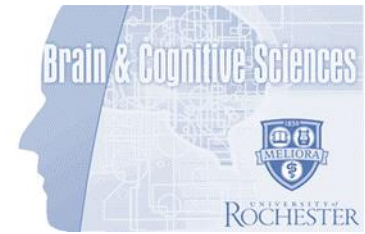

Jessica F. Cantlon

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Laboratory Website

<http://caoslab.bcs.rochester.edu/>

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

current		Associate Professor, University of Rochester, Brain & Cognitive Sciences Department
July 2009	-- present	Faculty, 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 & Awards

2016	Science News, SN10, Society for Science & the Public
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
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) to Alex Pouget
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)

- Kersey, A.J., & **Cantlon, J. F.**, (in press). Primitive concepts of number and the developing human brain. *Language, Learning, and Development*.
- Kersey, A.J., & **Cantlon, J. F.**, (in press). Neural tuning to numerosity relates to perceptual tuning in 3- to 6-year-old children. *Journal of Neuroscience*.
- Piantadosi, S., & **Cantlon, J. F.** (in press). True numerical cognition in the wild. *Psychological Science*.
- Koopman, S., Mahon, B. Z., & **Cantlon, J. F.** (in press). Evolutionary constraints on human object representations. *Cognitive Science*.
- Ferrigno, S., Jara-Ettinger, J., Piantadosi, S. T., & **Cantlon, J. F.** (in press) Universal and uniquely human factors in numerical perception. *Nature Communications*.
- Diaz, S. A., Gaffin, E., Mahon, B. Z., & **Cantlon, J. F.** (in press). What's in a reach? Domain-general modulations of reach by numerical value. *Journal of Numerical Cognition* (special issue).
- Lussier, C. & **Cantlon, J. F.** (in press). Developmental bias for number words in the intraparietal sulcus. *Developmental Science*.
- 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.** (2014). 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., Gerhard, 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. & Pelphey, 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)

Bonn, C.D. & Cantlon, J. F. (under review). Spontaneous, modality-general abstraction of a ratio scale.

Diaz, S. A., Hayden, B. Y., & **Cantlon, J. F.** (under review). Intrinsic whole number bias in humans.

Deng, Y., Wang, J., Lussier, C., & **Cantlon, J. F.** (under review). A non-symbolic numerical processing advantage in Chinese children.

Hughes, K. D., Litovsky, C., Barnard, A., & **Cantlon, J. F.** (under review). Language alone does not cause the human shape bias.

Book Chapters



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., & 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.



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.

Invited Talks

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

Posters, Abstracts, & Conference Papers

Ferrigno, S., Kornell, N., & **Cantlon, J.F.** (2016). A fundamental bias to perceive numerosity. **Talk** presented at Psychonomic Society, Boston, Massachusetts.

Kersey, A., & **Cantlon, J. F** (2016). Children's neural activity during natural viewing related to reading and mathematics development. **Talk** presented at FLUX Congress, St. Louis, Missouri.

Ferrigno, S., Jara-Ettinger, J., Piantadosi, S., & **Cantlon, J.F.** (2015). A fundamental bias to perceive numerosity. **Poster** presented at Cognitive Development Society, Columbus, Ohio.

Kersey, A., & **Cantlon, J. F** (2015). Neural tuning curves of numerosity in 3- to 6-year-old children. **Talk** presented at Cognitive Development Society, Columbus, Ohio.

Koopman, S., Mahon, B. Z., & **Cantlon, J. F** (2015). Common conceptual scaling in monkeys and humans. **Poster** presented at Cognitive Development Society, Columbus, Ohio.

Diaz, S., **Cantlon, J. F.**, & Piantadosi, S. P. (2015). Cognition in reach: continuous statistical inference in optimal motor planning. **Talk** presented at Cognitive Science Society, Pasadena. **Proceedings** in *Cognitive Science*.

Kersey, A., & **Cantlon, J. F** (2015). Neural representations of number, size, and brightness in 3-year-old children. **Poster** presented at Cognitive Neuroscience Society Annual Meeting, San Francisco.

Emerson, R., & **Cantlon, J.F.** (2014). Mathematics expertise predicts structural and functional variability in the intraparietal sulcus. **Talk** presented at Society for Neuroscience, Washington D.C.

Ferrigno, S., Piantadosi, S.T., & **Cantlon, J.F.** (2014). Protocounting in Baboons. **Poster** presented at the Conference on Comparative Cognition, Melbourne, FL.

Koopman, S.E., Mahon, B.Z., & **Cantlon, J.F.** (2014). Common conceptual structures in monkeys and humans. **Poster** presented at the Conference on Comparative Cognition, Melbourne, FL.

Li, R., & **Cantlon, J. F.** (2013). Neural activity during natural viewing predicts development in mathematics and reading. **Poster** presented at FLUX Congress in Developmental Cognitive Neuroscience. Pittsburgh, PA.

Emerson, R., Vo, V., & **Cantlon, J.F.** (2013). Longitudinal changes in children's IPS responses are number-specific and mathematics-related. **Poster** presented at Cognitive Neuroscience Society, San Francisco. **Proceedings** in *Journal of Cognitive Neuroscience*, Supplement, 61.

Ferrigno, S., Hughes, K., & **Cantlon, J.F.** (2013). A cognitive precursor to counting in monkeys. **Poster** presented at NIH Math Consortium, Bethesda, MD.

Hughes, K.D., Litovsky, C., Barnard, A.M., Ackerman, L., and **Cantlon, J.F.** (2013). Do monkeys show a shape bias? **Poster** presented at Society of Research in Child Development, Montreal, Canada

Hughes, K.D., Barnard, A.M., and **Cantlon, J.F.** (2013). Experiment-naive baboons (*Papio anubis*) represent numbers using the analog magnitude system. **Talk** presented at International Ethological Conference, Gateshead, England.

Vo, V., Lussier, C., & **Cantlon, J.F.** (2013). Objective and subjective number representations in the dorsal and ventral streams. **Poster** at Cognitive Neuroscience Society meeting, San Francisco, CA. **Proceedings** in *Journal of Cognitive Neuroscience*, Supplement, 61.

Alonso-Diaz, S., Gaffin-Cahn, E., Mahon, B., **Cantlon, J. F.** (2013). Spatial responses in the approximate number system. **Poster** presented at the Concepts, Actions and Objects Conference, Trento, Italy.

Vo, V., Li, R., Kornell, N., & **Cantlon, J. F.** Metacognition in children is specific to domain knowledge (2012). **Poster** presented at Cognitive Science Society, Sapporo, Japan. **Proceedings** in *Cognitive Science*.

Emerson, R., & **Cantlon, J.F.** Early math achievement and functional connectivity in the fronto-parietal network (2012). **Talk** presented at Cognitive Neuroscience Society, Chicago. **Proceedings** in *Journal of Cognitive Neuroscience*, Supplement.

Hughes, K.D., Litovsky, C., Barnard, A., & **Cantlon, J.F.** (2012). Object categorization by primates. **Talk** presented at Annual Meeting of American Association of Primatologists. *American Journal of Primatology*, 74(S1), 30.

Barnard, A., Hughes, K. D., Gerhardt, R. R., & **Cantlon, J. F.** (2012). Spontaneous analog representations of number in olive baboons. **Talk** presented at Annual Meeting of American Association of Primatologists. **Proceedings** in *American Journal of Primatology*, 74(S1), 30.

Li, R. & **Cantlon, J.F.** Children's neural activity while watching Sesame Street predicts their math and verbal abilities (2011). **Poster** presented at the annual meeting of the SRCD, Montreal.

Cantlon, J.F. & Li, R. Children's neural activity while watching Sesame Street predicts their math and verbal abilities (2010). **Poster** presented at the annual Attention & Performance Workshop, Paris, France.

Emerson, R. & **Cantlon, J.F.** Probabilistic IPS responses reveal the gradual emergence of children's number concepts (2010). **Poster** presented at the annual Workshop on Concepts, Actions, and Objects, Rovereto, Italy.

Li, R. & **Cantlon, J.F.** Children's neural activity while watching Sesame Street predicts math and verbal abilities (2010). **Poster** presented at the annual Workshop on Concepts, Actions, and Objects, Rovereto, Italy.

Cantlon, J. F., & Pelphrey, K. A.. Cortical organization of visual categories in preschool children (2009). **Poster** presented at the annual meeting of the SRCD, Denver.

Cantlon, J. F., & Pelphrey, K. A.. Cortical organization of visual categories in preschool children (2008). **Poster** presented at the annual meeting of the APA, Boston.

Cantlon, J. F., Brannon, E. M., & Pelphrey, K. A.. Cortical organization of visual categories in preschool children (2008). **Poster** presented at the annual Concepts Objects and Actions meeting, Rovereto, Italy.

Cantlon, J. F., Davis, S. W., Libertus, M. E., Brannon, E. M., & Pelphrey, K. A. The integrity of white matter pathways and numerical cognition in adults and young children. **Poster** presented at Human Brain Mapping, June 2007.

Cantlon, J. F., Libertus, M. E., Brannon, E. M., & Pelphrey, K. A. Symbolic & Non-symbolic Number in the Developing Brain. **Poster** presented at Cognitive Neuroscience Society, May 2007.

Cantlon, J. F., Libertus, M. E., Brannon, E. M., & Pelphrey, K. A. The development of abstract numerical processing in parietal cortex. **Poster** presented at Vision Science Society, May 2007.

Brannon, E.M., **Cantlon, J.F.**, Cordes, S., Jordan, K.E., Libertus, M., MacLean, E., & Suanda, U. (2006). Comparative and developmental approach to studying nonverbal numerical cognition. **Talk** presented at the Annual Meeting of the Psychonomic Society, Houston, TX.

Cantlon, J. F., Ormsbee, S., & Needham, A. Object knowledge influences the perception of occluded displays at 8.5 months of age. **Poster** presented at International Conference on Infant Studies, Kyoto, June 2006.

Cantlon, J. F., Brannon, E. M., & Pelphrey, K. A. Numerical processing of visual arrays in the brains of adults and four-year-old children. **Poster** presented at Vision Science Society, May 2006.

Cantlon, J. F., Brannon, E. M., Pelphrey, K. Notation-Independent Number Processing in Adults and Four-year-old Children. **Poster** presented at Cognitive Neuroscience Society, April 2006.

Cantlon, J. F., & Brannon, E. M. Relative Saliency of Number, Shape, Color, and Surface Area in Rhesus Monkeys. **Poster** presented at Vision Science Society, May 2005.

Cantlon, J. F., & Brannon, E.M. Shared system for ordering small and large numbers in monkeys and humans. **Poster** presented at Yale Conference on Object Perception and Looking-Time as a Dependent Measure, April 2005.

Cantlon, J. F., Fink, R., & Brannon, E. M. The effect of heterogeneity on numerical judgments in monkeys and young children. **Poster** presented at Society for Research on Child Development, April 2005.

Cantlon, J. F., Lewis, K., and Brannon, E. Monkeys count up and count down: Conditional numerical ordering in rhesus monkeys. **Poster** presented at Comparative Cognition Conference, April, 2004.

Subiaul, F., **Cantlon, J. F.**, Holloway, R., and Terrace, H. Cognitive imitation in rhesus macaques. **Poster** presented at Comparative Cognition Conference, April, 2004.

Subiaul, F., **Cantlon, J. F.**, Holloway, R., and Terrace, H. (2003). A re-evaluation of human imitation: No statistical difference between monkeys and 2- and 3-yos on a copying task. **Poster** presented at Cognitive Neuroscience Society. **Proceedings** in Journal of Cognitive Neuroscience, Supplement 2003.

Subiaul, F., **Cantlon, J. F.**, Holloway, R., and Terrace, H. (2002). Copying Information: Rhesus macaques learn novel 3-item lists by observing an experienced subject. **Poster** presented at Cognitive Neuroscience Society. **Proceedings** in Journal of Cognitive Neuroscience, Supplement 2002, 15.

Subiaul, F., **Cantlon, J.F.**, Holloway, R., and Terrace, H. (2002). Learning by watching: Macaques copy a 3-item list from an experienced model. **Poster** presented at American Association of Physical Anthropologists. **Proceedings** in American Journal of Physical Anthropology, Supplement 34, 151-152.

Teaching & Mentoring

Current Undergraduate Advisees = 13

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

Guest Lectures: *Animal Minds* (Spring 2010), *Systems Neuroscience -- Graduate* (Spring 2010), *Systems Neuroscience -- Graduate* (Spring 2011)

Professional Service

Editorial

Associate & Action Editor

2014-present: *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*

Grant Reviewer

Full Panelist (6 to 9 Grants)

2016: NIH Cognition & Perception Panel (CP)

2016: NSF Understanding the Brain Panel (Special)

2015: NIH Cognition & Perception Panel (CP)

2014: NIH Language & Communication Panel (LCOM, SEP)

2014: NSF REAL program

2014: Wellcome Trust (EEF)

2013: NIH Language & Communication Panel (LCOM, SEP)

2010: NSF REESE program

Ad Hoc Grants (1 to 3 Grants)

2016: NSF Development & Learning Sciences

2016: NSF Education Core Research

2015: NSF Education Core Research

2012: Research Grants Council of Hong Kong

2012: United States-Israel Binational Science Foundation

2011: NSERC Natural Sciences and Engineering Research Council of Canada

Conference Organizer

2015: AAAS San Jose, Symposium Organizer, Psychology Section

2012: SRCD 2013 Reviewer; Representations, Concepts, & Problem-solving Panel

Ad hoc Manuscript Reviewer:

Animal Cognition

Cerebral Cortex

Cognition

Cognitive Neuroscience

Current Anthropology

Current Biology

Dev Cog Neuroscience

Developmental Neuropsychology

Developmental Review

Developmental Science

European Journal of Psychology

Human Brain Mapping

Journal of Cognitive Neuroscience

JEP: General

Journal of Neuroscience

Memory & Cognition

Neuroimage

Neuropsychologia

Proceedings of the Royal Society

Psychological Bulletin & Review

Psychological Review

Psychological Science

University & Department Service

Spring 2017 Speaker, Medical Student Training Program, UR Medical

Fall 2016 Panelist, Job Search Q&A, UR, Neuroscience Graduate Program

2015-2016 Faculty Search Committee, UR, BME Department

2015-2016 Faculty Search Committee, UR, BCS Department

2015-2016 Graduate Admissions Committee, UR, BCS Department
Spring 2015 Faculty Participant, McNair Scholars Program
Spring 2015 Panelist, Tenure for Women Focus Group
2012-present Human Subjects IRB Chair, UR, BCS Department
2013-present Associate Director, Rochester Center for Brain Imaging
Spring 2014 Advancement Consultant, Fundraising Materials, Institute for Data Science
Spring 2014 Panelist, Academic Honesty Focus Group
Fall 2013 Space Committee, UR, BCS Department
Fall 2013 Website Committee, UR, BCS Department
Spring 2013 Faculty Representative, National Fellowships Spring Promo
Spring 2013 Judge, Undergraduate Research Expo
Spring 2013 Graduate Admissions Committee, UR, BCS Department
Fall 2012 Faculty Search Committee, UR, BCS Department
Spring 2012 Graduate Admissions Committee, UR, BCS Department
Spring 2012 Panelist, UR, McDonnell Foundation Workshop, Foundation Relations
Spring 2011 Graduate Admissions Committee, UR, BCS Department
Fall 2011 Faculty Search Committee, UR, BCS Department
Spring 2010 Committee Member, UR Music & Language NSF IGERT Training Grant
Spring 2006 Representative, Duke, Graduate & Professional Student Council, Psychology

Community Service

Spring 2016 Guest Expert, Rochester City School District – Special Needs Students
Spring 2016 Exhibitor, Rochester Museum & Science Center, Human and Monkey Brains
Spring 2015 Exhibitor, Rochester Museum & Science Center, Human and Monkey Brains
Spring 2014 Exhibitor, Rochester Museum & Science Center, Human and Monkey Brains
Fall 2013 Speaker, Seneca Park Zoo, Regional Meeting (Stephen Ferrigno delivered the talk)
Spring 2013 Exhibitor, Rochester Museum & Science Center, Human and Monkey Brains
Summer 2012 Speaker, Seneca Park Zoo, Zoo Society Annual Meeting
Spring 2012 Speaker, Seneca Park Zoo, Animal Staff Workshop
Spring 2011 Exhibitor, Rochester Museum & Science Center, Brain: The World inside Your Head

Graduate Students

2016-present Isabel Boni
2014-present Stephen Ferrigno (NSF Honorable Mention)
2013-present Alyssa Kersey (NSF Fellowship, UR Bernard Award for Outreach)
2013-present Sarah Koopman (NSF Fellowship, UR Curtis Award for Teaching)
2012-present Santiago Alonso-Diaz
2010-2015 Cory Bonn (NSF Fellowship)
2010-2014 Bobby Emerson

PhD Committees

Spring 2016 Louis Marti, First Year Committee
Fall 2015 Cory Bonn, Ph.D
Fall 2015 Alyssa Kersey, Sarah Koopman, Steve Ferrigno, Qualifying Exam
Fall 2014 Santiago Diaz, Qualifying Exam
Spring 2014 Bobby Emerson, Ph.D.
Spring 2013 Bobby Emerson, Qualifying Exam
Spring 2013 Cory Bonn, Qualifying Exam
Spring 2012 Ian Holloway, University of Western Ontario, Ph.D.
Spring 2010 Natalie Klein, Ph.D.
Fall 2010 David Ruskin, Qualifying Exam

Other Graduate Service

Spring 2016 Evaluator, BCS Professional Development, Mock Study Section
Spring 2015 Evaluator, Neuroscience Graduate Program, First Year Student Seminar
Spring 2015 Evaluator, BCS Professional Development, Mock Study Section

Undergraduate Students

Student Awards in Research

2016 Kelsey Csumitta, President's Award in Research, Undergraduate Research Expo, University of Rochester
2016 Kelvin Adulley, McNair Scholars Program National Conference Award, Washington D.C.

2015 Alyssa Arre, President's Award in Research, Undergraduate Research Expo, University of Rochester
2015 Yinghui Qiu, Professors' Choice Award in Research, Undergraduate Research Expo, University of Rochester
2015 Julia Yurkovic, Professors' Choice Award in Research, Undergraduate Research Expo, University of Rochester
2015 Julia Yurkovic, Donald J. Cohen Fellowship in Social Cognitive Neuroscience, Emory University
2012 Celia Litovsky, Dean's Award in Research, Undergraduate Research Expo, University of Rochester
2012 Theresa Kurtz, President's Award in Research, Undergraduate Research Expo, University of Rochester
2010 Eshin Jolly, Yale Review of Undergraduate Research, competitive publication

Undergraduate Honors Theses from Cantlon lab

Spring 2015 Chair, Matt Mullen, Neuroscience Honors Thesis (postgrad: Northwestern University Graduate School)
Spring 2015 Chair, Julia Yurkovic, BCS Honors Thesis (postgrad: Emory University research position)
Spring 2013 Chair, Laura Ackerman, BCS Honors Thesis (postgrad: Brown University research position)
Spring 2012 Chair, Theresa Kurtz, Neuroscience Honors Thesis (postgrad: UNM Medical School)
Spring 2012 Chair, Celia Litovsky, BCS Honors Thesis (postgrad: Johns Hopkins Graduate School)
Spring 2012 Chair, Tyia Clark, BCS Honors Thesis (postgrad: UT Medical School)
Spring 2010 Chair, Eshin Jolly, BCS Honors Thesis (postgrad: Dartmouth University Graduate School)

Other Undergraduate Honors Thesis Committees

Spring 2016 Committee Member, Carla Macias, Honors Thesis
Spring 2015 Committee Member, Julian Nin, Honors Thesis
Spring 2010 Committee Member, Holly Palmeri, Honors Thesis
Spring 2010 Committee Member, Katrina Housel, Honors Thesis

Student Placement in Science & Research

2015 Cory Bonn, Postdoc, Universite Paris Descartes (former Grad Student)
2015 Yinghui Qiu, Research Assistant, University of Rochester (former UR undergraduate)
2015 Alyssa Arre, Research Assistant, Yale University (former UR undergraduate)
2015 Matthew Mullen, Graduate Student, Northwestern University (former UR undergraduate)
2015 Julia Yurkovic, Research Fellowship, Emory University (former UR undergraduate)
2015 Katie Blakely, Graduate Student, SUNY Buffalo (former RA)
2014 Bobby Emerson, Postdoc, UNC Chapel Hill (former Grad Student)
2014 Sydney Robinson, Research Assistant, MIT (former UR undergraduate)
2013 Laura Ackerman, Research Assistant, Brown University (former UR undergraduate)
2013 Vy Vo, Graduate Student, UC San Diego (former RA)
2012 Allison Barnard, Research Assistant, UC Davis (former RA)
2012 Tyia Clark, Medical Student, University of Texas (former UR undergraduate)
2012 Theresa Kurtz, Medical Student, University of New Mexico (former UR undergraduate)
2012 Celia Litovsky, Graduate Student, Johns Hopkins (former UR undergraduate)
2011 Sabina Noll, Field Researcher Ranomafana National Park (former UR undergraduate)
2011 Rosa Li, Graduate Student, Duke University (former RA)
2010 Eshin Jolly, Graduate Student, Dartmouth University (former UR undergraduate)

Media

Ten Scientists to Watch – the SN10

[Science News](#)

When do Kids Understand Numbers?

[National Geographic](#)

Primate maths: Precocious baby baboons beating your own baby

[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](#)