
Jessica F. Cantlon, PhD

Associate Professor, Zdrojowski Developmental Neuroscience Chair
Psychology
Carnegie Mellon University
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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 2018	present	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

2023-2027	Office of Naval Research, Neural Basis of Learning from Spatial Intervention, \$1,249,000 (total)
2022-2026	NIH R01 Gender, Early Spatial Cognition, and the Neural Basis of Mathematics in Children \$1,260,268 (total)
2022	James Cattell Sabbatical Award
2022-2026	NSF, 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, Zdrojowski 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)

Piantadosi, S., & **Cantlon, J. F.** (in press). Information capacity sparked human intelligence. *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-Díaz, S., & **Cantlon, J. F.** (2018). Confidence judgments during ratio comparisons reveal a Bayesian bias. *Cognition*, 177, 98-106.
- Alonso-Díaz, 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.
- Díaz, 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.

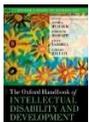
Subiaul, F., **Cantlon, J. F.**, Holloway, R., and Terrace, H. S. (2004). Cognitive imitation in rhesus macaques. *Science*, 305(5682), 407-410.

Publications (currently under peer-review)

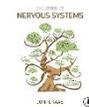
Kersey, A., Aulet, L., & **Cantlon, J. F.** (under review). Neural development of counting in 3-year-old children. *Cerebral Cortex*.

Cantlon, J.F., Becker, K.T., & DeLong, C.M. (under review). Computational thinking during a short, authentic, interdisciplinary STEM experience for elementary school students. *Journal for STEM Education Research*.

Book Chapters



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

University of California, Berkeley, November 2023

Arizona State University, November 2023

Human Brain Project, Paris, March 2023

Mathematical Cognition and Learning Society, London, June 2023

Society for Research on Child Development, Utah, March 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, 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, Columbus, 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 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, (Alyssa 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

Professional Service

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

Prize Committee
2022-2024 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 Reviewer

2018-2022 NIH HCMF Study Section Member, 3 meetings per year

NSF Panel Reviewer

Developmental Science 2010, 2012, 2018; Cognitive Neuroscience 2023

Conference Organizer

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

2023-present Marissa Laws

2021-present Lauren Aulet (President's Postdoctoral Fellow)

2021-present Julia Conti

2019-2022 Shipra Kanjlia

2019-present Abhishek Dedhe

2017-2020 Marie Amalric (Marie Curie Fellowship)

2014-2018 Stephen Ferrigno (NSF Honorable Mention, C03 Early Career Award, Glushko Prize)

2013-2018 Alyssa Kersey (NSF Fellowship, UR Bernard Award for Outreach)

2013-present 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](#)