

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

- 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 (DSNS) 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

- 2023 **Slayton M**, Howard C, Huang S, Hovhannisyan M, Cabeza R, Davis S. (In preparation). Data-driven semantic factors predict object memorability.
- 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

- 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

- 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, Mags, 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

- 2022–present Cognitive Neuroscience Society (CNS)
- 2019–present Society for Neuroscience (SfN)

Mentees/Research Assistants

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| 2022–present | Nasya Bernard-Lucien | Duke Cog Neuro Research Internship |
| 2022–present | Angela Addae | Duke Cog Neuro Research Internship |
| 2022–present | 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 Sagar, 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

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 (RSA)
- 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

- 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](#)).

Academic Editing

Ch. 22. Training to be Creative: The Interplay between Cognition, Skill Learning, and Motivation. Indre Viskontas. The Cambridge Handbook of the Neuroscience of Creativity. 2018.

Monkeys at the Movies: What Evolutionary Cinematics Tells Us about Film. Asif A. Ghazanfar and Stephen V. Shepherd. Projections Volume 5, Issue 2, Winter 2011: 1–25, Berghahn Journals ([link](#)).