

KATRINA FERRARA
Center for Brain Plasticity and Recovery, Georgetown University
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EDUCATION

Johns Hopkins University, Baltimore, MD

- Ph.D., Cognitive Science (August 2015)
Dissertation: *Neural and behavioral sensitivity to boundary cues across typical and atypical development* (Advised by Drs. Barbara Landau & Soojin Park)
- M.A., Cognitive Science (June 2012)
- Honors and Funding Awards:
 - Dissertation Research Award, American Psychological Association (2015)
 - Dissertation Research Funding Award, Society for Research in Child Development (2015)
 - Student Travel Prize, journal of *Cognitive Neuropsychology* (2015)
 - Krieger School of Arts & Sciences Excellence in Teaching Award, Johns Hopkins University (2014)
 - ENGAGE Engineering Spatial Skills Grant, National Science Foundation (2012-2014)
 - Gateway Sciences Initiative Research Fund, Johns Hopkins University (2012-2014)
 - Integrative Graduate Education and Research Traineeship, National Science Foundation (2010-2014)
 - J. Brian Key Graduate Student Assistance Fund, Johns Hopkins University (2012)
 - Advisor to three recipients of the Provost's Undergraduate Research Award, Johns Hopkins University (Malena Silva, 2011; Sarah Furlong, 2013; Ruu Harn Cheng, 2013)

Williams College, Williamstown, MA

- B.A., Psychology and English, with Honors (June 2008)
- Honors: Cum Laude; Academic All-American (2006, 2007, 2008); Sigma Xi National Honorary Scientific Research Society (2008); Scholar Athlete, ITA (2006, 2007, 2008); Dean's List (Fall 2005-Spring 2008); Division III Women's Tennis National Champion (2008)

EMPLOYMENT

Children's National Medical Center, Washington, DC (August 2015-present)

- NIH T32 Postdoctoral Research Fellow
- Center for Brain Plasticity and Recovery, Georgetown University Medical Center
- Intellectual and Developmental Disabilities Research Center, Children's National Health System

ACADEMIC EXPERIENCE

Johns Hopkins University, *Course Instructor*, Baltimore, MD (2012, 2013)

- Developed curriculum and co-taught the course "Spatial Visualization and Reasoning for Engineers," an introductory hands-on class for freshmen in the Johns Hopkins Whiting School of Engineering

Johns Hopkins University, *Teaching Assistant*, Baltimore, MD

- Cognitive neuroscience, Dr. Brenda Rapp and Dr. Soojin Park (Spring 2014)
- Cognition, Dr. Colin Wilson (Fall 2013)
- Cognitive neuroimaging methods in high-level vision, Dr. Soojin Park (Spring 2013)
- Visual cognition, Dr. Soojin Park (Fall 2012)
- Cognitive development, Dr. Julia Yarmolinskaya (Spring 2012)
- Introduction to cognitive neuropsychology, Dr. Michael McCloskey (Fall 2011)
- Cognitive neuroscience, Dr. Brenda Rapp (Spring 2011)

PUBLICATIONS

- Ferrara, K., Hoffman, J. E., O'Hearn, K., & Landau, B. (2016). Constraints on multiple object tracking in Williams syndrome: How atypical development can inform theories of visual processing. *Journal of Cognition and Development, 17*, 620-641.
- Ferrara, K., & Park, S. (2016). Neural representation of scene boundaries. *Neuropsychologia, 89*, 180-190.
- Ferrara, K., Silva, M., Wilson, C., & Landau, B. (2015). Spatial language and the embedded listener model in parents' input to children. *Cognitive Science*, 1-34.
- Ferrara, K., & Landau, B. (2015). Geometric and featural systems, separable and combined: Evidence from reorientation in people with Williams syndrome. *Cognition, 144*, 123-133.
- Newcombe, N. S., Balcomb, F., Ferrara, K., Hansen, M., & Koski, J. (2014). Two rooms, two representations? Episodic-like memory in toddlers and preschoolers. *Developmental Science, 17*(5), 743-756.
- Landau, B., & Ferrara, K. (2013). Space and language in Williams syndrome: Insights from typical development. *WIREs Cognitive Science, 4*, 693-706.
- Frick, A., Ferrara, K., & Newcombe, N. S. (2013). Using a touch screen paradigm to assess the development of mental rotation in 3 ½ to 4 ½-year-olds. *Cognitive Processing, 14*, 117-127.
- Balcomb, F., Newcombe, N. S., & Ferrara, K. (2011). Finding where and saying where: Developmental relationships between place learning and language in the second year. *Journal of Cognition and Development, 12*(3), 315-331.
- Ferrara, K., Golinkoff, R. M., Hirsh-Pasek, K., Lam, W., & Newcombe, N. S. (2011). Block talk: Spatial language during block play. *Mind, Brain and Education, 5*, 143-151.

CONFERENCE TALKS

- Ferrara, K., & Landau, B. (2017, April). Hippocampal volume and autobiographical episodic memory in Williams syndrome. In K. Ferrara & J. Prabhakar (Chairs), *The neurocognitive basis of memory in typical and atypical development*. Symposium to be conducted at the biennial meeting of the Society for Research in Child Development, Autsin, TX.
- Ferrara, K., Landau, B., & Park, S. (2016, May). Neural and behavioral sensitivity to boundary cues in Williams syndrome. In S. Park & S. A. Lee (Chairs), *Boundaries in spatial navigation and visual scene perception*. Symposium presented at the annual meeting of the Vision Sciences Society, St. Petersburg, FL.
- Park, S., & Ferrara, K. (2016, May). Complementary neural representation of scene boundaries. In S. Park & S. A. Lee (Chairs), *Boundaries in spatial navigation and visual scene perception*. Symposium presented at the annual meeting of the Vision Sciences Society, St. Petersburg, FL.
- Ferrara, K., Landau, B., & Park, S. (2015, October). Neural and behavioral sensitivity to boundary cues in Williams syndrome. In D. Bernhardt-Walther (Chair), *Cortical representation of scenes*. Nanosymposium conducted at the annual meeting of the Society for Neuroscience, Chicago, IL.

Ferrara, K., Park, S., & Landau, B. (2015, March). Neural and behavioral sensitivity to boundary cues across development. In B. Landau (Chair), *Geometric reorientation: Neural and cognitive signatures in mice and humans*. Symposium conducted at the biennial meeting of the Society for Research in Child Development, Philadelphia, PA.

Ferrara, K., & Park, S. (2014, November). Neural representation of different boundary cues. Talk presented at the annual meeting of the Society for Neuroscience, Washington, DC.

Ferrara, K., & Landau, B. (2013, April). Reorientation and spatial language: Evidence from Williams syndrome and typically developing children. In M. D. Sera (Chair), *Spatial reasoning, language, and the brain*. Symposium conducted at the biennial meeting of the Society for Research in Child Development, Seattle, WA.

Newcombe, N. S., Balcomb, F., Ferrara, K., Hansen, M., & Koski, J. (2013, April). The emergence of episodic memory between 18 months and five years. In T. Pathman (Chair), *The emergence and development of episodic memory: Journeys through time and space*. Symposium conducted at the biennial meeting of the Society for Research in Child Development, Seattle, WA.

Fisher, K. R., Harris, J., Pruden, S., & Ferrara, K. (2011, June). Spatial language during block play. In K. Fisher (Chair), *Playing with space: Enhancing spatial thinking in early childhood for later academic success*. Symposium conducted at the international conference of the Mind, Brain, and Education Society, San Diego, CA.

Balcomb, F., Newcombe, N. S., & Ferrara, K. (2009, July). Convergence and divergence in representational systems: Place learning and language in toddlers. In N. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 596-601). Austin, TX: Cognitive Science Society.

POSTER PRESENTATIONS

Ferrara, K., Greenwald, A., Landau, B., & Newport, E. (2017). Visuospatial skills in adults after perinatal stroke. Poster to be presented at the annual Gatlinburg Conference, San Antonio, TX.

Cheng, R. H., Ferrara, K., Lee, S. A., & Park, S. (2016, November). Neural representation of spatial boundary cues in visual cortex: 3D spatial layout vs. boundary features. Poster presented at the annual meeting of the Society for Neuroscience, San Diego, CA.

Ferrara, K., & Landau, B. (2016, August). Developmental deficit in autobiographical episodic memory: Evidence from Williams syndrome. Poster presented at the annual meeting of the Cognitive Science Society, Philadelphia, PA.

Ferrara, K., Cheng, R. H., & Park, S. (2016, May). Neural sensitivity to boundary cues across different scene geometries. Poster presented at the annual meeting of the Vision Sciences Society, St. Petersburg, FL.

Cheng, R. H., Ferrara, K., & Park, S. (2016, May). Neural representation of the horizontal extent of spatial boundaries. Poster presented at the annual meeting of the Vision Sciences Society, St. Petersburg, FL.

Park, S., Ferrara, K., & Landau, B. (2015, May). Impaired behavioral and neural sensitivity to boundary cues in Williams syndrome. Poster presented at the annual meeting of the Vision Sciences Society, St. Petersburg, FL.

Ferrara, K., Furlong, S., Landau, B., & Park, S. (2015, May). Detailed visual memory capacity is present early in life. Poster presented at the annual meeting of the Vision Sciences Society, St. Petersburg, FL.

- Furlong, S., Ferrara, K., Landau, B., & Park, S. (2015, March). Visual memory for objects in young children is surprisingly detailed. Poster presented at the biennial meeting of the Society for Research in Child Development, Philadelphia, PA.
- Stephens, A., Ferrara, K., Scheinerman, E., & Shelton, A. (2015, March). A hands-on approach: Spatial reasoning training and retention within engineering. Poster presented at the biennial meeting of the Society for Research in Child Development, Philadelphia, PA.
- Ferrara, K., Landau, B., & Park, S. (2013, November). The development of visual statistical learning at the categorical level. Poster presented at the annual meeting of the Psychonomic Society, Toronto, Canada.
- Ferrara, K., Wilson, C., Kehilher, K., Silva, M., & Landau, B. (2013, July). Adapting descriptions of spatial relationships: Parents' tuning to child knowledge. Poster presented at the annual meeting of the Cognitive Science Society, Berlin, Germany.
- Ferrara, K. & Park, S. (2013, May). Neural representation of different boundary cues. Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Ferrara, K., Kehilher, K., Silva, M., Wilson, C., & Landau, B. (2013, April). Do parents adapt descriptions of spatial relationships to child knowledge? Poster presented at the biennial meeting of the Society for Research in Child Development, Seattle, WA.
- Ferrara, K., Kehilher, K., Silva, M., Wilson, C., & Landau, B. (2013, April). Do parents adapt descriptions of spatial relationships to child knowledge? Poster presented at the workshop "Spatial Memory: Bayes and Beyond," Richmond, VA.
- Balcomb, F., Newcombe, N. S., Ferrara, K., & Funk, A. Y. (2010, March). Changes in context-bound memory may provide the foundations for episodic memory. Poster presented at the biennial meeting of the International Conference on Infant Studies, Baltimore, MD.
- Fisher, K., Ferrara, K., Hirsh-Pasek, K., Newcombe, N. S., & Golinkoff, R. M. (2010, March). Exploring the role of dialogic inquiry and exploration in guided play: An experimental study. Poster presented at the biennial meeting of the International Conference on Infant Studies, Baltimore, MD.
- Göksun, T., Ferrara, K., Winslow, C., George, N., Hirsh-Pasek, K., & Golinkoff, R. M. (2010, March). Forces and motion: How young children understand causal events. Poster presented at the biennial meeting of the International Conference on Infant Studies, Baltimore, MD.
- Göksun, T., Tynan, E., Roseberry, S., George, N., Ferrara, K., Stahl, A., Hirsh-Pasek, K., & Golinkoff, R. M. (2010, March). A new angle to infant causality. Poster presented at the biennial meeting of the International Conference on Infant Studies, Baltimore, MD.
- Fisher, K., Ferrara, K., Hirsh-Pasek, K., Newcombe, N., & Golinkoff, R. M. (2009, October). Transforming preschoolers' geometric shape knowledge: Exploring verbalizations and behaviors during a categorization task. Poster presented at the biennial meeting of the Cognitive Development Society, San Antonio, TX.
- Balcomb, F., Newcombe, N. S., Ferrara, K., Grant, J., & Hittinger, S. M. (2009, October). Early arbitrary object memory in toddlers may set the stage for episodic memory. Poster presented at the biennial meeting of the Cognitive Development Society, San Antonio, TX.

Balcomb, F., Newcombe, N. S., & Ferrara, K. (2009, July). Convergence and divergence in representational systems: Place learning and language in toddlers. Poster presented at the biennial meeting of the Cognitive Science Society, Amsterdam, the Netherlands.

Göksun, T., Hirsh-Pasek, K., Fisher, K., Misitzis, Y., Ferrara, K., & Golinkoff, R. M. (2009, April). Forces in action: Causal understanding of preschoolers. Poster presented at the biennial meeting of the Society for Research on Child Development, Denver, CO.

ADDITIONAL EXPERIENCE

Temple University Infant Lab, *Laboratory Coordinator*, Ambler, PA (June 2008-July 2010)

- Supervised by Drs. Nora Newcombe and Kathy Hirsh-Pasek
- Responsible for data collection, scheduling, and participant recruitment for all studies
- Managed day-to-day operations including research grants administration
- Participated in study design, stimuli creation, and data analysis
- Coordinator and Supervisor for the Summer Research Opportunities Program (SROP), designed to provide research-intensive experiences for underrepresented undergraduate students in the social, behavioral, and economic sciences

Ad Hoc Reviewer (2014-present)

- Journal of Experimental Child Psychology
- Child Development
- Journal of Cognitive Psychology
- Mind, Brain and Education
- Frontiers in Psychology