. New York, NY. [talk]

Gasser, C. & Davachi, L. (2022). Cross-modal facilitation of temporal memory: familiar actions scaffold holistic event memory. *Context & Episodic Memory Symposium (CEMS)*. Philadelphia, PA. [talk]

Gasser, C. & Davachi, L. (2022). Learned action sequences scaffold temporal event memory. *Annual Meeting of the Cognitive Neuroscience Society*. San Francisco, CA. [poster]

DiGiovanni, A.*, **Gasser, C.***, Jayakumar, M.*, Bloom, P.+, Vannucci, A.+, Durazi, A., Espinoza-Heredia, C., Lormestoire, A., & Silver, B. (2022). Summer Internship Program in Psychological Sciences (SIPPS): Engaging students in hands-on research opportunities. *Celebration of Teaching & Learning Symposium*. New York, NY. [poster]

Gasser, C. & Davachi, L. (2021). Learned action sequences act as a scaffold for novel episodic memories. *Context & Episodic Memory Symposium: International Edition (CEMSi)*. Virtual Meeting. [poster]

Thorp, J.N., **Gasser, C.**, Blessing, E., & Davachi, L. (2021). The role of functionally-informed segmentation in measures of representational granularity along the hippocampal anteroposterior axis. *Annual Meeting of the Cognitive Neuroscience Society*. Virtual Meeting. [poster]

Gasser, C., Tompary, A., & Davachi, L. (2020). The role of neural reinstatement in memory decision-making and evaluation. *Context & Episodic Memory Symposium*. Virtual Meeting. [poster]

Callaghan, B.L., **Gasser, C.,** Silvers, J., VanTieghem, M., Fields, A., Choy, T., Bloom, P., Harmon, C., Tompary, A., Davachi, L., Tottenham, N. (2019). Hippocampal multivoxel encoding signatures predict long-term memory across middle childhood and adolescence in humans. *Flux Congress:* New York City, NY. [poster]

Gasser, C., Callaghan, B.L., Davachi, L., & Tottenham, N. (2019). Dynamic changes in hippocampal representational granularity across development. *Manhattan Area Memory Meeting:* Princeton, NJ. [talk]

Gasser, C., Tompary, A., & Davachi, L. (2019). How memory reinstatement changes over time. *Annual Meeting of the Cognitive Neuroscience Society*. San Francisco, CA. [poster]

Clewett, D., **Gasser, C.**, Phelps, E., & Davachi, L. (2019). Arousal modulates the organization of events in long-term memory. *Annual Meeting of the Cognitive Neuroscience Society*. San Francisco, CA. [poster]

Gasser, C., Tubridy, S., & Gureckis, T.M. (2017). Predicting and augmenting human learning. *Proceedings of the 1st Annual NYU Computational Neuroscience Symposium*. New York, NY. [talk]

Gasser, C., Tubridy, S., & Gureckis, T.M. (2017). Predicting memory formation from EEG signals emitted during study. *Proceedings of the 43rd Annual Undergraduate Research Conference*. New York, NY. [poster]

HONORS, GRANTS, & AWARDS

2023 - 2024 Ruth L. Kirschstein Predoctoral Individual National Research Service Award (F31), *National Institutes of Health*

2022	ASGC Travel Grant, *Columbia University*
2022	Columbia Psychology Department Travel Award, *Columbia University*
2021	Honorable Mention, Graduate Research Fellowship Program (GRFP), *NSF*
2019 – 2024	Dean's Fellowship, *Columbia University*
2017	Doris Aaronson Award for Outstanding Departmental Research, *NYU*
2017	College of Arts & Science Alumni Association Award, *NYU*
2017	President's Service Award, *NYU*
2017	Founder's Day Award, *NYU*
2017	Computational Neuroscience Training Grant, *NYU*
2017 - present	Phi Beta Kappa Honor Society
2016	James A. Shae Research Scholar, *NYU*
2016	Dean's Undergraduate Research Fund Grant, *NYU*
2015 - present	Psi Chi Honor Fraternity
2013 - 2017	College of Arts & Science Presidential Honors Scholar, *NYU*
2013 - 2017	Dean's List, *NYU*

TEACHING EXPERIENCE

Spring 2024	Thinking & Decision-Making, *Graduate TA* *Instructor: Katherine Fox-Glassman, PhD* Student Evaluation: 4.3/5
Spring 2023	Social Cognitive Neuroscience, *Graduate TA* *Instructor: Jon Freeman, PhD* Student Evaluation: 4.9/5
Spring 2022	Statistics for Behavioral Scientists, *Graduate TA* *Instructor: Chris Baldassano, PhD* Student Evaluation: 4.5/5
Fall 2021	Science of Psychology, *Graduate TA* *Instructor: Tina Kao, PhD* Student Evaluation: 4.4/5 **Guest Lecture:** Models of Memory (October 2021)
Fall 2020 & 2021	Scientific Computing Workshop, *Instructor & TA* *(student-led bootcamp for R & python hosted by Columbia Psychology Dept.)*
Summer 2021-2023	Summer Internship Program in Psychological Science (SIPPS), *Instructor* **Topics:** data cleaning, data visualization, correlations, linear regression
Fall 2020	Statistics for Behavioral Scientists, *Graduate TA* *Instructor: Katherine Fox-Glassman, PhD* Student Evaluation: 4.9/5
Spring 2020	Cognitive Neuroscience, *Graduate TA* *Instructor: Mariam Aly, PhD*

ACADEMIC SERVICE & COMMUNITY OUTREACH

Ad hoc reviewer for: Journal of the Royal Society Interface, Nature Communications

May 2023 **STEAM Expo Facilitator,** The School at Columbia University

New York, NY

Planned, designed, and facilitated activities for elementary school children to introduce them to concepts and phenomena in psychology and neuroscience

August 2022 – May 2024 **University Seminars Rapporteur,** Columbia University
New York, NY

Organized the Cognitive & Behavioral Neuroscience University Seminar, alongside Drs. Chris Baldassano and Herbert Terrace; responsible for coordination with speakers, production of minutes for each seminar meeting, and other organizational tasks

Feb. 2022 **Prospective Visit Days Organizer,** Columbia University
New York, NY

Organized informational and social events for prospective graduate students invited to interview in Columbia's psychology department

June 2021 – August 2023 **Lead Organizer,** Summer Internship Program in Psychological Science (SIPPS)
New York, NY

Part of a core team of graduate students chiefly responsible for the conception, development, organization, and implementation of SIPPS, a summer program aimed at providing undergraduates/post-bacs with practical research skills through workshops and one-on-one mentorship; also developed the SIPPS website: https://columbia-sipps.github.io/

Sept. 2020 – May 2023 **Psychology Participant Pool Coordinator,** Columbia University
New York, NY

Reviewed and approved studies for the department's experiment participant pool, whereby intro-level psychology students participate in research studies as part of course requirements

June 2020 – May 2021 **Graduate Student Representative,** Columbia University
New York, NY

Organized & led orientation for first-year psychology PhD students, and facilitated communication between faculty and graduate students throughout the year

Sept. 2020 – August 2023 **Editor-in-chief/Writer,** Scientists on the Subway (SciSub)
New York, NY

Wrote, edited, and oversaw submission of articles for SciSub — a blog dedicated to highlighting the journeys of scientists at all career stages, with particular emphasis on featuring individuals who belong to underrepresented groups

Sept. 2018 - Sept. 2020 **Volunteer,** Columbia University Neuroscience Outreach (CUNO)
New York, NY

Participated in events aimed to foster learning and interest in neuroscience among NYC students of all ages (e.g. science fairs, brain activity booths)

Sept. 2014 - May 2017 **Treasurer/Mentor,** Women and Youth Supporting Each Other (WYSE)
New York University, New York, NY

Provided support and mentorship to middle school girls in curriculum including mental health, sexual education, substance abuse, and conflict resolution

Feb. 2014 - May 2015 **Volunteer**, Daniel's Music Foundation
New York, NY

Assisted children and adults with mental and/or physical disabilities during a range of music and dance classes

MENTORSHIP

Jane Kaiser, Research Assistant, *Barnard College* (June 2021 – May 2022)
Lauren Jones, Research Assistant, *Barnard College* (September 2021 – May 2022)
Kevin Yoo, Research Assistant, *Columbia University* (June 2022 – December 2022)
Soo Yeon Choi, Research Assistant, *Columbia University* (June 2022 – December 2023)
Mia Soviero, Research Assistant, *Barnard College* (February 2023 – May 2024)

SKILLS

Programming languages: Python, R, MATLAB, bash, SQL

Software & tools: Prolific, Qualtrics, PsychoPy, Psychtoolbox, Adobe Illustrator, Photoshop, Gorilla Experiment Builder, Microsoft Office Suite

Research techniques: fMRI, EEG, rTMS, eye-tracking

Neuroimaging analysis packages: FSL, SPM, fMRIprep, BrainIAK, MRIQC

RELEVANT COURSEWORK

Graduate: Human Brain Imaging for Cognitive Neuroscience, Methods & Issues in Cognitive Neuroscience, Introduction to Statistical Modeling in Psychology, Non-Mnemonic Functions of Memory Systems, Analysis of Change (*Multilevel Regression Models*), Social Cognitive Neuroscience, Graduate Seminar on Cognition

Audited Graduate Courses: Bayesian Modeling of Behavior (NYU), Computational Cognitive Modeling (NYU)

Undergraduate: Cognition, Perception, Lab in Human Cognition, Developmental Psychology, Statistics for the Behavioral Sciences, Advanced Psychological Statistics, Biology I, Introduction to Computer Programming, Introduction to Computer Science, Data Structures, Calculus I & II