

CURRICULUM VITAE
Matthew Schlesinger

CONTACT INFORMATION

Department of Psychology
Southern Illinois University
Carbondale, IL 62901

Office: (618) 453-3524
Lab: (618) 453-3537
Fax: (618) 453-3563

matthews@siu.edu
<http://matthew.siu.edu>

EDUCATION

<u>Degree</u>	<u>Institution</u>	<u>Major</u>	<u>Date Awarded</u>
Ph.D.	U.C. Berkeley	Developmental Psychology Advisor: Jonas Langer, Ph.D.	December, 1995
B.A.	U.C. San Diego	Psychology Advisor: Joan Stiles, Ph.D. Minor: Applied Mathematics	June, 1989

PROFESSIONAL EXPERIENCE

TEACHING/RESEARCH POSITIONS

- **Associate Professor**, Brain and Cognitive Sciences Program, Psychology Department, Southern Illinois University Carbondale, 2005 - present
- **Associate Professor (Adjunct)**, Department of Electrical and Computer Engineering, Southern Illinois University Carbondale, 2010 - present
- **Assistant Professor**, Brain and Cognitive Sciences Program, Psychology Department, Southern Illinois University Carbondale, 2000 - 2005
- **Senior Postdoctoral Researcher**, Adaptive Networks Laboratory, Computer Science Department, University of Massachusetts at Amherst, 1998 - 2000
- **Fulbright Postdoctoral Fellow**, Department of Neural Systems and Artificial Life, Institute of Psychology, National Research Council, Rome, Italy, 1997
- **Lecturer**, Psychology Department and Education Extension Program, U.C. Berkeley, 1996

ADMINISTRATIVE POSITIONS

- **Director**, Vision Lab (visionlab.siu.edu), Psychology Department, Southern Illinois University Carbondale, 2000 – present
- **Founder/Director**, Cognitive Science Colloquium, Southern Illinois University Carbondale, 2000 – 2004

HONORS AND AWARDS

- Dean's Faculty Appreciation Award, SIUC College of Liberal Arts, 2002
- Distinguished Faculty Award, SIUC Undergraduate Student Government, 2001
- Fulbright Research Fellow, Rome, Italy, 1997
- Graduate Research Grant, Institute of Human Development, U.C. Berkeley, 1995
- Dissertation Research Grant, Psychology Department, U.C. Berkeley, 1995
- NIH/NICHD Predoctoral Fellow in developmental psychology, 1991 - 1993
- Graduate Research Award, Sigma Xi Honor Society, 1993
- University of California Regents Graduate Fellow, U.C. Berkeley, 1989 - 1990
- Summa cum laude graduate with highest honors in Psychology, U.C. San Diego, 1989
- Elected member, Phi Beta Kappa honor society, 1988

RESEARCH FUNDING

EXTERNAL

- **Principal Investigator**, "Microanalytic approaches to studying infants' attention," NIH/NICHD R03 HD40789-02, 2000-2003 (total costs = \$141,000)

INTERNAL

- **Principal Investigator**, "Measuring visual preferences in infants and young children with autism," SIUC Internal Grant, 2010-2011 (total costs = \$10,000)
- **Co-Principal Investigator**, "Contingency perception as a behavioral marker for normal versus pathological development in infants and young children," Seed Grant from the SIUC Center for Integrative Research in the Cognitive and Neural Sciences, 2009-2010 (total costs = \$9,000)
- **Faculty Supervisor**, "Neural bases of memory-guided tracking: Enhancing memory through intermittent vision," SIUC REACH Undergraduate Research Award to Joshua Chin, 2009-2010 (total costs = \$6,000)
- **Principal Investigator**, "Neural substrates for occluded motion processing," SIUC Internal Grant, 2007-2010 (total costs = \$30,000)
- **Faculty Supervisor**, "Haptic experience facilitates visual working memory: A behavioral and fMRI study," SIUC REACH Undergraduate Research Award to Kimberly Bell, 2007-2008 (total costs = \$6,000)
- **Principal Investigator**, "Social influences on infants' problem-solving," SIUC Faculty Creative-Research Grant, 2003-2004 (total costs = \$5,850)

- **Principal Investigator**, "Gaze-direction analysis in young infants," SIUC Internal Grant, 2002-2003 (total costs = \$4,500)

OTHER FUNDING

- **First Author**, "An external focus of attention enhances manual tracking performance," SIUC COPE Fund Open-Access Grant for publication in *Frontiers*, 2013 (total cost = \$1,200)
- **First Author**, "Image free-viewing as intrinsically-motivated exploration: Estimating the learnability of center-of-gaze image samples in infants and adults," SIUC COPE Fund Open-Access Grant for publication in *Frontiers*, 2013 (total cost = \$650)
- **First Author**, "Prediction-learning in infants as a mechanism for gaze control during object exploration," SIUC COPE Fund Open-Access Grant for publication in *Frontiers*, 2015 (total cost = \$650)

RESEARCH INTERESTS

- **Cognitive Development**: Development of action and perception during infancy and childhood; problem-solving; dual-task processing and divided attention
- **Developmental Cognitive Neuroscience**: Neural bases of vision and visually-guided action; perceptual development; object representations and spatial working memory
- **Computational Models**: Neural-network models of learning, development, and evolution; developmental robotics and machine learning; motor control; nonlinear dynamic systems

PUBLICATIONS

PUBLISHED

Books and Edited Volumes/Proceedings

- Cangelosi, A., & Schlesinger, M. (2015). *Developmental robotics: From babies to robots*. Cambridge, MA: MIT Press.
- Schlesinger, M., Movellan, J., Morrison, C., Nagai, Y., Fasel, I., & Morse, A. (Eds.) (2012). *Proceedings of the Second Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. New York: IEEE.
- Cangelosi, A., Triesch, J., Fasel, I., Rohlfing, K., Nori, F., Oudeyer, P.-Y., Schlesinger, M., and Nagai, Y. (Eds.) (2011). *Proceedings of the First Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. New York: IEEE.
- Schlesinger, M., & Fawcett, C. (2010). *MyTest Test Bank for the World of Children, 2/E*. Boston: Pearson.

- Schlesinger, M., Berthouze, L., & Balkenius, C. (Eds.). (2008). *Proceedings of the Eighth International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems*. Sweden: Lund University Cognitive Studies.

Journal Articles

- Schlesinger, M., Johnson, S.P., & Amso, D. (2014). Prediction-learning in infants as a mechanism for gaze control during object exploration. *Frontiers in Perception Science*, 5, 1-12. doi: 10.3389/fpsyg.2014.00441
- Schlesinger, M., & Amso, D. (2013). Image free-viewing as intrinsically-motivated exploration: Estimating the learnability of center-of-gaze image samples in infants and adults. *Frontiers in Cognitive Science*, 4, 1-12. doi: 10.3389/fpsyg.2013.00802
- Schlesinger, M., Porter, J., & Russell, R. (2013). An external focus of attention enhances manual tracking performance. *Frontiers in Movement Science and Sport Psychology*, 3, 1-9. doi: 10.3389/fpsyg.2012.00591
- Schlesinger, M., Amso, D., & Johnson, S.P. (2012). Simulating the role of visual selective attention during the development of perceptual completion. *Developmental Science*, 15, 739-752.
- Schlesinger, M., & McMurray, B. (2012). The past, present, and future of computational models of cognitive development. *Cognitive Development*, 27, 326-348.
- Adams, S.S., Arel, I., Bach, J., Coop, R., Furlan, R., Goertzel, B., Hall, J.S., Samsonovich, A., Scheutz, M., Schlesinger, M., Shapiro, S.C., & Sowa, J. (2012). Mapping the landscape of human-level artificial general intelligence. *AI Magazine*, 33, 25-42.
- Schlesinger, M., Amso, D., & Johnson, S.P. (2007a). The neural basis for visual selective attention in young infants: A computational account. *Adaptive Behavior*, 15, 135-148.
- Schlesinger, M. (2006a). Decomposing infants' object representations: A dual-route processing account. *Connection Science*, 18, 207-216.
- Schlesinger, M. (2004). Evolving agents as a metaphor for the developing child. *Developmental Science*, 7, 158-164.
- Schlesinger, M., & Parisi, D. (Eds.). (2004). Beyond backprop: Emerging trends in connectionist models of development. [Special section]. *Developmental Science*, 7, 131-132.
- Schlesinger, M. (2003). A lesson from robotics: Modeling infants as autonomous agents. *Adaptive Behavior*, 11, 97-107.
- Schlesinger, M., & Casey, P. (2003a). Where infants look when impossible things happen: Simulating and testing a gaze-direction model. *Connection Science*, 15, 271-280.
- Parisi, D., & Schlesinger, M. (2002). Artificial Life and Piaget. *Cognitive Development*, 17, 1301-1321.
- Schlesinger, M., & Parisi, D. (2001a). The agent-based approach: A new direction for computational models of development. *Developmental Review*, 21, 121-146.

- Schlesinger, M., & Parisi, D. (2001b). Multimodal control of reaching: The role of tactile feedback. *IEEE Transactions on Evolutionary Computation: Special Section on Evolutionary Computation and Cognitive Science*, 5, 122-128.
- Schlesinger, M., Parisi, D., & Langer, J. (2000). Learning to reach by constraining the movement search space. *Developmental Science*, 3, 67-80.
- Schlesinger, M., & Langer, J. (1999). Infants' developing expectations of possible and impossible tool-use events between ages 8 and 12 months. *Developmental Science*, 2, 195-205.
- Langer, J., Schlesinger, M., Spinozzi, G., & Natale, F. (1998). Developing classification in action: I. Human infants. *Human Evolution*, 13, 107-124.
- Spinozzi, G., Natale, F., Langer, J., & Schlesinger, M. (1998). Developing classification in action: II. Young chimpanzees (*Pan troglodytes*). *Human Evolution*, 13, 125-139.

Proceedings Papers

- Mahdi, A., Schlesinger, M., Amso, D., & Qin, J. (2015). Infants' gaze pattern analysis using contrast entropy minimization. In *Proceedings of the Fifth Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. New York: IEEE.
- Schlesinger, M., Johnson, S.P., & Amso, D. (2015). Do infants' gaze sequences predict their looking time? Testing the sequential-learnability model. In *Proceedings of the Fifth Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. New York: IEEE.
- Schlesinger, M., Johnson, S.P., & Amso, D. (2014). Learnability of infants' center-of-gaze sequences predicts their habituation and posthabituation looking time. In *Proceedings of the Fourth Joint IEEE Conference on Development and Learning and on Epigenetic Robotics* (pp. 267-272). New York: IEEE.
- Schlesinger, M., Amso, D., Johnson, S.P., Hantehzadeh, N., & Gupta, L. (2012). Using the iCub simulator to study perceptual development: A case study. In M. Schlesinger, J. Movellan, C. Morrison, Y. Nagai, I. Fasel, & A. Morse (Eds.), *Proceedings of the Second Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. New York: IEEE.
- Schlesinger, M., Amso, D., & Johnson, S.P. (2011). Increasing spatial competition enhances visual prediction learning. In A. Cangelosi, J. Triesch, I. Fasel, K. Rohlfing, F. Nori, P.-Y. Oudeyer, M. Schlesinger, & Y. Nagai (Eds.), *Proceedings of the First Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. New York: IEEE.
- Schlesinger, M. (2008). Heterochrony: It's (all) about time! In M. Schlesinger, L. Berthouze, & C. Balkenius (Eds.), *Proceedings of the Eighth International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems* (pp. 111-117). Sweden: Lund University Cognitive Studies.
- Schlesinger, M., Amso, D., & Johnson, S.P. (2007b). Simulating infants' gaze patterns during the development of perceptual completion. In L. Berthouze, C.G. Prince, M. Littman, H. Kozima, & C. Balkenius (Eds.), *Proceedings of the Seventh International*

Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems (pp. 157-164). Sweden: Lund University Cognitive Studies.

- Schlesinger, M. (2006b). Neural constraints on the development of perceptual completion: A computational account. In the *Proceedings of the Fifth International Conference on Development and Learning*. Bloomington, IN: Department of Psychological and Brain Sciences.
- Schlesinger, M., & Limongi, R. (2005). Towards a what-and-where model of infants' object representations. In D. Blank & L. Meeden (Eds.), *Proceedings of the AAAI 2005 Spring Symposium on Developmental Robotics*.
- Schlesinger, M., & Casey, P. (2003b). Visual expectations in infants: Evaluating the gaze-direction model. In C.G. Prince, L. Berthouze, H. Kozima, D. Bullock, G. Stojanov, & C. Balkenius (Eds.), *Proceedings of the Third International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems*. (pp. 115-122). Sweden: Lund University Cognitive Studies.
- Schlesinger, M., & Young, M.E. (2003). Examining the role of prediction in infants' physical knowledge. In R. Alterman and D. Kirsh (Eds.), *Proceedings of the Twenty-Fifth Annual Meeting of the Cognitive Science Society* (pp. 1047-1052). Boston: Cognitive Science Society.
- Schlesinger, M. (2002). A lesson from robotics: Modeling infants as autonomous agents. In C.G. Prince, Y. Demiris, Y. Marom, H. Kozima, & C. Balkenius (Eds.), *Proceedings of the Second International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems* (pp. 133-140). Sweden: Lund University Cognitive Studies.
- Berthier, N.E., Barto, A.G., and Schlesinger, M. (2000). Learning and dynamics. *Proceedings of the NSF DARPA Conference on Learning and Development*.
- Schlesinger, M., & Barto, A. (1999). Optimal control methods for simulating the perception of causality in young infants. In M. Hahn & S.C. Stoness (Eds.), *Proceedings of the Twenty-First Annual Conference of the Cognitive Science Society* (pp. 625-630). New Jersey: Erlbaum.

Chapters

- Schlesinger, M. (2013). Investigating the origins of intrinsic motivation in human infants. In G. Baldassarre & M. Mirolli (Eds.), *Intrinsically motivated learning in natural and artificial systems* (pp. 367-392). Berlin: Springer-Verlag.
- Schlesinger, M. (2009a). The robot as a new frontier for connectionism and dynamic systems theory. Invited chapter in J.P. Spencer, M.S.C Thomas, & J.L. McClelland (Eds.), *Toward a unified theory of development: Connectionism and dynamic systems theory re-considered* (pp. 182-199). New York: Oxford University Press.
- Schlesinger, M. (2009b). Connectionism. Invited chapter in E.M. Anderman & L.H. Anderman (Eds.), *Psychology of classroom learning: An encyclopedia*, (pp. 260-262). New York: Cengage.

- Schlesinger, M., & Parisi, D. (2007). Connectionism in an Artificial Life perspective: Simulating motor, cognitive, and language development. In D. Mareschal, S. Sirois, G. Westermann, & M.H. Johnson (Eds.), *Neuroconstructivism: Vol. 2. Perspectives and prospects* (pp. 129-158). Oxford, UK: Oxford University Press.
- Langer, J., Rivera, S., Schlesinger, M., & Wakeley, A. (2003). Cognitive development in the first two years. In J. Valsiner and K. Connolly (Eds.), *Handbook of developmental psychology* (pp. 141-171). London: Sage Publications.
- Schlesinger, M., & Parisi, D. (2001c). Coordinating multiple sensory modalities while learning to reach. In B. French and J. Sougne (Eds.), *Connectionist models of learning, development, and evolution* (pp. 113-122). Sage: London.

Commentaries/Reviews

- Schlesinger, M. (2015). The interface theory of perception leaves me hungry for more: Commentary on Hoffman, Singh, and Prakash, “The interface theory of perception.” *Psychonomic Bulletin and Review*, 22, 1548-1550. doi: 10.3758/s13423-014-0776-1
- Schlesinger, M. & Amso, D. (2011). Oculomotor skill supports the development of object representations. *Behavioral and Brain Sciences*, 34, 147-148.
- Schlesinger, M. (2006c). Review of the book *Computational Developmental Psychology*. *Philosophical Psychology*, 19, 557-561.
- Schlesinger, M. (2001a). Reexamining visual cognition in human infants: On the necessity of representation. *Behavioral and Brain Sciences*, 24, 1003-1004.
- Schlesinger, M. (2001b). Building a better baby: Embodied models of infant cognition. *Trends in Cognitive Sciences*, 5, 139.

SUBMITTED/IN PRESS/PREPARATION

- Schlesinger, M. (in press). The Interface Theory of perception leaves me hungry for more. To appear in *Psychonomic Bulletin and Review*.
- Schlesinger, M., Johnson, S.P., & Amso, D. (submitted). Do infants’ gaze sequences predict their looking time? Testing the sequential-learnability model. Submitted to the *Fifth Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*.
- Schlesinger, M., Russell, R., & Porter, J. (in preparation). Does flow predict focus? Individual differences in mindfulness are associated with focused attention during a visual-motor coordination task.
- Cangelosi, A., & Schlesinger, M. (in press). Developmental psychology meets simulation and robotics. In S. Di Nuovo & A. Cangelosi. (Eds), *The simulated mind*. Giunti Editore.

THESES

- Schlesinger, M. (1995). Infants' developing knowledge of causality: Perception, action, and perception-action relations. Unpublished doctoral thesis, University of California at Berkeley.
- Schlesinger, M. (1991). Sensorimotor classifying and perceptual categorizing in 6-month-old infants. Unpublished masters thesis, University of California at Berkeley.

- Schlesinger, M. (1989). The development of spatial cognition in young children. Unpublished honors thesis, University of California at San Diego.

PRESENTATIONS

SYMPOSIA/WORKSHOPS

- “IJCNN Special Session on Cognition and Development”. (2015, July). Organized with A. Di Nuovo and A. Cangelosi, *International Joint Conference on Neural Networks*, Killarney, Ireland.
- "Developmental robotics: Designing machines that grow and learn". (2012, June). Workshop at the *International Conference on Infant Studies*, Minneapolis, MN.
- "Toward a constructivist account of the development of spatial completion". (2006, June). Invited symposium at the *Fifth International Conference on Development and Learning*, Bloomington, IN.
- "Modeling evolution and development through artificial neural networks". (2001, August). Invited symposium at the *European Conference on Developmental Psychology*, Uppsala, Sweden.

INVITED TALKS/COLLOQUIA

- “A beginner’s guide to developmental robotics”. (2014, March). Presented at the *SIUC Psychology Department Research Seminar*, Carbondale, IL.
- “The ‘eyes’ have it: Toward an active-vision model of early perceptual development”. (2013, March). Presented at the *2013 Spring School on Developmental Robotics and Cognitive Bootstrapping*, Athens, Greece.
- “Developmental robotics: An introduction and overview”. (2012, June). Presented at the *International Conference on Infant Studies*, Workshop on Developmental Robotics, Minneapolis, MN.
- “Simulating infants’ visual expectations”. (2012, May). Presented at the Institute of Cognitive Science and Technology, National Research Council, Rome, Italy.
- ”Spatial competition supports the development of visual selective attention in human infants: A neurocomputational account”. (2011, May). Presented at the *IM-CLeVeR Cognitive Robotics Spring School*, 2011 CapoCaccia Cognitive Neuromorphic Engineering Workshop, Sardinia, Italy.
- “Close encounters: Early parent-child interaction as a model for developmental robotics”. (2011, April). Presented at the University of Iowa *Delta Center Spelman-Rockefeller Workshop*, Iowa City, Iowa.
- “What’s the frequency, mama? Socioemotional and cognitive components of early caretaker-infant communication”. (2010, November). Presented at the *2010 Interdisciplinary Workshop on Society, Culture, and Language*, University of Plymouth, Plymouth, U.K.

- “What babies think”. (2010, October). Presented at the Carbondale Science Center *Science Cafe*, Carbondale, IL
- “Modeling the neural bases for perceptual completion in infants”. (2010, July). Presented at the School of Computing and Mathematics, University of Plymouth, Plymouth, U.K.
- “Getting ‘value’ from vision: Investigating where infants look, and why.” (2009, November). Presented at the *IM-CLeVeR International Workshop on Intrinsic Motivation*, Venice, Italy.
- “Doing more with less: Saliency-based models of perception, memory, and attention”. (2008, November). Presented at the Department of Psychology, Illinois State University, Normal, IL.
- “From milliseconds and minutes to days and years: Time for a developmental theory of everything?” (2005, June). Presented at the *Conference on Connectionist and Dynamic Systems Approaches to Development*, Iowa City, IA.
- “Darwotsky: An artificial life path from Darwin to Vygotsky”. (2004, December). Presented at the James S. McDonnell *Workshop on Teaching*, St. Louis, MO.
- “The evolution of sex: An artificial life approach”. (2004, November). Presented at the *Second Workshop on the Emergence of Sex Differences in Early Childhood*, Brown University, Providence, RI.
- "On the necessity of innate object knowledge in infants". (2002, October). Presented at the *Third Workshop on the Genesis of Perception*, Paris, France.
- "Modeling infants' expectations from the bottom up". (2002, August). Presented at the Department of Psychology, Birkbeck College, University of London, England.
- "What do infants really know, anyway? Bridging the action-perception gap in early infant knowledge". (2001, March). Presented at the Department of Psychology, University of Illinois, Urbana-Champaign, Champaign, IL.
- "Convergent methods for studying young infants' expectations". (2000, November). Presented at the Institute of Psychology, National Research Council, Rome, Italy.
- "Microanalytic approaches to studying infants' expectations during possible and impossible events." (1999, November). Presented at the Department of Psychology, University of Massachusetts at Amherst.
- "Sensorimotor control in artificial neural networks". (1998, February). Presented at the Computer Science Department, University of Massachusetts at Amherst.
- "Action, perception, and intention in the development of young infants' tool-use." (1997, February). Presented at the Institute of Psychology, National Research Council, Rome, Italy.

PROFESSIONAL MEETINGS

* *indicates student-author*

- *Mahdi, A., Schlesinger, M., Amso, D., & Qin, J. (2015, August). Infants' gaze pattern analysis using contrast entropy minimization. Presented at the *Fifth Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. Providence, RI.
- Schlesinger, M., Johnson, S.P., & Amso, D. (2015, August). Do infants' gaze sequences predict their looking time? Testing the sequential-learnability model. In *Proceedings of the Fifth Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. Providence, RI.
- *Mersman, D., *Russell, L., Schlesinger, M., & Porter, J. (2015, April). Does mindfulness predict the ability to shift cognitive focus? Presented at the *SIUC Undergraduate Creative Activities and Research Forum*. Carbondale, IL.
- *Nunes, E., *Russell, R., & Schlesinger, M. (2015, April). Examining the effects of multimodal feedback on skill acquisition. Presented at the *SIUC Undergraduate Creative Activities and Research Forum*. Carbondale, IL.
- *Russell, L., *Mersman, D., Schlesinger, M., & Porter, J. (2015, April). Examining the influence of shifting focus-of-attention on motor-motor skill performance. Presented at the *SIUC Undergraduate Creative Activities and Research Forum*. Carbondale, IL.
- *Nunes, U., *Russell, R., & Schlesinger, M. (2015, April). Do visual imagery, mental rotation, and visual working memory share the same underlying mechanism? Presented at the *SIUC Graduate Student Creative Activities and Research Forum*. Carbondale, IL.
- Schlesinger, M., Johnson, S.P., & Amso, D. (2014, October). Learnability of infants' center-of-gaze sequences predicts their habituation and posthabituation looking time. Presented at the *Fourth Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. Genoa, Italy.
- *McGuire, M., *Russell, R., & Schlesinger, M. (2014, April). Action video-game experience predicts statistical learning. AWARDED BEST PRESENTATION IN SOCIAL SCIENCES. Presented at the *St. Louis Area Undergraduate Research Symposium*. Carbondale, IL.
- *Russell, L., *Huston, B., Schlesinger, M., & Porter, J. (2014, April). Mindfulness predicts visual-motor coordination performance. Presented at the *St. Louis Area Undergraduate Research Symposium*. Carbondale, IL.
- *McGuire, M., *Russell, R., & Schlesinger, M. (2014, April). Action video-game experience predicts statistical learning. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- *Haas, S., Schlesinger, M., & Amso, D. (2013, October). Developmental change in bottom-up attention orienting to faces in cluttered natural scenes. Presented at the *Eighth Biennial Meeting of the Cognitive Development Society*. Memphis, TN.
- Schlesinger, M., Amso, D., Johnson, S.P., Hantehzadeh, N., & Gupta, L. (2012, November). Using the iCub simulator to study perceptual development: A case study. Presented at the *Second Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. San Diego, CA.

- *Russell, R., Schlesinger, M., & Porter, J. (2012, September). Target visibility does not modulate focus of attention during manual tracking. Presented at the *Sixth Annual Southern Illinois Region Neuroscience Retreat*. Collinsville, IL.
- *Russell, R., Schlesinger, M., & Porter, J. (2012, June). An external focus of attention enhances manual tracking performance. Presented at the *Sixth Annual Illinois Research Conference*. Edwardsville, IL.
- *Mayer, J., & Schlesinger, M. (2012, June). The effect of secondary task type on the maintenance of object representations in a dual task paradigm. Presented at the *Sixth Annual Illinois Research Conference*. Edwardsville, IL.
- Schlesinger, M., Amso, D., & Johnson, S.P. (2011, August). Increasing spatial competition enhances visual prediction learning. Presented at the *First Joint IEEE Conference on Development and Learning and on Epigenetic Robotics*. Frankfurt, Germany.
- *Mayer, J., & Schlesinger, M. (2011, August). The effect of dividing attention on the maintenance of object representations. Presented at the *Fifth Annual Illinois Research Conference*. Carbondale, IL.
- *Huebner, M., & Schlesinger, M. (2011, April). The effect of aperture size on perception of occluded motion. Presented at the *St. Louis Area Undergraduate Research Symposium*. Carbondale, IL.
- *Lemish, E., & Schlesinger, M. (2011, April). Gender differences in object location memory. Presented at the *St. Louis Area Undergraduate Research Symposium*. Carbondale, IL.
- *Huebner, M., & Schlesinger, M. (2011, April). The effect of aperture size on perception of occluded motion. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- *Lemish, E., & Schlesinger, M. (2011, April). Gender differences in object location memory. AWARDED BEST ALL-AROUND PRESENTATION. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- Schlesinger, M. (2010, September). Improving spatial working memory through intermittent visual feedback: behavioral and neuroimaging evidence. Presented at the *Fifth Southern Illinois Region Neuroscience Retreat*. Collinsville, IL.
- *Geeseman, J., & Schlesinger, M. (2010, June). The influence of auditory cues on visual-spatial perception. Presented at the *Fourth Annual Illinois Research Conference*. Normal, IL.
- *Russell, R., & Schlesinger, M. (2010, June). Using dual-task interference to isolate the object-binding process. Presented at the *Fourth Annual Illinois Research Conference*. Normal, IL.
- Schlesinger, M. (2010, June). To see or not to see: Do brief visual samples of the target improve tracking performance? Presented at the *Fourth Annual Illinois Research Conference*. Normal, IL.

- *Chin, J., & Schlesinger, M. (2010, April). Neural correlates of visually-guided and memory-guided actions. Presented at the *St. Louis Area Undergraduate Research Symposium*. Carbondale, IL.
- *Greenlee, E., & Schlesinger, M. (2010, April). Dual-task interference on object representations. Presented at the *St. Louis Area Undergraduate Research Symposium*. Carbondale, IL.
- *Chin, J., & Schlesinger, M. (2010, March). Neural correlates of visually-guided and memory-guided actions. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- *Greenlee, E., & Schlesinger, M. (2010, March). Dual-task interference on object representations. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- Schlesinger, M. (2010, March). Simulating the early development of visual selective attention. Presented at the *International Conference on Infant Studies*. Baltimore, MD.
- Schlesinger, M. (2009, October). Get ALife: Agent-based models of learning, development, and evolution. Presented at the meeting of the *Society for the Study of Human Development*. Ann Arbor, MI.
- *Perschler, P., & Schlesinger, M. (2009, June). An analysis of spatial memory by sex and phase of the menstrual cycle. Presented at the *Third Annual Illinois Research Conference*. Edwardsville, IL.
- *Geeseman, J., & Schlesinger, M. (2009, June). Can sound influence visuospatial perception? Presented at the *Third Annual Illinois Research Conference*. Edwardsville, IL.
- Schlesinger, M. (2009, June). The perils of memory-guided action: (When) is it better to measure twice and cut once? Presented at the *Third Annual Illinois Research Conference*. Edwardsville, IL.
- *Chin, J., & Schlesinger, M. (2009, April). Intermittent vision restores the speed-accuracy tradeoff during memory-guided tracking. Presented at the *Midwest Undergraduate Cognitive Science Conference*. Bloomington, IN.
- *Greenlee, E., & Schlesinger, M. (2009, April). Investigating the speed-accuracy tradeoff during visually- and memory-guided tracking. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- *Bowen, C., & Schlesinger, M. (2009, March). Effects of different feedback schedules on accuracy during memory-guided tracking. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- *Chin, J., & Schlesinger, M. (2009, March). Intermittent vision restores the speed-accuracy tradeoff during memory-guided tracking. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.

- *Geeseman, J., & Schlesinger, M. (2009, March). Visuo-motor representations vary as a function of online feedback: Visually-guided vs. memory-guided tracking. Presented at the *Meeting of the Cognitive Neuroscience Society*. San Francisco, CA.
- *Bell, K., & Schlesinger, M. (2008, March). Does haptic experience facilitate visuo-spatial working memory? Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- Schlesinger, M. (2008, July). Heterochrony: It's (all) about time! Presented at the *Eighth International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems*. Brighton, United Kingdom.
- Schlesinger, M. (2007, November). Simulating infants' gaze patterns during the development of perceptual completion. Presented at the *Seventh International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems*. New Brunswick, NJ.
- Schlesinger, M. (2007, June). Fitts' Law bends but doesn't break: Occluded tracking reverses the speed-accuracy tradeoff. Presented at the *First Annual Illinois Research Conference*. Normal, IL.
- *Lancaster, M., & Schlesinger, M. (2006, March). Decomposing adults' causal reasoning: A feature-based approach. Presented at the *SIUC Undergraduate Research Forum*. Carbondale, IL.
- Schlesinger, M. (2006, June). Neural constraints on the development of perceptual completion: A computational account. Presented at the *Fifth International Conference on Development and Learning*. Bloomington, IN..
- Schlesinger, M., & *Limongi, R. (2005, March). Towards a what-and-where model of infants' object representations. Presented at the *AAAI 2005 Spring Symposium on Developmental Robotics*, Stanford, CA.
- Schlesinger, M., & *Casey, P. (2003, August). Visual expectations in infants: Evaluating the gaze-direction model. Presented at the *Third International Workshop on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems*, Boston, MA.
- *Casey, P., & Schlesinger, M. (2003, April). Where infants look when impossible things happen. Presented at the meeting of the *Society for Research in Child Development*, Tampa, Florida.
- Schlesinger, M. (2002, August). A lesson from robotics: Modeling infants as autonomous agents. Presented at the *Second International Workshop on Epigenetic Robotics*, Edinburgh, Scotland.
- Schlesinger, M. (2002, May). New methods for studying infants' expectations. Presented at the *Show Me Mental State Meeting on Cognition*, St. Louis, Missouri.
- Schlesinger, M. (2001, October). Simulating infants' expectations for possible and impossible events. Presented at the meeting of the *Cognitive Development Society*, Virginia Beach, Virginia.
- Schlesinger, M. (2001, August). Modeling development from an agent-based perspective. Presented at the *European Conference on Developmental Psychology*, Uppsala, Sweden.

- Schlesinger, M. (2001, June). The importance of being autonomous: Agent-based models of sensorimotor development. Presented at the meeting of the *Jean Piaget Society*, Berkeley, CA.
- Schlesinger, M. (2001, April). Do infants track possible and impossible events in the same way? Presented at the meeting of the *Society for Research in Child Development*, Minneapolis, Minnesota.
- Schlesinger, M., & Parisi, D. (2000, September). Coordinating multiple sensory modalities while learning to reach. Presented at the *Sixth Neural Computation and Psychology Workshop*, Liege, Belgium.
- Schlesinger, M. (2000, July). How infants track possible and impossible events: A simulation study. Presented at the *International Conference on Infant Studies*, Brighton, England.
- Schlesinger, M., & Barto, A. (1999, August). Optimal control methods for simulating the perception of causality in young infants. Presented at the *Twenty First Annual Meeting of the Cognitive Science Society*, Vancouver, Canada.
- Schlesinger, M. (1997, September). Cognitive development in agent-based models. Presented at the national meeting of the *Italian Psychological Association*, Capri, Italy.
- Schlesinger, M. (1997, April). Young infants' developing perception of possible and impossible tool-use events. Presented at the meeting of the *Society for Research in Child Development*, Washington, D.C.
- Schlesinger, M. (1997, April). Magicphenomenalism in young infants' developing tool-use. Presented at the meeting of the *Society for Research in Child Development*, Washington, D.C.
- Schlesinger, M. (1995, May). Perception of occluded causality in young infants. Presented at the *Berkeley-Stanford Developmental Meeting*, Berkeley, CA.
- Schlesinger, M. (1994, June). Small number conservation in an artificial neural network. Presented at the meeting of the *Jean Piaget Society*, Chicago, IL.
- Schlesinger, M. (1994, June). Piaget and connectionism: Can an artificial neural network learn the concept of number conservation? Presented at the meeting of the *American Association for the Advancement of Science (Pacific Division)*, San Francisco, CA.
- Schlesinger, M., & Langer, J. (1994, June). Perceptual and conceptual causality in 10-month-old infants. Presented at the meeting of the *Jean Piaget Society*, Chicago, IL.
- Schlesinger, M. (1994, May). Causal perception and action in young infants. Presented at the *Stanford-Berkeley Developmental Meeting*, Stanford, CA.
- Schlesinger, M. (1994, March). Conservation of small number in an artificial neural network. Presented at the meeting of the *Cognitive Neuroscience Society*, San Francisco, CA.
- Schlesinger, M., & Langer, J. (1993, March). The developmental relations between sensorimotor classification and perceptual categorization in early infancy. Presented at the meeting of the *Society for Research in Child Development*, New Orleans, LA.

MENTORED STUDENTS

DOCTORAL DISSERTATIONS

- Joseph Geeseman, “Auditory cues and response modes mediate peripheral visual mislocalization,” SIUC Ph.D. Dissertation, completed 2012.
- Neda Hantehzadeh, “Biologocially-inspired model of automatic target recognition,” SIUC Ph.D. Dissertation, in progress (co-chaired with Lalit Gupta, SIUC ECE).
- Jillian Mayer, “The influence of dual-route visual processing on the maintenance of object representations,” SIUC Ph.D. Dissertation, in progress.

MASTERS THESES

- Robert Russell, “The effects of action-video game experience on perceptual-motor processing,” SIUC M.A. Thesis, completed 2012.
- Joseph Geeseman, “The influence of auditory cues on visual-spatial perception,” SIUC M.A. Thesis, completed 2010.
- Jillian Mayer, “The effect of dividing attention on the maintenance of object representations,” SIUC M.A. Thesis, completed 2010.

UNDERGRADUATE HONORS THESES

- Joshua Chin, “Neural bases of memory-guided tracking: Enhancing memory through intermittent vision,” SIUC REACH Project and Psychology Honor’s Thesis, completed 2010.
- Eric Greenlee, “Dual-task interference of object representations,” SIUC Psychology Honor’s Thesis, completed 2010.
- Kimberly Bell, “Haptic experience facilitates visual working memory: A behavioral and fMRI study,” SIUC REACH Project and Psychology Honor’s Thesis, completed 2008.
- Matthew Lancaster, “Decomposing adults’ causal reasoning: A feature-based approach,” SIUC Psychology Honor’s Thesis, completed 2006.

TEACHING INTERESTS

- | | |
|---|--|
| <ul style="list-style-type: none"> • Developmental Psychology • Cognitive Development • Computational Modeling • Cognitive Psychology | <ul style="list-style-type: none"> • Cognitive Science • Sensation and Perception • Evolutionary Psychology • Developmental Neuroscience |
|---|--|

TEACHING EXPERIENCE

2000 – present **Psychology Department, Southern Illinois University Carbondale**

- Cognitive Development (graduate)
 - Child Psychology (undergraduate)
 - Advanced Child Psychology (undergraduate)
 - Sensation and Perception (undergraduate)
 - Cognitive Science (graduate/undergraduate)
 - Intelligence in Minds and Machines
- 2010 **Undergraduate Honors, Southern Illinois University Carbondale**
- Intelligence in Minds and Machines
- 1990 – 1996 **Psychology Department, U.C. Berkeley**
- Developmental Psychology
 - Cognitive Development
 - Concepts and Categories
 - Advanced Statistics
- 1988 **Psychology Department, U.C. San Diego**
- Introductory Statistics

PROFESSIONAL SERVICE

CHAIR OF PROFESSIONAL ASSOCIATIONS

- **Chair**, *IEEE-CIS Technical Committee on Autonomous Mental Development*, 2014
- **Co-Chair**, *IEEE-CIS Technical Committee on Autonomous Mental Development*, 2011-2013

SCIENTIFIC ADVISORY BOARDS/RESEARCH NETWORKS

- *EUCog III* – 3rd European Network for the *Advancement of Artificial Cognitive Systems, Interaction and Robotics*, 2010-2014
- *iTalk* – European Research Consortium for *Integration and Transfer of Action and Language in Robots*, 2010-2012
- *IM-CLeVeR* - European Research Consortium on *Intrinsic Motivation and Cumulative Learning in Natural and Artificial Systems*, 2009-2013

CONFERENCES/WORKSHOPS ORGANIZED

- **Co-Chair**, *International Conference on Development and Learning and Epigenetic Robotics*, Providence, RI, 2015.
- **Co-Chair**, *Preconference Workshop on Computational Models of Development* at the *International Conference on Infant Studies*, Berlin, Germany, 2014.

- **Co-Chair**, *International Conference on Development and Learning and Epigenetic Robotics*, San Diego, CA, 2012.
- **Co-Chair**, *Preconference Workshop on Computational Models of Development at the International Conference on Infant Studies*, Minneapolis, MN, 2012.
- **Chair**, *Illinois Data Conference*, Carbondale, IL, 2011.
- **Co-Chair**, *Epigenetic Robotics*, Brighton, UK, 2008.
- **Chair**, *Illinois Data Conference*, Carbondale, IL, 2008.

CONFERENCE COMMITTEES

- **Program Committee/Review Panel**, 2000-present

<i>Association for the Advancement of Artificial Intelligence</i>	<i>International Conference on Development and Learning</i>
<i>Cognitive Science Society</i>	<i>Midwest AI and Cognitive Science Society</i>
<i>Epigenetic Robotics</i>	<i>Society for Adaptive Behavior</i>
	<i>Society for Research in Child Development</i>

GRANT REVIEW

- New Investigators Twinning Program, *National Research Council*
- Development and Learning Sciences Program, *NSF*
- *British Engineering and Physical Sciences Research Council*

EDITORIAL/REVIEW ACTIVITIES

- **Associate Editor**, *Transactions on Autonomous Mental Development*, 2008-present
- **Review Editor**, *Frontiers in Developmental Psychology*, 2010-present
- **Editor**, *Epigenetic Robotics*, Proceedings of the Eighth International Conference, 2008
- **Guest Editor**, *Developmental Science*, Special Section on Emerging Trends In Computational Models of Development, 2004
- **Ad-hoc textbook reviewer**, Allyn & Bacon, Lawrence Erlbaum, Pearson-Cengage, Sage, Wadsworth, Wiley-Blackwell, 2000-present
- **Ad-hoc peer-reviewer**, 2000-present

<i>Child Development</i>	<i>Nonlinear Dynamics, Psychology, and Life Sciences</i>
<i>Cognition</i>	<i>Philosophical Psychology</i>
<i>Cognitive Systems Research</i>	<i>Psychological Science</i>
<i>Developmental Psychology</i>	<i>Transactions in Autonomous Mental Development</i>
<i>Developmental Science</i>	<i>Trends in Cognitive Sciences</i>
<i>Frontiers in Developmental Psychology</i>	<i>Visual Cognition</i>
<i>Infant and Child Development</i>	
<i>Journal of Applied Developmental Psychology</i>	
<i>Journal of Consciousness Studies</i>	

UNIVERSITY INITIATIVES/PROGRAMS

- **Founder/Director**, *SIUC Teaching Triads Peer Observation Project*, 2013-present

- **Co-Director** (with James Allen), Initiative in Academic Excellence, SIUC, 2005-2006
- **Coordinator**, *Mind the Gap* Panel Discussion on Academic Excellence, SIUC, 2005
- **Director**, SIUC Cognitive Science Colloquium, 2000-2004

UNIVERSITY/DEPARTMENTAL COMMITTEES

- SIUC Chancellor's UCOL101 NTT Faculty Search Committee, 2014
- SIUC Chancellor's UCOL101 Action Group, 2014
- SIUC Morris/Doctoral Fellowship Committee, 2013-present
- Graduate Admissions Committee, SIUC Psychology Department, 2001-2002, 2007-2008, 2013-2014
- SIUC Faculty Senate, 2012-2013
- SIUC Outstanding Dissertation Committee, 2011-2012
- SIUC Masters Fellowship Committee, 2008-2010
- SIUC Recreation Sports and Services Advisory Committee, 2008-2012
- Dean's Undergraduate Academic Task Force, SIUC College of Liberal Arts, 2004
- Campus Committee on Interdisciplinary Research, SIUC, 2001
- Graduate Recruitment Committee, SIUC College of Liberal Arts, 2001
- Faculty Search Committee, SIUC Psychology Department, 2001-2003
- Freshman/Transfer Student Orientation Program, SIUC, 2001