

## **Dr. K. Suzanne Scherf**

Penn State  
LA-Psychology  
113 Moore Building  
(814) 867-2921  
Email: suzyscherf@psu.edu

### **Education**

Ph D, University of Pittsburgh, College of Arts and Sciences, Pittsburgh, PA, 2003.  
Major: Psychology  
Supporting Areas of Emphasis: Developmental and Cognitive Psychology  
Dissertation Title: Infant event representations and the acquisition of verb argument structure

MA, Occidental College, Los Angeles, CA, 1997.  
Major: Psychology  
Supporting Areas of Emphasis: Developmental psychobiology  
Dissertation Title: Effects of gender and landmark use on rat spatial navigation in the eight-arm radial maze

AB, Occidental College, Los Angeles, CA, 1993.  
Major: Cognitive Science

### **Professional Positions**

Assistant Professor of Psychology, Pennsylvania State University. (July 2011 - Present).

Research Scientist, Carnegie Mellon University. (June 2009 - June 2011).

Post-Doc, Carnegie Mellon University. (June 2007 - May 2009).  
Mentor: Marlene Behrmann  
Lab: Cognitive Neuroscience Laboratory

Post-Doc, University of Pittsburgh. (June 2003 - June 2007).  
Mentor: Beatriz Luna  
Laboratory of Neurocognitive Development

### **Professional Memberships**

Assoc. for Psychological Science. (April 2014 - Present).

Vision Sciences Society. (December 4, 2012 - Present).

Society for Neuroscience. (May 2009 - Present).

Society for Research in Child Development. (1999 - Present).

### **Awards and Honors**

Pediatric Loan Repayment Program, National Institutes of Health. (2004 - 2011).

Outstanding Research Award, University of Pittsburgh Western Psychiatric Institute and Clinic.  
(July 2006).

Dissertation Improvement Award, National Science Foundation. (2001 - April 2003).

Fellow at McDonnell Summer Institute in Cognitive Neuroscience, McDonnell Foundation. (July 2000).

Department of Psychology Annual Teaching Award, Dept of Psychology, University of Pittsburgh. (1999).

Graduate Student Travel Award, Annual Meeting of the Society for Research in Child Language Disorders. (1999).

Graduate Student Travel Award, Biennial Meeting of the Society for Research in Child Development. (1999).

## TEACHING

### Teaching Experience

#### Graduate Courses

PSY 511, Developmental Neuroscience of Adolescence

PSY 524, Proseminar in Cognitive Psychology

PSY 525, Advance Neuroimaging Analyses

#### Undergraduate Courses

Debunking Myths of the Brain

The Science of Autism

Developmental Neuroscience of Adolescence

#### Articles Published in Refereed Journals

Whyte, E., Behrmann, M., Minshew, N., Garcia, N. M., & Scherf, K. S. (under review) Animal, but not human, faces engage the distributed face-processing network in adolescents with autism.

Garcia, N. V., & Scherf, K. S. (in press) Emerging sensitivity to socially complex expressions: A unique role for adolescence? *Child Development Perspectives*

Scherf, K. S., Elbich, D., Minshew, N., & Behrmann, M. (2015). Individual Differences in Symptom Severity and Behavior Predict Neural Activation During Face Processing in Adolescents with Autism. *Neuroimage: Clinical*, 7, 53-67.

Whyte, E. M., Smyth, J. M., & Scherf, K. S. (2014). Designing serious game interventions for individuals with autism. *Journal of Autism and Developmental Disorders*, 39.

Nishimura, M., Scherf, K. S., Zachariou, V., Tarr, M., & Behrmann, M. (2014). Development of size- and view-invariance in LOC: an fMR-adaptation study. *Journal of Cognitive Neuroscience*, 19.

Picci, G., & Scherf, K. S. (2014). A Two-Hit Model of Autism: Adolescence as the Second Hit. *Clinical Psychological Science*, 1-23.

- Halliday, D., MacDonald, S., Scherf, K. S., & Tanaka, J. (2014). A reciprocal model of face recognition and the autism condition: Evidence from an individual differences perspective. *PLoS ONE*, 9(5).
- Li, Y., Yang, J., Scherf, K. S., & Li, P. (2013). Two faces, two languages: An fMRI study of bilingual picture naming. *Brain & Language*, 127(3), 452-462.
- Scherf, K. S., Smyth, J. M., & Delgado, M. R. (2013). The amygdala: An agent of change in adolescent neural networks. *Hormones and Behavior*, 64(2, SI), 298-313.
- Whyte, E. M., Nelson, K. E., & Scherf, K. S. (2013). Idiom comprehension and advanced theory of mind abilities in children with autism, 36.
- Scherf, K. S., Thomas, C., Doyle, J., & Behrmann, M. (2013). Emerging Structure-Function Relations in the Developing Face Processing System. *Cerebral Cortex*, 54.
- Scherf, K. S., & Scott, L. (2012). Connecting Developmental Trajectories: Biases in Face Processing from Infancy to Adulthood. *Developmental Psychobiology*, 54(6), 643-63..
- Scherf, K. S., Behrmann, M., & Dahl, R. (2012). Facing changes and changing faces in adolescence: A new model for investigating adolescent-specific interactions between pubertal, brain and behavioral development. *Developmental Cognitive Neuroscience*, 2(2), 199-219..
- Scherf, K. S., Avidan, G., & Behrmann, M. (2011). What Precedes Which: Developmental Neural Tuning in Face- and Place-Related Cortex. *Cerebral Cortex*, 21(9), 1963-1980.
- Scherf, K. S., Luna, B., Minshew, N., & Behrmann, M. (2010). Location, location, location: Alterations in the functional topography of face- but not object- or place-related cortex in adolescents with autism. *Frontiers in Human Neuroscience*, 22(4), 26.
- Nishimura, M., Scherf, K. S., & Behrmann, M. (2009). Development of Object Recognition in Humans. *F1000 Biology Reports*, 1(56). .
- Scherf, K. S., Behrmann, M., Kimchi, R., & Luna, B. (2009). Emergence of global shape processing continues through adolescence. *Child Development*, 80(1), 162-177.
- Scherf, K. S., Behrmann, M., Minshew, N., & Luna, B. (2008). Atypical development of face and greeble recognition in autism. *Journal of Child Psychology and Psychiatry*, 49(8), 838-847.
- Scherf, K. S., Luna, B., Kimchi, R., & Behrmann, M. (2008). Missing the big picture: Impaired development of global shape processing in autism. *Autism Research*, 1(2), 114-129..
- Scherf, K. S., Behrmann, M., Humphreys, K., & Luna, B. (2007). Visual category-selectivity for faces, places and objects emerges along different developmental trajectories. *Developmental Science*, 10(4), F15-F30.
- Scherf, K. S., Sweeney, J. A., & Luna, B. (2006). Brain basis of developmental changes in visuospatial working memory. *Journal of Cognitive Neuroscience*, 18(7), 1045-1058.

### Parts of Books

- Minshew, N., Scherf, K. S., Behrmann, M., & Humphreys, K. (2011). Autism as a Developmental Neurobiological Disorder: New Insights from Functional Neuroimaging. In David G. Amaral, Geraldine Dawson, and Daniel H. Geschwind (Eds.), (pp. 632-650). New York, NY: Oxford University Press.

McFadden, K., Scherf, K. S., & Nancy, M. (2011). Neurobiology of Autism Spectrum Disorders. In M. J. Lubetsky, B. L. Handen, and J. J. McGonigle (Eds.), (pp. 85-114). New York, NY: Oxford University Press.

Scherf, K. S., Behrmann, M., & Humphreys, K. (2009). Acquisition and disruption of category-specificity in the ventral visual stream: The case of late developing and vulnerable face-related cortex. In S.J. Dickinson, A. Leonardis, B. Schiele, and M.J. Tarr (Eds.), *Object Categorization: Computer and Human Vision Perspectives* (pp. 348-368). New York, NY: Cambridge University Press.

## **Peer Reviewer of Grant Proposals, Manuscripts, Etc.**

National Institutes of Health  
Clinical Neuroscience and Entertainment Software Pilot Partnership Program to Develop Neuropsychiatric Interventions (SBIR [R43/R

National Institutes of Health  
Translational Research for the Development of Novel Interventions for Mental Disorders

*Hormones & Behavior*  
*Archives of General Psychiatry*  
*Human Brain Mapping*  
*Nature Neuroscience*  
*Social, Cognitive, and Affective Neuroscience*  
*Cerebral Cortex*  
*Cognitive Development*  
*Developmental Psychobiology*  
*Neuroimage*  
*Neuropsychologia*  
*PLoS One*  
*Biological Psychiatry*  
*Child Development*  
*Cognition*  
*Cognitive Neuropsychology*  
*Current Biology*  
*Developmental Psychology*  
*Frontiers of Human Neuroscience*  
*Journal of Autism and Developmental Disorders*  
*Proceedings of the Royal Society B*  
*The Autism Journal*  
*Trends in Cognitive Sciences*  
*Visual Cognition*  
*American Journal of Psychiatry*  
*Autism Research*  
*Developmental Science*  
*Journal of Child Psychology and Psychiatry*  
*Journal of Cognitive Neuroscience*  
*Perception*

## **Presentations Given**

Whyte, E. (PSU), Scherf, K. S. (Author Only, PSU), Annual Meeting of the Society for Neuroscience, Society for Neuroscience, Washington, DC, "Increased developmental specialization from adolescence to adulthood in the face-processing network when viewing

- human faces versus animal faces," Symposiums, 30000 in attendance, peer-reviewed/refereed. (November 2014). International.
- Tanaka, J. (Univ. of Victoria), Holliday, D. (Univ. of Victoria), Scherf, K. S. (Author Only), Annual Meeting of the Vision Sciences Society, Vision Sciences Society, Florida, "A reciprocal model of face recognition and the autism condition: Evidence from an individual differences perspective," Posters, 2000 in attendance, peer-reviewed/refereed. (May 2014). National.
- Unger, A. (PSU), Todorov, A. (Princeton Univ.), Flavello, V. (Princeton Univ.), Scherf, K. S. (Presenter and Author), Annual Meeting of the Vision Sciences Society, Vision Sciences Society, Florida, "Sex differences in the social evaluation of faces," Posters, 2000 in attendance, peer-reviewed/refereed. (May 2014). National.
- Scherf, K. S. (Presenter and Author), Behrmann, M. (CMU), Thomas, C. (NIMH), Avidan, G. (Ben Gurion Univ.), Elbich, D. (PSU), Annual Meeting of the Vision Sciences Society, Vision Sciences Society, Florida, "Structural properties of white matter tracts necessary for face preception," Symposiums, 2000 in attendance, peer-reviewed/refereed. (May 2014). National.
- Scherf, K. S. (Presenter and Author), The Penn State Symposium for Teaching and Learning with Technology, Teaching & Learning with Technology, State College, PA, "Using technology to improve social skills for individuals with autism," Symposiums, 300 in attendance, peer-reviewed/refereed, Invited. (March 2014). Regional.
- Whyte, E. (PSU), Behrman, M. (CMU), Elbich, D. (PSU), Minshew, N. (Univ. of Pittsburgh), Scherf, K. S. (Author Only, PSU), Annual Meeting of the Society for Neuroscience, Society for Neuroscience, San Diego, CA, "Emergence of holistic processing for novel objects in autism," Posters, 30000 in attendance, peer-reviewed/refereed. (October 2013). International.
- Picci, G. (PSU), Behrmann, M. (CMU), Minshew, N. (Univ. of Pittsburgh), Scherf, K. S. (Presenter and Author, PSU), Annual Meeting of the Society for Neuroscience, Society for Neuroscience, San Diego, CA, "It's not just faces: Atypical neural activation to novel objects in autism," Posters, 30000 in attendance, peer-reviewed/refereed. (October 2013). International.
- Scherf, K. S. (Presenter and Author, PSU), Elbich, D. (PSU), Minshew, N. (Univ. of Pittsburgh), Behrmann, M. (CMU), Annual Meeting of the Society for Neuroscience, Society for Neuroscience, San Diego, CA, "Neural plasticity in face activation following greeble training in autism," Symposiums, 30000 in attendance, peer-reviewed/refereed. (October 2013). International.
- Garcia, N. V. (PSU), Elbich, D. (PSU), Unger, A. (PSU), Scherf, K. S. (Presenter and Author, PSU), Annual Meeting of the Society for Neuroscience, Society for Neuroscience, San Diego, CA, "Sex differences in the functional organization of face processing," Posters, 30000 in attendance, peer-reviewed/refereed. (October 2013). International.
- Scherf, K. S. (Presenter and Author, PSU), Thomas, C. (NIH), Doyle, J. (CMU), Behrmann, M. (CMU), Annual FLUX Congress, the International Congress for Integrative Developmental Cognitive Neuroscience, Pittsburgh, PA, "Emerging structure-function relations in the developing face-processing system," Posters, 150 in attendance, peer-reviewed/refereed, Invited. (September 2013). International.
- Scherf, K. S. (Presenter and Author), Elbich, D. (PSU), Minshew, N. (University of Pittsburgh), Behrmann, M. (Carnegie Mellon University), Annual Meeting of the Vision Sciences Society, Vision Sciences Society, Naples, FL, "Core and Extended Face-Processing Regions are Hypoactive in Autism and Related to Symptom Severity," Posters, peer-reviewed/refereed. (May 2013). International.

Whyte, E. (PSU), Scherf, K. S. (Author Only, PSU), Elbich, D. (PSU), Minshew, N. (University of Pittsburgh), Behrmann, M. (Carnegie Mellon University), Society for Research in Child Development, Seattle, WA, "Human Faces May Not be Aversive to Individuals with Autism," Presentations, peer-reviewed/refereed. (April 2013). International.

Scherf, K. S. (Presenter and Author, PSU), 43rd NIPS International Symposium on Face Perception and Recognition, National Institute for Physiological Sciences, Okasaki, Japan, "Face Perception in Autism," Keynotes/Plenary Addresses, peer-reviewed/refereed, Invited. (November 4, 2012). International.

Lerner, Y. (Tel Aviv Sourasky Medical Center), Scherf, K. S. (Presenter and Author, PSU), Katkov, M. (Weizmann Institute of Science, Israel), Behrmann, M. (Carnegie Mellon University), Hasson, U. (Princeton University), 2012 Annual Meeting of the Society for Neuroscience, Society for Neuroscience, New Orleans, LA, "Developmental Changes in Inter-subject Correlation of Cortical Activity," Posters, peer-reviewed/refereed. (October 17, 2012). National.

Scherf, K. S. (Presenter and Author), 2012 Annual Meeting of the Society for Neuroscience, Society for Neuroscience, New Orleans, "Measuring the Dynamics of Neural Circuits in Awake, Behaving Humans: Functional Connectivity Analyses of fMRI Data CME," Chair of a minisymposium that required a competitive application, peer-reviewed/refereed. (October 16, 2012). National.

Elbich, D. (PSU), Hwang, K. (PSU), Stiffler, J. (PSU), Scherf, K. S. (Presenter and Author, PSU), 2012 Annual Meeting of the Society for Neuroscience, Society for Neuroscience, New Orleans, LA, "Performance Differences in Face Recognition Behavior is Related to Individual Variation in Size of Right FFA and Real World Social Networks," Posters, peer-reviewed/refereed. (October 16, 2012). International.

Scherf, K. S. (Presenter and Author, PSU), Behrmann, M. (Carnegie Mellon University), Minshew, N. (University of Pittsburgh), Cognitive Training in Mental Disorders: Advancing the Science, National Institutes of Mental Health, Bethesda, MD, "Inducing Plasticity in Face Processing Behavior and Neural Circuitry: A Novel Intervention in Autism," Presentations. (April 9, 2012).

Scherf, K. S. (Presenter and Author, PSU), Boron, C. (University of Akron), Minshew, N. (University of Pittsburgh), Behrmann, M. (Carnegie Mellon University), 2011 Annual Meeting of the Society for Neuroscience, Society for Neuroscience, Washington, DC, "Bootstrapping face processing behavior and underlying neural activation in autism using novel objects: A case study," Posters, peer-reviewed/refereed. (November 2011). National.

## **Contracts, Grants and Sponsored Research**

### **Fellowships**

Garcia, N. (Graduate Student), Scherf, K. S. (Faculty Associate), Fellowship, "Developing sensitivity to complex expressions in adolescence," National Science Foundation, Federal. Total requested: \$105,000.00. Total awarded: \$105,000.00. (submitted: November 2013, date funding awarded: April 2014, funded: September 2014 - July 2017).

Picci, G. (Graduate Student), Scherf, K. S. (Faculty Associate), Fellowship, "Puberty matters: a look at the development of age biases in face processing," National Science Foundation, Federal. Total requested: \$105,000.00. Total awarded: \$105,000.00. (submitted: December 2012, date funding awarded: April 2013, funded: June 2013 - May 2016).

## Grants

Scherf, K. S. (Principal Investigator), Whyte, E. (Post Doctoral Scholar), White, M. (Consultant), Smyth, J. (Co-Investigator), Geier, C. (Co-Investigator), Grant, "Incorporating eye tracking technology in an online educational game for adolescents with autism," Center for Online Innovation in Learning, Penn State. \$50,000.00. January 2015 - December 2016

Scherf, K. S. (Principal Investigator), Whyte, E. (Post Doctoral Associate), Smyth, J. (Co-Investigator), Borge, M. (Consultant), Dawson, P. (Consultant), Grant, "Using online learning technology to improve social skills for individuals with autism," PSU Center for Online Innovation for Learning Research Initiation Grant, Penn State. \$50,000.00. September 2013 - August 2014

Scherf, K. S. (Principal Investigator), Behrmann, M. (Co-Principal Investigator), "Inducing Plasticity in Cortical Connectivity via a Novel Intervention in ASD," PA Department of Health and Human Services, Universities and Colleges. \$790,000. August 1 2009 – July 31, 2013