Jessica F. Cantlon, PhD
Professor, Zdrojkowski Developmental Neuroscience Chair
Psychology
Carnegie Mellon University
Baker Hall 327M
Pittsburgh, PA 14627
Phone: (412) 268-2000
E-mail: jcantlon@andrew.cmu.edu

Laboratory Website

https://www.cmu.edu/dietrich/psychology/caoslab/

Education

Duke University, Durham, NC
Ph.D., Psychology, 2007
  Dissertation: The Cognitive and Neural Roots of Mathematical Knowledge
  Committee: Elizabeth Brannon (chair), Kevin Pelphrey, Amy Needham, Roberto Cabeza
Columbia University, New York, NY
  Continuing Studies 2001-2003
Indiana University, Bloomington, IN
  B.A. Anthropology, 1999

Academic Employment

July 2024	--	present	Professor, Carnegie Mellon University, Department of Psychology
July 2018	--	July 2024	Associate Professor, Carnegie Mellon University, Department of Psychology
July 2017	--	July 2018	Associate Professor, University of Rochester, Brain & Cognitive Sciences Department
July 2009	--	July 2017	Assistant Professor, University of Rochester, Brain & Cognitive Sciences Department
Oct 2007	--	Aug 2009	Postdoctoral Researcher, Carnegie Mellon University (Kevin Pelphrey) and INSERM, Paris (Stanislas Dehaene)
Aug 2003	--	Oct 2007	Graduate Student, Psychological & Brain Sciences, Duke University (Liz Brannon)
May 2001	--	Aug 2003	Research Assistant, Department of Psychology, Columbia University (Herb Terrace)
July 1999	--	Sep 2000	Field Researcher, Karisoke Research Center, Rwanda

Grants, Honors, & Awards

2024	Society for Experimental Psychologists, Young Investigator Award
2023-2027	Office of Naval Research, PI, Neural Basis of Learning from Spatial Intervention, $1,249,000 (total)
2022-2026	NIH R01, PI, Gender, Early Spatial Cognition, and the Neural Basis of Mathematics in Children $1,260,268 (total)
2022	James Cattell Sabbatical Award
2022-2026	NSF, PI, Does Gender Impact the Neural Basis of Mathematical Cognition in Early Childhood? $934.036 (total)
2020	American Psychological Society Fellow
2018	Chair in Developmental Neuroscience, Zdrojkowski Chair, Carnegie Mellon University
2017	TIME Person of the Year (among The Silence Breakers)
2016	Science News, 10 Scientists to Watch, Society for Science & the Public
2017-2022	NIH, PI, NICHD R01, Development of Number Words in the Human Brain, $1,800,000 (total)
2016-2021	NIH, MPI, NICHD R01, The Origins and Logic of Counting Algorithms, $1,800,000 (total)
2015-2019	NSF, PI, ECR, The Origins of Numerical Concepts from Nonverbal Perception, $1,200,000 (total)
2013	Cowan Young Investigator, Carnegie Mellon University
2013	Alfred P. Sloan Research Fellow, $50,000 (total)
2012	James P. Wilmot Assistant Professor, University of Rochester, $10,000 (total)
2011-2016	James S. McDonnell Scholar, Understanding Human Cognition, $600,000 (total)

2011-2014	NSF, Co-PI, REESE, Bayesian Approach to Number Reasoning, $750,000 (total)
2010-2015	NIH, PI, NICHD R01, The Neural Origins of Quantitative Concepts, $1,200,000 (total)
2007-2009	National Research Service Award (NRSA) Individual postdoctoral fellowship, NICHD
2007-2008	Elizabeth Munsterberg Koppitz Child Psychology Fellowship, American Psychological Foundation
2008	Biology of Cognition Conference, Cell Press, Travel award
2007	Duke International Travel Dissertation Research Award
2006-2007	Duke Vertical Integration Mentorship Fellow
2006	Sigma Xi, Sally Hughes-Schrader Award
2005	Dartmouth Summer Institute in Cognitive Neuroscience Fellowship
2004-2007	National Science Foundation (NSF) Graduate Research Fellowship
1997-1999	McNair Scholarship for Underprivileged Groups (US Department of Education)
1994-1996	Indiana Business and Professional Women's Undergraduate Scholarship

Publications (peer-reviewed)

Cantlon, J.F., Becker, K.T., & DeLong, C.M. (2024). Computational thinking during a short, authentic, interdisciplinary STEM experience for elementary school students. _Journal for STEM Education Research_.

Piantadosi, S., & **Cantlon, J. F.** (2024). Uniquely human intelligence arose from expanded information capacity. _Nature Reviews Psychology_.

Dedhe, A., Piantadosi, S. T., **& Cantlon, J. F.** (2023). Cognitive mechanisms underlying recursive pattern processing in human adults. _Cognitive Science_, 47(4), e13273.

Dedhe, A., Piantadosi, S.T., Clatterbuck, H., & **Cantlon, J.F.** (2023). Origins of hierarchical logic. _Cognitive Science_.

Amalric, M., & **Cantlon, J.F.** (2023). Entropy, complexity, and neural maturity. _Cortex_, 163, 14-25.

Amalric, M. & **Cantlon, J. F.** (2022). Common neural functions during children's learning from naturalistic and controlled mathematics paradigms. _Journal of Cognitive Neuroscience_, _34_(7), 1164-1182.

Bryer, M.A.H., Koopman, S.E., **Cantlon, J.F.** et al., (2022). The evolution of quantitative sensitivity. _Philosophical Transactions of the Royal Society B_, _377_(1844), 20200529.

Pitt, B., Ferrigno, S., **Cantlon, J.F.**, Casasanto, D., Gibson, E., Piantadosi, S. (2021). Spatial concepts of number, size, and time in an indigenous culture. _Science Advances_, 7(33_)_.

Ferrigno, S., Huang, Y., & **Cantlon, J.F,** (2021). Disjunctive syllogism in non-humans. _Psychological Science_.

Ferrigno, S., Cheyette, S., Dedhe, A., Piantadosi, S., & **Cantlon, J. F.** (2020). Simple models of sequential processing cannot explain center-embedded generalizations. _Science Advances_, 6(26).

Cantlon, J. F. (2020). The balance of rigor and reality in developmental neuroscience. _NeuroImage_, 216, 116464.

Ferrigno, S., Cheyette, S. J., Piantadosi, S. T., & **Cantlon, J. F.** (2020). Recursive sequence generation in monkeys, children, US adults, and native Amazonians. _Science Advances_, 6(26).

Gruber et al. (2020). The Future of Women in Psychological Science. _Perspectives in Psychological Science, 16_(3), 483-516.

Kersey, A. J., Csumitta, K. D., & **Cantlon, J. F.** (2019). Gender similarities in the brain during mathematics development. _Nature Partner Journals: Science of Learning_.

Koopman, S. A., Huang, Y., Piantadosi, S., & **Cantlon, J. F**. (2019). One-to-one correspondence without language. _Royal Society Open Science_ 6.10,190495.

Kersey, A.K., Wakim, K., Li, R., & **Cantlon, J.F.** (2019). Developing, Mature, and Unique Functions of the Child's Brain in Reading and Mathematics. _Developmental Cognitive Neuroscience_.

Cantlon, J. F. (2018). How evolution constrains human numerical concepts. _Child Development Perspectives, 12(1),_ 65-71.

Kersey, A. J., Braham, E. J., Csumitta, K. D., Libertus, M. E., & **Cantlon, J. F.** (2018). No intrinsic gender differences in children's earliest numerical abilities. _Nature Partner Journals: Science of Learning_, 3(1), 12.

Alonso-Díaz, S., Piantadosi, S. T., Hayden, B. Y., & **Cantlon, J. F.** (2018). Intrinsic whole number bias in humans. _Journal of Experimental Psychology: Human Perception and Performance_, 44(9), 1472.

Alonso-Diaz, S., & **Cantlon, J. F.** (2018). Confidence judgments during ratio comparisons reveal a Bayesian bias. _Cognition_, 177, 98-106.

Alonso-Diaz, S., **Cantlon, J. F.**, & Piantadosi, S. T. (2018). A threshold-free model of numerosity comparisons. _PloS One_, 13(4), e0195188.

Ferrigno, S., Kornell, N., & **Cantlon, J. F.** (2017). A metacognitive illusion in monkeys. _Proceedings of the Royal Society_. 284(1862), 1541.

Bonn, C. & **Cantlon, J. F.** (2017). Spontaneous, modality-general abstraction of a ratio scale. _Cognition_, 169, 36-45.

Kersey, A.J., & **Cantlon, J. F**., (2017). Neural tuning to numerosity relates to perceptual tuning in 3–6-year-old children. _Journal of Neuroscience_, 37(3), 512-522.

Ferrigno, S., Jara-Ettinger, J., Piantadosi, S. T., & **Cantlon, J. F.** (2017) Universal and uniquely human factors in numerical perception. _Nature Communications_, 8, 13968.

Kersey, A.J., & **Cantlon, J. F**., (2017). Primitive concepts of number and the developing human brain. _Language, Learning, and Development_, 13(2), 191-214.

Piantadosi, S., & **Cantlon, J. F.** (2017). True numerical cognition in the wild. _Psychological Science_ _28(4),_ 462-469.

Koopman, S., Mahon, B. Z., & **Cantlon, J. F.** (2017). Evolutionary constraints on human object representations. _Cognitive Science_, _41(8)_, 2126-2148.

Diaz, S. A., Gaffin-Cahn, E., Mahon, B. Z., & **Cantlon, J. F.** (2017). What's in a reach? Domain-general modulations of reach by numerical value. _Journal of Numerical Cognition_, 3(2), 212-229.

Lussier, C. & **Cantlon, J. F.** (2017). Developmental bias for number words in the intraparietal sulcus. _Developmental Science_, 20(3).

Cantlon, J. F., Merritt, D. J., & Brannon, E. M. (2016). Monkeys display classic signatures of human symbolic arithmetic. _Animal Cognition_, 19(2), 405-415.

Ferrigno, S., Hughes, K. D., & **Cantlon, J. F.** (2016). Precocious quantitative cognition in monkeys. _Psychonomic Bulletin & Review_ 23(1), 141-147.

Cantlon, J. F, Piantadosi, S., Ferrigno, S., Hughes, K., & Barnard, A. (2015). The origins of counting algorithms. _Psychological Science_, 26(6), 853-865.

Kersey, A. J., Clark, T., Lussier, C., Mahon, B. Z., & **Cantlon, J. F.** (2015). Development of tool representations in the dorsal and ventral visual object processing pathways. _Cerebral Cortex_ 26(7), 3135-3145.

Emerson, R., & **Cantlon, J. F.** (2015). Continuity and change in children's longitudinal neural responses to numbers. _Developmental Science_, 18(2), 314-326.

Vo, V., Li, R., Kornell, N., Pouget, A., & **Cantlon, J. F.** (2014). Young children bet on their numerical skills: Metacognition in the numerical domain. _Psychological Science_, 25(9), 1712-1721.

MacLean, E., Hare, B., Nunn, C., et al (2014). The evolution of self-control. _Proceedings of the National Academy of Sciences. 111(20),_ E2140-E2148.

Cantlon, J. F., & Li, R. (2013). Neural activity during natural viewing of Sesame Street statistically predicts test scores in early childhood. _PLoS Biology, 11(1)_, e1001462.

Barnard, A. M., Hughes, K. D., Gerhardt, R. R., Di Vincenti, L., Bovee, J. M., & **Cantlon, J. F.** (2013). Inherently analog quantity representations in olive baboons. _Frontiers in Psychology_, 4(253), 1-11.

Cantlon, J. F. (2012). Math, Monkeys, and the Developing Brain. _Proceedings of the National Academy of Sciences, 109,_ 10725-10732.

Emerson, R. W., & **Cantlon, J. F.** (2012). Early math achievement and functional connectivity in the fronto-parietal network. _Developmental Cognitive Neuroscience, 2(S1),_ S139-S151.

Bonn, C., & **Cantlon, J. F.** (2012). The origins and structure of quantitative concepts. _Cognitive Neuropsychology, 29,_ 149-173.

Mahon, B.Z., & **Cantlon, J. F.** (2012). Specialization of function: Cognitive and neural perspectives. _Cognitive Neuropsychology, 28(3-4), 147-155._

Cantlon, J. F., Davis, S., Libertus, M., Brannon, E. M. & Pelphrey, K. A. (2011). Inter-Parietal White Matter Structure Predicts Numerical Performance in Young Children. _Special Issue, Learning & Individual Differences, 21, 672-680._

Cantlon, J. F., Pinel, P., Dehaene, S. & Pelphrey, K. A. (2011). Cortical representations of symbols, objects, and faces are pruned back during early childhood. _Cerebral Cortex_, _21_(1), 191-199.

Cantlon, J. F., & Safford, K. E., Brannon, E. M. (2010). Spontaneous analog number representations in 3-year-old children. _Developmental Science, 13(2_), 289-297.

Jones, S. M., **Cantlon, J. F.**, Merritt, D. J., & Brannon, E. M. (2010). Context affects the numerical semantic congruity effect in rhesus monkeys. _Behavioral Processes, 83(2),_ 191-196.

Cantlon, J. F., Cordes, S., Libertus, M. E., & Brannon, E. M. (2009). Comment on 'Log or Linear? Distinct intuitions of the number scale in Western and Indigene cultures'. _Science_, 323, 38b.

Cantlon, J. F., Cordes, S., Libertus, M. E., & Brannon, E. M. (2009). Numerical abstraction: It ain't broke (_commentary). Behavioral and Brain Sciences, 32,_ 331-332.

Cantlon, J. F., Libertus, M. E., Pinel, P., Dehaene, S., Brannon, E.M., & Pelphrey, K. P. (2009). The neural development of an abstract concept of number. _Journal of Cognitive Neuroscience, 21(11), 2217-2229._

Cantlon, J. F., Platt, M., & Brannon, E.M (2009). Beyond the Number Domain. _Trends in Cognitive Sciences_, 13(2), 83-91.

Hubbard, E. M., Diester, I., **Cantlon, J. F.**, Ansari, D., van Opstal, F., & Troiani, V. (2008). The evolution of numerical cognition: From number neurons to linguistic quantifiers. _Journal of Neuroscience, 26(46)_, 11819-11824.

Cantlon, J. F., & Brannon, E. M. (2007). Basic math in monkeys and college students. _PLoS Biology_, _5(12)_, e328.

Subiaul, F., Romansky, K., **Cantlon. J. F.**, Klein, T, and Terrace, H. (2007). Cognitive imitation in 2-year-old children: A comparison with rhesus monkeys. _Animal Cognition_, _10(4)_, 1435-9448.

Cantlon, J. F., Fink, R., Safford, K. E., & Brannon, E. M. (2007). Heterogeneity affects numerical matching but not numerical ordering in preschool children. _Developmental Science, 10(4)_, 431-440.

Cantlon, J. F., & Brannon, E. M. (2007). How much does number matter to a monkey? _Journal of Experimental Psychology: Animal Behavior Processes, 33(1),_ 32-41.

Cantlon, J. F., & Brannon, E. M. (2007). Adding up the effects of cultural experience on the brain. _Trends in Cognitive Sciences_, 11(1), 1-4.

Cantlon, J. F., Brannon, E. M., Carter, E. J., & Pelphrey, K. P. (2006). Functional imaging of numerical processing in

adults and 4-y-old children. *PLoS Biology*, *4(5)*, e125.

Cantlon, J. F., & Brannon, E. M. (2006). Shared system for ordering small and large numbers in monkeys and humans. *Psychological Science, 17(5),* 401-406.

Needham, A., **Cantlon, J. F.,** & Ormsbee, S. (2006). Infants' use of category knowledge and object attributes when segregating objects at 8.5 months of age. *Cognitive Psychology*, 53(4), 345-360.

Cantlon, J. F. & Brannon, E. M. (2006). The effect of heterogeneity on numerical ordering in rhesus monkeys. *Infancy*, *9(2)*, 173-189.

Brannon, E. M., **Cantlon. J. F.,** & Terrace, H. S. (2006). The role of reference points in ordinal numerical comparisons by rhesus macaques. *Journal of Experimental Psychology: Animal Behavior Processes, 32(2),* 120-134.

Cantlon, J. F., & Brannon, E.M. (2005). Semantic congruity affects numerical judgments similarly in monkeys and humans. *Proceedings of the National Academy of Sciences, 102 (45)*, 16507-16511.

Subiaul, F., **Cantlon, J. F.,** Holloway, R., and Terrace, H. S. (2004). Cognitive imitation in rhesus macaques. *Science, 305(5682)*, 407-410.

Publications (currently under peer-review)

Kersey, A., Aulet, L., & **Cantlon, J. F.** (in review). Emergence of counting in the brains of 3-year-old children.
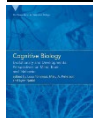**Cantlon, J. F.,** Piantadosi, S., Conti, J., Boni, I., Ozaydin, T., & Bonn, C. (in review). Universal foundation and plasticity of abstract reasoning across culture, age, and species.
Aulet, L., Kaicher, C., & **Cantlon, J. F.** (in review). Intersection of spatial and numerical cognition in the developing brain*.
Cantlon, J.F., Brownell, L.R, Li, Jialin, & DeLong, C.M. (in review). Evolutionary link between spatial and numerical cognition.
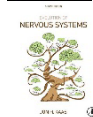
Book Chapters

Cantlon, J. F. (2025). The Evolution of Numerical Reasoning. In E. Murray (Ed.) *Evolution of Nervous Systems, 3rd edition, vol 3.*

Cantlon, J. F. (2022). Gender differences in dyslexia and dyscalculia. *In* Skeide, M. A. (Ed.). (2022). *The Cambridge Handbook of Dyslexia and Dyscalculia*. Cambridge University Press.

Ferrigno, S., & **Cantlon, J.F.** (2016). Evolutionary Constraints on the Emergence of Human Mathematical Concepts. Kaas, J. H. & Krubitzer, L. (Eds.) *Evolution of Nervous Systems 2nd*. New York: Academic Press.

Cantlon, J. F. (2015). Analog Origins of Numerical Concepts. In *Evolutionary Origins and Early Development of Number Processing*. David Geary, Daniel Berch, Kathy Mann-Koepke (Eds.). London: Academic Press.

Son, L. K., Kornell, N., Finn, B., & **Cantlon, J. F.** (2013). Metacognition and the social animal. Brinol, P., & De Marree, K. G., (Eds.). In *Social Metacognition*. New York: Psychology Press.

Cantlon, J. F., & Brannon, E. M. (2011). Animal Arithmetic. In *Encyclopedia of Animal Behavior.* Michael Breed, Janice Moore (Eds.). Oxford: Elsevier Press.

Brannon, E.M, & **Cantlon, J. F.** (2009). A comparative perspective on the origin of numerical thinking. In *Cognitive Biology: Evolutionary and Developmental Perspectives on Mind, Brain, and Behavior*, Luca Tomasi, Mary A. Peterson, and Lynn Nadel (Eds.). Cambridge: MIT Press.

Talks

NHPgh Colloquium, Pittsburgh, December 2024
University of Minnesota, Child Development Symposium, Fetschrift for Dick Aslin, October 2024
University of Iceland, Gender Equality Symposium, September 2024
University of Coimbra, Portugal, Gender Colloquium Keynote, March 2024
University of California, Berkeley, November 2023
Arizona State University, The Beyond Center, November 2023
Human Brain Project, Paris, March 2023
Mathematical Cognition and Learning Society, London, June 2023
Ohio State University, Cognitive Neuroscience Colloquium, April 2023
University of Wisconsin, Psychology Colloquium, December 2022

University of Minnesota, Cognitive Neuroscience Colloquium, September 2022
Johns Hopkins University, Psychology Colloquium, March 2022
Georgetown University, Neural Plasticity Seminar, November 2021
University of Coimbra, Portugal, Animal Neuroscience and Cognition, October 2021
Brown University, Developmental Colloquium, September 2021
University of Coimbra, Portugal, Gender Equity Colloquium, September 2021
Princeton University, Neuroscience Colloquium, February 2021
National Science Foundation, Washington D.C., November 2020
Cognitive Science Society, August 2020
Psi Chi Society, Carnegie Mellon University, October 2020
University of Tennessee, Psychology Colloquium, April 2020
Princeton University, Psychology Colloquium, December 2019
Queen's University, Psychology Colloquium, September 2019
Cognitive Development Society Symposium, Louisville October 2019
Cognitive Science Society Symposium, Montreal, August 2019
Vanderbilt University, Educational Neuroscience Colloquium, April 2019
ICPS Paris, Crosscultural Comparisons of Mathematics Education, March 2019
University of Pittsburgh, Developmental Brownbag, March 2019
#MeToo San Francisco Panel, We Said Enough and Christine Pelosi, February 2019
Santa Fe Institute, The arrow of time, June 2018
The Ohio State University, Workshop on Mathematical Cognition, June 2018
University of Pennsylvania, Department of Psychology, April 2018
Rochester Institute of Technology, May 2017
Carnegie Mellon University, April 2017
NIMH Director's Innovation Speaker Series, January 2017
Duke University, Center for Cognitive Neuroscience, February 2017
University of Toronto, Department of Psychology, March 2017
Gordon Research Conference, Neurobiology of Cognition, Maine, July 2016
University of North Carolina, Carolina Consortium on Human Development, March 2016
University of Chicago, NSF Spatial Intelligence and Learning Center (SILC), November 2015
Cognitive Development Society (CDS), Preconference, Colombus, OH October 2015
Georgetown University, Linguistics Symposium, March 2015
Society for Research in Child Development (SRCD), Symposium, Philadelphia, March 2015
Yale University, Developmental Psychology Lunch, March 2015
AAAS Annual Meeting, San Jose, CA February 2015
Houghton College, Psychology Symposium, January 2015
Society for Language Development, Boston University, November 2014
McDonnell Foundation Symposium, Cambridge, UK 2013
NIH Math Consortium, Bethesda, MD 2013
SUNY Buffalo, Psychology Colloquium, 2013
Carnegie Mellon University, Cowan Young Investigator Lecture, March 2013
NAS Sackler Colloquium, National Academy of Sciences, Irvine, CA January 2011
Columbia University, University Seminar: Psychology, New York, December 2011
UCSB, Summer Institute in Cognitive Neuroscience, Santa Barbara, CA July 2011
Utah State University, Psychology Colloquium, Logan, UT March 2011
RIT, Psychology Colloquium, Rochester, New York, March, 2010
Neurocog Collective, Bocas del Toro, Panama, January 2010
Cognitive Development Society (CDS), San Antonio, October 2009
UCSB, Summer Institute in Cognitive Neuroscience, Santa Barbara, CA June 2009
Cognitive Neuroscience Society (CNS), San Francisco, March 2009.
AAAS Annual Meeting, Chicago, IL, March 2009
The LOVE Conference, Niagara Falls, CA, February 2009
Society for Neuroscience (SFN), Washington D.C, November 2008
University of Iowa, Psychology Colloquium, April 2008
University of Wisconsin, Psychology Colloquium, April 2008
Harvard University, Psychology Colloquium, March 2008
University of Rochester, Brain & Cognitive Science Colloquium, March 2008
Stanford University, Psychology Colloquium, January 2008
University of Wisconsin, Psychology Colloquium, December 2007
Carnegie Mellon University, Developmental Brownbag Series, November 2007
APA, San Francisco, August 2007

Yale University, Developmental Brownbag Series, November 2006
Duke University, Cognitive Neuroscience Series, August 2006
Duke University, Developmental Series, November 2004

Teaching & Mentoring

Spring 2025	**Instructor**, *Changing Your Brain*, Undergraduate Lecture, 30 students	
Spring 2025	**Instructor**, *Animal Minds*, Undergraduate Lecture, 69 students	
Spring 2024	**Instructor**, *Animal Minds*, Undergraduate Lecture, 75 students	
Spring 2024	**Instructor**, *Changing Your Brain*, Undergraduate Seminar, 27 students	
Spring 2022	**Instructor**, *Origins of Intelligence*, Undergraduate Seminar, 20 students	
Spring 2022	**Instructor**, *Animal Minds*, Undergraduate Lecture, 40 students	
Spring 2021	**Instructor**, *Origins of Intelligence*, Undergraduate Seminar, 12 students	
Spring 2021	**Instructor**, *Animal Minds*, Undergraduate Lecture, 40 students	
Fall 2020	**Mentor**, FLUX Society, 3 students	
Spring 2020	**Instructor**, *Animal Minds*, Undergraduate Lecture, 22 students	
Spring 2020	**Instructor**, *Origins of Intelligence*, Undergraduate Seminar, 10 students	
Fall 2018	**Instructor**, *Animal Minds*, Undergraduate Lecture, 12 students	
Spring 2018	**Instructor**, *Cognitive Neuroscience of Parenting*, Undergraduate Seminar, 14 students	
Fall 2017	**Instructor**, *Animal Minds*, Undergraduate Lecture, 60 students	
Spring 2017	Mentor, Independent Study, (Gabrielle Bueno, Yiyun Huang, Abigail Haslinger, Kelsey Csumitta)	
Fall 2016	Mentor, Independent Study, (Yiyun Huang, Giovanna Braganza, Abigail Haslinger, Kelsey Csumitta)	
Fall 2016	**Instructor**, *Animal Minds*, Undergraduate Lecture, 80 students	
Fall 2016	**Instructor**, *Cognition*, Graduate Seminar, 19 students	
Summer 2016	Mentor, Summer Research, (Abigail Haslinger)	
Spring 2016	Mentor, Independent Study, (Kelvin Adulley, Abigail Haslinger, Kelsey Csumitta, Gabrielle Bueno, Yiyun Huang, Alexandra Dwulit)	
Fall 2015	Mentor, Independent Study, (Kelvin Adulley, Abigail Haslinger, Kelsey Csumitta, Gabrielle Bueno, Alexandra Dwulit)	
Fall 2015	**Instructor**, *Research Methods*, Undergraduate Lab, 12 students	
Fall 2015	**Instructor**, *Animal Minds*, Undergraduate Lecture, 60 students	
Summer 2015	Mentor, Summer Research, (Kelvin Adulley, Abigail Haslinger, Kelsey Csumitta)	
Spring 2015	Mentor, Independent Study, (Alyssa Arre, Yinghui Qiu, Julia Yurkovic, Gabrielle Bueno, Matthew Mullen)	
Fall 2014	Mentor, Independent Study, (Alyssa Arre, Yinghui Qiu, Julia Yurkovic, Matthew Mullen, Gabrielle Bueno)	
Fall 2014	**Instructor**, *Cognition*, Graduate Seminar, 13 students	
Fall 2014	**Instructor**, *Animal Minds*, Undergraduate Lecture, 40 students	
Summer 2014	Mentor, Summer Research, (Yinghui Qiu, Julia Yurkovic, Daniel Chess)	
Spring 2014	Mentor, Independent Study, (Alysssa Arre, Yinghui Qiu, Matthew Mullen)	
Fall 2013	Mentor, Independent Study, (Alyssa Arre, Varsha Nair, Matthew Mullen, Danika Teverovsky, Meghan Gray, Yinghui Qiu)	
Summer 2013	Mentor, Independent Study, (Matthew Mullen, Meghan Gray, Yinghui Qiu)	
Spring 2013	Mentor, Independent Study, (Laura Ackerman, Matthew Mullen, Danika Teverovsky)	
Fall 2012	Mentor, Independent Study, (Laura Ackerman)	
Fall 2012	**Instructor**, *Cognition*, Graduate Seminar, 15 students	
Fall 2012	**Instructor**, *Animal Minds*, Undergraduate Lecture, 70 students	
Summer 2012	Mentor, Summer Research, (Laura Ackerman, Ben Bade, Elizabeth Brown, Sheridan Finnie, Sabina Knoll)	
Spring 2012	Mentor, Independent Study, (Theresa Kurtz, Tyia Clark, Celia Litovsky, Emily Kasman, Sheridan Finnie)	
Fall 2011	Mentor, Independent Study, (Theresa Kurtz, Tyia Clark, Celia Litovsky)	
Fall 2011	**Instructor**, *Animal Minds*, Undergraduate Lecture, 70 students	
Summer 2011	Co-Instructor, fMRI workshop, UCSB Summer Institute in Cognitive Neuroscience, 50 students	
Summer 2011	Mentor, Research Assistantship (Celia Litovsky, Regina Gerhardt)	
Fall 2010	**Instructor**, *Cognition*, Graduate Seminar, 25 students	
Summer 2010	Mentor, Research Assistantship (Theresa Kurtz, Regina Gerhardt, Kathryn Nixon)	
Spring 2010	**Instructor**, *Brain & Cognitive Science*, Senior Seminar, University of Rochester, 30 students	
Spring 2010	Mentor, Independent Study (Theresa Kurtz, Regina Gerhardt, Eshin Jolly)	
Fall 2009	Mentor, Independent Study (Theresa Kurtz, Eshin Jolly)	
Fall 2008	Mentor, Intel Science Talent Search Program (Washington, D. C.)	
Summer 2007	Mentor, Duke Vertical Integration Program Advisor for honors student (Andrew Pelehach)	
Summer 2007	**Instructor**, *Developmental Psychology*, Duke University	
Fall 2006	**Instructor**, Teaching & Research Ethics, Duke University	
Summer 2006	Mentor, Duke Vertical Integration Program Advisor for honors student (Jill Kahane)	

Spring 2006	Teaching Assistant, *Cognitive Psychology*, Roberto Cabeza
Fall 2005	Teaching Assistant, *Developmental Psychology*, Amy Needham
Spring 2005	**Instructor**, Teaching & Research Ethics, Duke University
Fall 2004	Teaching Assistant, *Developmental Psychology*, Elizabeth Brannon

University Leadership

Associate Director of the Rochester Center for Brain Imaging 2010-2018
Built community, collaborations, and a user-base for the MRI center. Organized and reviewed internal research grant competitions to recruit new MRI users. Lobbied the Provost and Deans for resources, managed staff, wrote center grants to NSF and NIH, worked with the director (Dick Aslin) to manage finances as a cost center, and presented center outcomes at meetings with the Dean of Research.

Chair of Diversity Committee, Carnegie Mellon Psychology 2018-2023
Organized new graduate student, postdoc, and faculty recruitment practices that target underrepresented minorities by establishing outreach connections with McNair Scholars programs, HBCUs, and professional societies for under-represented minorities. Mediated concerns about bias and discrimination between faculty and students. Engaged in college-level meetings about climate and diversity and strategic diversity planning at Carnegie Mellon.

Professional Service

Chair, Glushko Dissertation Prize, Cognitive Science Society
>2024-2027

Prize Committee
>2022-2025 Glushko Dissertation Prize

Editorial
>Associate & Action Editor
>2019-2021: *Science Advances AAAS*
>Associate & Action Editor
>2014-2018: *Psychonomic Bulletin & Review*
>Associate Editor
>2010-present: *Cognitive Neuropsychology*
>Guest Editor
>2016: Special Issue of *Current Opinion in Behavioral Sciences*
>2011: Special Issue of *Cognitive Neuropsychology*

NIH Member
>2018-2022 NIH HCMF Study Section Member

NSF Panel Reviewer
>Developmental Science 2010, 2012, 2018; Cognitive Neuroscience 2023

Conference Organizer
>2024: NIH Workshop on Transdiagnostic Reasoning
>2021-2022: CDS Program Planning Committee
>2015: AAAS San Jose, Symposium Organizer, Psychology Section
>2012: SRCD 2013 Reviewer; Representations, Concepts, & Problem-solving Panel

Graduate Students & Postdocs

2024-present Eloise Garcetta, Jialin Li, Wenjie Li
2023-present Marissa Laws
2020-2023 Margaret Bryer
2021-2025 Lauren Aulet (President's Postdoctoral Fellow)
2019-2025 Abhishek Dedhe
2021-2024 Julia Conti
2019-2022 Shipra Kanjlia
2017-2020 Marie Amalric (Marie Curie Fellowship)
2014-2018 Stephen Ferrigno (C03 Early Career Award, Glushko Prize)
2013-2018 Alyssa Kersey (NSF Fellowship, UR Bernard Award for Outreach)
2013-2019 Sarah Koopman (NSF Fellowship, UR Curtis Award for Teaching)
2012-2017 Santiago Alonso-Diaz
2010-2015 Cory Bonn (NSF Fellowship)
2010-2014 Bobby Emerson

Museum Exhibit

2020-present *The Primate Portal*, a public exhibit at the Seneca Park Zoo that encourages kids to do research, study animals, and write computer code. Funded by the National Science Foundation.

Media

Why Some Animals Can Tell More from Less
WIRED Magazine

Scientists to Watch, Science News 2021
Science News

Gender in the Brain
NPR, *CNN*, *Daily Mail UK*

TIME Person of the Year 2017
TIME Magazine

Ten Scientists to Watch – the SN10
Science News

Monkeys May Share a Grammar with Humans
Science News

When do Kids Understand Numbers?
National Geographic

Primate Maths: Precocious baby baboons
Psychonomic Society, *Brain Decoder*

Even Kindergartners Rate Their Own Confidence
Discover Magazine

Children's Brains on Sesame Street
Time Magazine, *NBC News*, *CNN*, *US News & World Report*, *Fox News*, *Huffington Post*, *The Scientist*, *National Geographic*, *Daily Mail*, *Global News*, *Fox News*, *India News*, *Business Insider*, *Science Daily*, *PsychCentral*, *NPR Innovation Trail*, *10WHEC-TV*, *13WHAM-TV*, *WROC-TV*, *YNN*

Baboons show brain's ability to understand numbers
Democrat & Chronicle, *Science News*, *Science Daily*

Monkeys Rival College Students' Ability to Estimate
NPR, *National Geographic*, *NBC News*, *Science News*, *Nature News*

Humanity's Other Basic Instinct: Math
Discover Magazine, *Scientific American*

Wired for Math
Science News

Monkey Math
American Psychological Association