Matthew Adam Slayton
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Education

2020– Doctor of Philosophy, Cognitive Neuroscience
Department of Psychology & Neuroscience
Duke University. Durham, NC
Advisors: Simon Davis, Roberto Cabeza, Jennifer Groh

2016–2018 Master of Music, Music Composition
San Francisco Conservatory of Music. San Francisco, CA
Composition Studio Teacher: Elinor Armer
Music Cognition Research Advisor: Indre Viskontas

2011–2014 Master of Art, Conceptual and Historical Studies of Science
University of Chicago. Chicago, IL
Advisors: Robert J. Richards, William C. Wimsatt
Areas of focus: Philosophy of biology, cell and molecular biology

2006–2010 Bachelor of Art, Program II: Neurolinguistics
Duke University. Durham, NC
Advisors: Edna Andrews, Dan McShea, Alex Rosenberg
Graduation with Distinction Thesis: *Hierarchical Context Dependency in the Evolution of Symbolic Behavior*

Grants/Fellowships

2024–2025 Philip Jackson Baugh Fellowship for Aging Research ($30,000 plus tuition and fees)

2021 Charles Lafitte Foundation Program for Research in Psychology & Neuroscience Graduate Grant Award: *Paired Creative Idea Generation and Inter-brain Synchrony* ($4925.80)

Awards/Honors

2024 Karen L. Wrenn Alzheimer's Disease Travel Award for Graduate Students ($2500)

2023–2024 Duke Scholars in Molecular Medicine (DSMM) Program—Neuroscience track

2023 Charles Lafitte Foundation Graduate Travel Award for Cognitive Neuroscience Society ($1499.00)

2023 Duke Graduate School Travel Award for Pre-candidacy Students ($525)

2020–present Society of Duke Fellows, organization of recipients of Duke graduate fellowships

2020–present James B. Duke Fellowship, Duke University

2020–present University Scholars Program, Duke University, scholarship awarded for interdisciplinary research (awarded to seven incoming graduate students in 2020)

2011 Fulbright Award. Estonia, Biosemiotics (declined)

2009 Angier B. Duke Research Funding with Complexity Science Group at the University of Calgary. Calgary, AB

2006–2010 Angier B. Duke Memorial Scholarship, full tuition merit scholarship (awarded to approximately 15 incoming first-year students every year)

Publications

2025 **Slayton M**, Howard C, Huang S, Hovhannisyan M, Cabeza R, Davis S. (in press). Semantic Dimensions Support the Cortical Representation of Object Memorability. Journal of Cognitive Neuroscience.

2025 **Slayton, M**, McAllister, M, Wang, Y, Gillette, K, Finch, EB, Rothrock, JM, Cabeza, R, Davis, SW. Understanding the mechanisms of lateral parietal memory modulation in Mild Cognitive Impairment. (in preparation)

2025 **Slayton, M**, Caruso, VC, Cogan, GB, Pearson, JM, Overath, T, Haglund, MM, Sinha, SR, Muh, C, Groh, JM. The neural representation of number-noun phrases: an ECoG study. (in preparation)

2023 McAllister M, **Slayton M**, Bukhari-Parlaturk N, Lui AJ, Davis SW. (2023). Intermittent theta-burst stimulation for memory modulation in an MCI patient with a trigeminal neuralgia. Journal of Electroconvulsive Therapy.

2023 **Slayton M**, Hendlin Y. The Musical Turn in Biosemiotics. *Biosemiotics* (2023).

2023 Brendle, M., Ragnhildstveit, A., **Slayton, M**., Smart, L., Cunningham, S., Zimmerman, M. H., Seli, P., Gaffrey, M. S., Averill, L. A., & Robison, R. (2023). Registered clinical trials investigating ketamine and esketamine for treatment-resistant depression: A systematic review. *Journal of Psychedelic Studies*, *6*(3), 176-187

2022 Ragnhildstveit, Anya, **Slayton, Matthew**, Jackson, Laura Kate, Brendle, Madeline, Ahuja, Sachin, Holle, Willis, Moore, Claire, Sollars, Kellie, Seli, Paul, Robinson, Reid. Ketamine as a Novel Psychopharmacotherapy for Eating Disorders: Evidence and Future Directions. *Brain Sciences*. 2022; 12(3):382.

2022 Lopata, J. A., Barr, N., **Slayton, M**., & Seli, P. (2022). Dual-modes of creative thought in the classroom: Implications of network neuroscience for creativity education. *Translational Issues in Psychological Science, 8*(1), 79–89.

2020 **Slayton, Matthew**, Romero-Sosa, Juan, Shore, Katrina, Buonomano, Dean V., Viskontas, Indre V. Musical expertise generalizes to superior temporal scaling in a morse code tapping task. PLOS ONE. 2020;15(1):e0221000.

2019 **Slayton, Matthew**, Bristol, Adam S., & Viskontas, Indre V. (2019). Factors affecting group creativity: lessons from musical ensembles. Current Opinion in Behavioral Sciences. 27, 169-174.

Invited Talks

2025 Slayton, Matthew. *Understanding the mechanisms of lateral parietal memory modulation.* University Scholars Program Flash Talks.

2024 Slayton, Matthew. *Understanding the mechanisms of lateral parietal memory modulation*. Duke Department of Neurology Data Club.

2019 Slayton, Matthew. *An Evolutionary-Cognitive Model of Musical Meaning.* Biosemiotics Online Seminar.

Conference Presentations

2022 Hendlin, Yogi, Slayton, Matthew. *The Musical Turn in Biosemiotics – An Expressivist Model of Communication.* Biosemiotics Conference. Olomouc, Czech Republic.

2021 Slayton, Matthew. *Shared Semantic Spaces and the Limits of Sensibility.* University Scholars Program Symposium: "Wicked Problems/Wicked Solutions." *Conversation* sub-theme. Duke University.

2019 Slayton, Matthew. *How a Language-Focused Information Theory Can Account for Musical Meaning.* International Society for the Study of Information. Berkeley, CA.

2018 Slayton, Matthew. *An Evolutionary-Cognitive Model of Musical Meaning.* Biosemiotics Conference. Berkeley, CA.

2015 Slayton, Matthew. *Evolutionary Models in a Post-Theory-Centric Philosophy of Biology.* International Society for the History, Philosophy, and Social Studies of Biology. Montreal, QB.

2010 Foster, Jacob G., Slayton, Matthew. *Deception, Tells, and the Evolution of Combinatorial Communication*. Evolution of Language International Conference. Utrecht, NL.

Conference Posters

2025 Slayton, Matthew, McAllister, Margaret, Wang, Yuchao, Gillette, Kirsten, Finch, Emily B., Rothrock, Jane M., Cabeza, Roberto, Davis, Simon. *Understanding the mechanisms of lateral parietal memory modulation*. Cognitive Neuroscience Society. Boston, MA.

2025 Huang, Shenyang, Howard, Cortney M., Bogdan, Paul C., Morales-Torres, Ricardo, Slayton, Matthew, Cabeza, Roberto, Davis, Simon. *Trial-Level RSA – improvements over classic Representational Similarity Analysis*. Cognitive Neuroscience Society. Boston, MA.

2024 Slayton, Matthew, McAllister, Margaret, Gillette, Kirsten, Finch, Emily B., Rothrock, Jane M., Cabeza, Roberto, Davis, Simon. *Understanding the mechanisms of lateral parietal memory modulation*. Society for Neuroscience. Chicago, IL.

2024 Slayton, Matthew, McAllister, Margaret, Gillette, Kirsten, Finch, Emily B., Rothrock, Jane M., Cabeza, Roberto, Davis, Simon. *Understanding the mechanisms of lateral parietal memory modulation*. The Division of Translational Brain Sciences, DCEC, & Neurology Residents Research Symposium. Durham, NC.

2024 Slayton, Matthew, McAllister, Margaret, Gillette, Kirsten, Finch, Emily B., Rothrock, Jane M., Cabeza, Roberto, Davis, Simon. *Understanding the mechanisms of lateral parietal*

memory modulation. *Alzheimer's & Dementia*, *20*, e093640. Alzheimer's Association International Conference. Philadelphia, PA.

2023 Slayton, Matthew, Huang, Shenyang, Hovhannisyan, Mariam, Howard, Cortney, Cabeza, Roberto, Davis, Simon. *Cortical dimensions supporting mnemonic semantic factors*. Cognitive Neuroscience Society. San Francisco, CA.

2023 Davis, Simon, McAllister, Margaret, Slayton, Matthew. *Repeated Theta-Burst Stimulation Modulates Structural Networks in AD-Related Memory Disorders.* International Brain Stimulation Conference. Lisbon, Portugal.

2022 Slayton, Matthew, Huang, Shenyang, Hovhannisyan, Mariam, Howard, Cortney, Cabeza, Roberto, Davis, Simon. *Image memorability as a diagnostic test for Mild Cognitive Impairment.* The Division of Translational Brain Sciences, DCEC, & Neurology Residents Research Symposium. Durham, NC.

2022 Slayton, Matthew, Huang, Shenyang, Hovhannisyan, Mariam, Howard, Cortney, Cabeza, Roberto, Davis, Simon. *Data-driven semantic factors predict object memorability.* Cognitive Neuroscience Society. San Francisco, CA.

2021 Slayton, Matthew, Ragnhildstveit, Anya, Rincon, Natalie, Ibarra, Juliana, Tan, Claire, Adhikari, Alisa, Beaty, Roger, Schooler, Jonathan, Wheatley, Thalia, Whitehead, Peter, Seli, Paul. *Paired creative idea generation and behavioral synchrony*. Society for Neuroscience. Chicago, IL.

2021 Slayton, Matthew, Ragnhildstveit, Anya, Rincon, Natalie, Ibarra, Juliana, Tan, Claire, Adhikari, Alisa, Beaty, Roger, Schooler, Jonathan, Wheatley, Thalia, Whitehead, Peter, Seli, Paul. *Exploring the Role of Behavioral Synchrony in Creative Brainstorming Dyads*. First-Year Festival. Durham, NC.

2019 Slayton, Matthew, Romero-Sosa, Juan L., Shore, Katrina, Buonomano, Dean V., Viskontas, Indre V. *Musical expertise generalizes to superior temporal scaling in a Morse code tapping task*. Society for Neuroscience. Chicago, IL

2019 Slayton, Matthew, Romero-Sosa, Juan L., Shore, Katrina, Buonomano, Dean V., Viskontas, Indre V. *Improved motor and temporal scaling in musicians*. Society for the Neuroscience of Creativity. San Francisco, CA

2018 Slayton, Matthew, Viskontas, Indre. *The Role of Leading and Following in Group Musical Creativity.* Music and the Brain Symposium. CCRMA, Stanford, CA.

Ad Hoc Reviewer

Science Advances, Behavior Research Methods

Professional Memberships

2024–present Alzheimer's Association

2022–present Cognitive Neuroscience Society (CNS)

2019–present Society for Neuroscience (SfN)

Mentees/Research Assistants

2024–present	Frannie Goodman	Research Assistant
2024–present	Amanda Harris	Duke Psychology Summer VIP
2022–2023	Nasya Bernard-Lucien	Duke Cog Neuro Research Internship
2022–2023	Angela Addae	Duke Cog Neuro Research Internship
2022–2023	Grace Casanova	SCOPE Mentor program
2021–2022	Jasmine Parker	High School RA at Duke University
2021–2022	Morgan Wilson	SCOPE Mentor program
2021–2022	Alisa Adhikari	Duke University
2021–2022	Claire Tan	Duke University
2021–2022	Juliana Ibarra	Duke University
2020–2022	Anya Ragnhildstveit	University of Utah, U of Cambridge
2020–2021	Natalie Rincon	Duke University
2020–2021	Mackenzie Dion	University of North Carolina, Chapel Hill
2020–2022	Yana Nachiappan	High school RA at Duke University

Independent Study Advisees

2021–Spring 2022	Joshua Meyer	Duke. Independent study in psychology

Workshops/CME Courses Attended

2022 Visiting Fellowship in Transcranial Magnetic Stimulation (audit), Duke University
2021 FSL Workshop, Duke University
2021 Representational Similarity Analysis Workshop, Society for Social Neuroscience

Research Positions

2021– Graduate Student, Electric Dinosaur Lab, Simon Davis. Representational Similarity Analysis, visual and conceptual memory, TMS. Duke University, Neurology

2022– Affiliated Graduate Student, Groh Lab, Jennifer Groh. Electrocorticography, verbal semantic meaning. Duke University, Psychology and Neuroscience, Neurobiology

2021–2022 Research Associate, Integrated Research Literacy Group. Advisor to student researchers and author of publications, focused on helping students publish review articles in areas related to clinical neuroscience

2018–2019 Research Collaborator, Buonomano Lab, UCLA. Los Angeles, CA. Researcher. Conducted data analysis with custom Matlab code.

2019 Visiting Researcher, Performance Studies Program, UC Davis. Davis, CA. Dumit Group Improvisation Lab Labs. Designing protocol for collaborative movement task using Virtual Reality in collaboration with a group of anthropologists and dancers.

2019	Halo Neuroscience Collaborative Research project on Transcranial Magnetic Stimulation. San Francisco, CA
2016–2018	Independent study with Indre Viskontas. Consulting advisor, Manish Saggar, Stanford. Using EEG to study leading and following in pianists interpreting conventional and graphic scores and improvising. San Francisco, CA
2012–2014	Sipkins Lab, University of Chicago. Chicago, IL. Researched role of tumor microenvironment in mouse models of leukemia.
2010–2011	Ghazanfar Lab, Princeton Neuroscience Institute. Princeton, NJ. Researched primate facial expressions in face-to-face interactions.
2008	Institute for Music and Neurologic Function. Bronx, NY. Music therapy literature review, clinical research assistant
2008	Purves Lab, Duke University. Durham, NC

Service

2024	Neurology and Neurosciences Career Exploration Day: one-on-one CV advice
2021–2024	Society of Duke Fellows GradX TEDx-style talk event website creation
2023	Diversity Days (Anti-Racism Community): provided organizational and logistical support for the campus visit for underrepresented students interested in Psychology PhDs to visit Duke for graduate student and faculty meetings
2022–2023	Virtual Office Hours (Anti-Racism Community) to provide feedback on graduate school applications for students from underrepresented backgrounds
2022	Interaction- and Discussion-Enablers for Alzheimer's disease Science (IDEAS) Forum. Duke/UNC Alzheimer's Disease Research Center (ADRC)
2021	University Scholars Program Graduate Consul. Planning campus events including inviting speakers and planning evening seminar series. Organizing spring symposium interdisciplinary topic and event logistics
2021	Scholars Committed to Opportunities in Psychological Education (SCOPE). Mentor program for BIPOC undergraduates in Southeast US applying to graduate school
2019	Futurity Factory: Speculative Media, Science, and Technology Conference. Assistance and Planning
2019, 2017	Society for the Neuroscience of Creativity. Organizing Committee
2010–present	Telluride Association Summer Program (TASP) Application Reader and interviewer

Teaching Experience

2023–2024	Cognitive Neuroscience. Guest lecturer in Representational Similarity Analysis
2023	Psychology & Neuroscience Thesis Workshop. Teaching Assistant. Student support, short presentations of writing and research skills.

2022 Biological Bases of Behavior. Teaching assistant. One-on-one student support. Editing slides for in-class quizzes and activities to calibrate difficulty.

2022 Introduction to Cognitive Neuroscience. Teaching assistant, weekly discussion section. One-on-one student support.

2021 Functional Neuroanatomy. Teaching Assistant, including weekly online review sessions and assisting in preparing lab specimens and slides, workshopping assessment materials.

2017 Music History Assistantship. (TA and discussion section instructor). San Francisco Conservatory of Music

2016–2017 Academic Writing Teaching Assistant. San Francisco Conservatory of Music

2014 Heterogeneity in Human Cancer: Etiology and Treatment. Teaching Assistant. University of Chicago, Biological Sciences Division

Media Coverage

2024 Duke Institute for Brain Sciences Trainee Spotlight (link)

2019 We're More of Ourselves When We're in Tune with Others. Nautilus Issue 74: Networks (link)

2019 Chasing Creativity Podcast Interview

2019 SFCM News (link)

Science/Technical Writing

2019 *Western Blot Troubleshooting: What to do about non-specific bands.* Azure Biosystems Blog Post (link).

2019 *New method effectively stains apoptotic retinal cells without requiring intraocular injections.* Azure Biosystems Blog Post (link).

2019 *Visualizing and Quantifying phosphoproteins vis Western Plotting.* Azure Biosystems Blog Post (Part 1 and Part 2)

2019 *New Production Method for Lentivirus Overcomes the Barrier to Using a Promising Pseudotype for Transducing Stem Cells More Effectively*. Azure Biosystems Blog Post (link).