

Kevin J. Mastro

Department of Neurobiology
Boston Children's Hospital/ Harvard Medical School
Broad Institute at MIT and Harvard

kevin_mastro@hms.harvard.edu
kmastro@broadinstitute.org

EDUCATION

- 2017 PhD in Neurobiology, Center for Neuroscience at the University of Pittsburgh
2012 B.S., Biological Sciences and Psychology, Research Track, University of Connecticut

RESEARCH

- 2017 - **Postdoctoral Research Fellow**
Advisors: Dr. Bernardo Sabatini, Harvard Medical School
Dr. Beth Stevens, Boston Children's Hospital/Broad Institute
- 2012-2017 **Graduate Research Assistant**
Advisor: Dr. Aryn Gittis, Carnegie Mellon University & University of Pittsburgh School of Medicine
- 2009-2012 **Undergraduate Research Assistant**
Advisor: Dr. Etan Markus, University of Connecticut

PUBLICATIONS

- All publications can be found at the following link: <https://orcid.org/0000-0003-4219-5769>
- In prep **Mastro, K. J.**, Lin, S., Huang, S., Johnson, M.J., Bourne, J., Stevens, B. L., (*in prep*) Convergent developmental programs define adolescence across the human, marmoset, and mouse frontal cortex.
- In prep **Mastro, K. J.**, Lord-Arond, K., Meng S., Lee, W.-C., Sabatini, B. L., Stevens, B. L. (*in prep*) Exploitive control of decision making decreases across the lifespan in both mouse and marmoset.
- 2026 **Mastro, K. J.**, Stanwicks, L., Lord-Arond, K., Schoenbeck, E., Melain, A.J., Johnson, M.J., Sabatini, B. L., Stevens, B. L. (2026) Reward predictability shapes decision making states and exploitative control in marmosets. *In review*, See preprint on *bioRxiv*, doi: [10.64898/2026.06.30.734629](https://doi.org/10.64898/2026.06.30.734629)
- 2025 **Mastro, K. J.**, Lee, W.-C., Wang, W., Stevens, B., & Sabatini, B. L. (2025). Delayed developmental maturation of frontal cortical circuits impacts decision-making. *In review*, See preprint on *bioRxiv*, doi:[10.1101/2024.05.24.595609](https://doi.org/10.1101/2024.05.24.595609)
- 2025 Ferenczi, E. A., Wang, W., Biswas, A., Pottala, T., Dong, Y., ..., **Mastro, K. J.** & Sabatini, B. L. (2025). Reciprocal projections between the globus pallidus externa and cortex span motor and nonmotor regions. *Proc Natl Acad Sci U S A*, 122(23), e2423367122. doi:[10.1073/pnas.2423367122](https://doi.org/10.1073/pnas.2423367122)
- 2024 Scott-Hewitt, N., Mahoney, M., Huang, Y., Korte, N., ... **Mastro, K. J.**, ... Stevens, B. (2024). Microglial-derived C1q integrates into neuronal ribonucleoprotein complexes and impacts protein homeostasis in the aging brain. *Cell*, 187(16), 4193-4212 e4124. doi:[10.1016/j.cell.2024.05.058](https://doi.org/10.1016/j.cell.2024.05.058)
- 2023 Wilton, D. K., **Mastro, K. J.**, Heller, M. D., Gergits, F. W., Willing, C. R., Fahey, J. B., ... Stevens, B. (2023). Microglia and complement mediate early corticostriatal synapse loss and cognitive dysfunction in Huntington's disease. *Nat Med*, 29(11), 2866-2884. doi:[10.1038/s41591-023-02566-3](https://doi.org/10.1038/s41591-023-02566-3)
- 2020 Vormstein-Schneider, D., Lin, J. D., Pelkey, K. A., Chittajallu, R., Guo, B., Arias-Garcia, M. A., ... **Mastro, K. J.** . . . Dimidschstein, J. (2020). Viral manipulation of functionally distinct interneurons in mice, non-human primates and humans. *Nat Neurosci*, 23(12), 1629-1636. doi:[10.1038/s41593-020-0692-9](https://doi.org/10.1038/s41593-020-0692-9)
- 2019 Willard, A. M., Isett, B. R., Whalen, T. C., **Mastro, K. J.**, Ki, C. S., Mao, X., & Gittis, A. H. (2019). State transitions in the substantia nigra reticulata predict the onset of motor deficits in models of progressive dopamine depletion in mice. *Elife*, 8. doi:[10.7554/eLife.42746](https://doi.org/10.7554/eLife.42746)
- 2017 **Mastro, K. J.**, Zitelli, K. T., Willard, A. M., Leblanc, K. H., Kravitz, A. V., & Gittis, A. H. (2017). Cell-specific pallidal intervention induces long-lasting motor recovery in dopamine-depleted mice. *Nat Neurosci*, 20(6), 815-823. doi:[10.1038/nn.4559](https://doi.org/10.1038/nn.4559)

- 2014 **Mastro, K. J.**, Bouchard, R. S., Holt, H. A., & Gittis, A. H. (2014). Transgenic mouse lines subdivide external segment of the globus pallidus (GPe) neurons and reveal distinct GPe output pathways. *J Neurosci*, 34(6), 2087-2099. doi:[10.1523/JNEUROSCI.4646-13.2014](https://doi.org/10.1523/JNEUROSCI.4646-13.2014)

RESEARCH SUPPORT

- 2019-2021 Tommy Fuss Center for Neuropsychiatric Disease, Fuss Center, Boston, MA USA
- 2019-2020 William Randolph Hearst Fund Award, Harvard Medical School, Boston, MA USA
- 2014-2017 Ruth L. Kirschstein Predoctoral Individual (F31) National Research Service Award (NRSA) National Institute of Neurological Disorders and Stroke (NINDS), Bethesda, MD USA

HONORS

- 2025 Invited Speaker, Neurodevelopment Symposium, Flux Society Conference, Dublin, IE
- 2025 Nano-symposium Chair, Society for Neuroscience, San Diego, CA USA
- 2024 Finalist, Transition to Independence Award, Simons Foundation, New York City, NY USA
- 2023 Selected Speaker, Neuromodulation of Behavior, Gordon Research Series
- 2022 Certificate of Distinction in Teaching (Neuro 80), Harvard University, Cambridge, MA
- 2021 Society for Neuroscience Trainee Professional Development Award Recipient, Chicago, IL USA
- 2021 Certificate of Distinction in Teaching (MCB 80), Harvard University, Cambridge, MA, USA
- 2021 Certificate of Distinction in Teaching (MCB 115), Harvard University, Cambridge, MA, USA
- 2014 McClelland Prize for Most Outstanding Poster Paper, Center for Neural Basis of Cognition, University of Pittsburgh & Carnegie Mellon University, Pittsburgh, PA USA
- 2012 Gelinac Alumni Scholarship for Research in Biomedical sciences Gelinac Academic and Research Committee, Webster, MA USA
- 2012 Honors Scholar, Biological Sciences & Psychology, University of Connecticut, Storrs, CT USA
- 2012 Alumni Association Award for Excellence in Academics and Leadership, University of Connecticut, Storrs, CT USA
- 2011 Induction in Psi Chi, International Honor Society in Psychology, University of Connecticut, Storrs, CT USA
- 2010 Behavioral Neuroscience Travel Grant Department of Psychology, University of Connecticut, Storrs, CT USA
- 2010 Undergraduate Psychology Research Grant Department of Psychology, University of Connecticut, Storrs, CT USA
- 2010 Sophomore Honors Certificate Honors College, University of Connecticut, Storrs, CT USA
- 2008 University of Connecticut Award, Storrs, CT USA
- 2008 Gelinac Undergraduate Scholarship for Excellence in Mathematics and Science Gelinac Academic and Research Committee, Webster, MA USA

INVITED TALKS

- 2025 Society of Neuroscience annual meeting, San Diego, CA USA
- 2025 Flux Society Annual Conference, Dublin, IE
- 2025 Gordon Research Conference: Modulation of Neural Circuits and Behavior, Les Diablerets, CH
- 2024 Gordon Research Conference: Frontal Cortex, Holderness, NH, USA
- 2024 UCLA Neurobiology Seminar, Los Angeles, CA USA
- 2024 Conte Center Symposium: Neuroimmune interactions and psychiatric disease, Cambridge, MA USA
- 2024 Marmoset Research Consortium, Cambridge, MA USA (*virtual*)
- 2023 Lakes Conference. The Neurobiology of Mental Health, Thun, CH
- 2023 Gordon Research Series: Modulation of Neural Circuits and Behavior, Les Diablerets, CH
- 2023 Neurobiology Seminar Series at Boston Children's Hospital, Boston, MA USA
- 2022 Simons Collaboration on Plasticity in the Aging Brain, Simons Foundation, New York, NY USA
- 2022 Department of Neurobiology Seminar, Boston, MA USA
- 2022 Stanley Center Seminar Series, Cambridge, MA USA
- 2022 Princeton University: Working Memory in Non-human primate working group, Princeton, PA USA (*virtual*)
- 2022 Synapse Postdoctoral Seminar Series at University of Texas, Southwestern, Dallas, TX USA
- 2021 Stanley Center Symposium for Psychiatric Disease. Broad Institute, Cambridge, MA USA
- 2020 Monash University Neurobiology Seminar, Melbourne, VIC AUS

TEACHING EXPERIENCE	
2023, 2024, 2025	Course Instructor, Sensation Does Not Equal Perception (Pre-college course) Responsibilities: Developed lectures, worksheets, discussion boards and project assignments for an intensive summer course; facilitated an open, inclusive classroom that fostered growth and curiosity
2022, 2023	Teaching Fellow, Methods in Behavioral Research (PSY 1901) Responsibilities: Led lab sections, develop and curate materials for breakout sections, held office hours, delivered lectures on functional readouts in behavioral research Department of Psychology, Harvard University, Cambridge, MA 02138
2021, 2022, 2023, 2024, 2025	Head Teaching Fellow, Introduction to Neurobiology (MCB 80) Responsibilities: Developed and curated materials for small classroom format; Trained teaching assistants to disseminate material, and held office hours Department of Neuroscience, Harvard University, Cambridge, MA 02138
2019, 2020, 2021, 2022, 2023, 2024	Teaching Fellow, Neurophysiology (MCB 115) Responsibilities: Lead lab sections, organized and delivered lectures, held office hours Department of Neuroscience, Harvard University, Cambridge, MA 02138
2016, 2017	Teaching Assistant, Neuroanatomy for Medical Students (Year 1) Responsibilities: Assisted in labs and dissections, taught weekly workshops, held office hours Department of Neurobiology University of Pittsburgh, Pittsburgh, PA USA
2014	Teaching Assistant, Neurophysiology (NROSCI 1012) Responsibilities: Organized and taught weekly discussion groups (~65 students), assisted in lectures, held office hours, produced testing material and grading Department of Neuroscience University of Pittsburgh, Pittsburgh, PA USA
2012-Present	Mentor undergraduate/graduate students: Fall, spring, and summer research terms Responsibilities: Organize projects, provide individual instruction, and promote intellectual curiosity and autonomy

SERVICE ACTIVITIES	
Community/Departmental	
2023-2025	Gordon Research Series co-chair Modulation of Neural Circuits and Behavior, Gordon Research Conferences
2020-2024	Executive Member, Diversity and Inclusion Committee Neurobiology, Harvard Medical School
2020-Present	STEM Committee, BLGT Chair, First-Gen/Low-Income member, Resident Tutor Kirkland House, Harvard University
2016	Graduate Program Admissions, Executive Member Center for Neuroscience, University of Pittsburgh, Pittsburgh, PA
2016	Student Invited Colloquium, Chair Center for Neural Basis of Cognition, University of Pittsburgh & Carnegie Mellon University
2015	Social Community, Co-Chair Center for Neural Basis of Cognition, University of Pittsburgh & Carnegie Mellon University
2015	Annual CNUP Retreat, Executive Member Center for Neuroscience, University of Pittsburgh

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2012-2014	Pitt/UPMC Health Sciences LGTQI Alliance, Executive Member/Founding Member University of Pittsburgh, Pittsburgh, PA
Science Outreach	
2020-2024	Educational Chair, Diversity Committee Neurobiology, Harvard Medical School, Boston, MA 02115
2012-2017	Science Fair Judge Participate actively in local, region to national (i.e. ISEF) science fairs Greater Pittsburgh Area, PA USA
2012-2017	Brain Outreach Program, Member Provides hands-on tutorials for middle to high school students the Greater Pittsburgh Area, University of Pittsburgh, Pittsburgh, PA USA