

VITA

PETER GERHARDSTEIN

Personal Information

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Business Address: Department of Psychology
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Education

- 1993 PhD, University of Minnesota. Major field: Experimental Psychology.
Minor field: Cognitive Science. Advisor: Irving Biederman, PhD.
- 1986 BA, Carleton College, Northfield, MN. Psychology, Computer Science.

Professional Positions

- 2017- Member, Ad hoc committee and then steering committee to establish the
Brain and Behavior Imaging Center at Binghamton University
- 2017- Associate Chair, Center for Imaging and Perceptual Science, an organized
research center at Binghamton University.
- 2016- Chair, Binghamton University Institutional Review Board for Human
Subjects Research
- 2019-23 Director, Cognitive Psychology program, Binghamton University.
- 2018-19 Undergraduate Director, Department of Psychology, Binghamton Univ.
- 2013- Professor, Department of Psychology, Binghamton University.
- 2012-15 Chair, Department of Psychology, Binghamton University.
- 2010-12 Director, Cognitive Psychology program, Binghamton University.
- 2006-09 Chair, Department of Psychology, Binghamton University.
- 2004-13 Associate Professor, Dept. of Psychology, Binghamton University.
- 2003-06 Director of Undergraduate Studies, Department of Psychology,
Binghamton University.

2000-06 Director, Cognitive & Psycholinguistics Sciences Center.

1999-03 Assistant Professor, Department of Psychology, Binghamton Univ.

1997-99 Research Asst. Professor, Dept. of Psychology, Binghamton Univ.

1994-97 Research Associate / Associate Director, Rutgers' Early Learning Project, Department of Psychology, Rutgers University, w. C. RoveeCollier, PhD.

1992-94 Postdoctoral Fellow, McDonnell-Pew Cognitive Neuroscience Center, Dept. of Psychology, University of Arizona, w. M. Peterson, PhD.

Grants Activity

1/15/22 –NSF –BCS - DS -Developmental Sciences (PI). “Development of contour detection and orientation sensitivity in children exposed to differing levels of digital media”. Under revision for submission in Jan., 2024.

4/15/21 – NSF – Co-I, w. L. Yin, PhD (PI). Mid-Scale RI-1 (M1:IP): A Large Scale Multimodal Human Social Interaction Data Warehouse for HumanCentered Computing Research. Not funded.

2/1/21 – NICHD R01 – Co-I w. B. Gibb, PhD (PI), “Development of attentional biases for affective cues in infants of depressed mothers”. Funded.

8/15/18 – NICHD R21 - (Co-I w. B. Gibb, PhD, Binghamton University) “Attentional biases for affective cues in infants of depressed mothers”. Total cost: \$225,000

9/15-12/16 - SUNY Health Network Award: “SUNY Network Partnership for Automated Pain Assessment and Pain Management Research”. Co-I with L. Yin, PhD (Computer Science, BU) and O. Saddik, PhD (Chemistry, BU). Total cost \$150,000.

9/15/10-8/30/17 - NSF Award 1023772 “Transfer of learning from touch screens and television during early childhood”. Co-I with Rachel Barr, PhD, Georgetown University. Total cost \$500,000.

3/15/06-3/14/07 - Binghamton University Interdisciplinary Collaboration Grant Award: “Investigating Children’s Use of Dynamic High-Definition 3D Stimuli to Learn a Difficult Task”, with L. Yin, PhD, Computer Science, Binghamton University. Internal (SUNY) award: \$10,000.

7/01/01-6/30/06 - NICHD-RO1 (PI) “Viewpoint Invariance in Infants’ Perception of Objects”. Total cost \$539,000.

Publications

- Hipp, D., Blakley, E., Gerhardstein, P., Hipp, N., Kennedy, B. & Markle, T. (in press). The digital media overuse scale (dmos©): A modular, extendible and questionnaire for indexing digital media overuse. Technology, Mind, and Behavior.
- Duggan, N., & Gerhardstein, P. (2023). Levels of orientation bias differ across digital content categories: Implications for visual perception. Perception, *52*, 221-237.
- Blakley, E., Gaspelin, N. & Gerhardstein, P. (2022). The development of oculomotor suppression of salient distractors in children. Journal of Experimental Child Psychology, *214*; <https://doi.org/10.1016/j.jecp.2021.105291>
- Hipp, D., Olsen, S. & Gerhardstein, P. (2020). Mind-craft: Exploring the effect of digital visual experience on changes to orientation sensitivity in visual contour perception. Perception, *49*, 1005-1025.
- Gerhardstein, P. & Olsen, S. (2020). Using eye-tracking to parse object recognition: Priming activates primarily a parts-based, but also a late-emerging featuresbased representation. Attention, Perception & Psychophysics, *82*, 3096–3111. <https://doi.org/10.3758/s13414-020-02040-z>
- Learmonth, A. E., Lui, M., Janhofer, E., Barr, R., & Gerhardstein, P. (2019). Comparison of imitation from screens between typically developing preschoolers and preschoolers with autism spectrum disorder. Journal of Cognitive Education and Psychology, *18*, 108-130.
- Moser, A., Olsen, S., S. Rusnak, Barr, R. & Gerhardstein, P. (2019). How selfgenerated labelling shapes transfer of learning during early childhood: The role of individual differences. British Journal of Developmental Psychology, *37*, 6883. <https://doi.org/10.1111/bjdp.12254>
- Sadik, O.A., Yazgan, I., O. Eroglu, P. Liu, S.T. Olsen, A.M. Moser, P.G. Sander, C. Tsiagbe, K. Harada, S. Bajwa, C.D. Tvetenstrand, L. Yin, & P. Gerhardstein (2018). Objective clinical pain analysis using serum cyclooxygenase-2 and inducible nitric oxide synthase in American patients. Clinical Chimica Acta, *484*, 278-283.
- Liu, P., Yazgan, I., Olsen, S., Moser, A., Yazgan, I., Bajwa, S., Tvetenstrand, C., Gerhardstein, P., Sadik, O. & Yin, L. (2018, May). Clinical Valid Pain Database with Biomarker and Visual Information for Pain Level Analysis. In Automatic Face & Gesture Recognition (FG 2018), 2018 13th IEEE International Conference on Facial Recognition (pp. 525-529). IEEE (extended abstract).

- Hipp, D. & Gerhardstein, P. (2018). Sensory Judgement. In (Ed.s), Vonk, J. & Shackelford, T.K., Encyclopedia of Animal Cognition and Behavior. Springer International Publishing AG: Switzerland.
- Gaston, J., Dickerson, K., Hipp, D. & Gerhardstein, P. (2017). Change deafness for real spatialized environmental scenes. Cognitive Research: Principles and Implications, 2, 29-37.
- Dickerson, K., Gerhardstein, P., & Moser, A. (2017). The role of the human mirror neuron system in supporting communication in a digital world. Frontiers in Psychology, 8, 698. doi.org/10.3389/fpsyg.2017.00698
- Hipp, D., Gerhardstein, P., Zimmermann, L., Moser, A., Taylor, G., Barr, R. (2017). The dimensional divide: Learning from TV and touchscreens during early childhood. In: Barr, R., Linebarger, D. (eds) Media Exposure During Infancy and Early Childhood. Springer, Cham. https://doi.org/10.1007/978-3-31945102-2_3.
- Zimmerman, L., Moser, A., Lee, H., Gerhardstein, P., & Barr, R. (2017). The “ghost” in the touch screen: Social scaffolding promotes learning by toddlers. Child Development, 88, 2013-2025. doi:10.1111/cdev.12683
- Barr, R., Moser, A., Rusnak, S., Zimmerman, L., Dickerson, K., Lee, H. & Gerhardstein, P. (2016). The impact of memory load and perceptual cues on puzzle learning by 24-month-olds. Developmental Psychobiology, 58, 817-828.
- Moser, A., Zimmerman, L., Dickerson, K., Grenell, A., Barr, R. & Gerhardstein, P. (2015). They can interact, but can they learn? Transfer learning from touchscreens in toddlers. Journal of Experimental Child Psychology, 137, 137155.
- Zimmerman, L., Moser, A., Grenell, A., Dickerson, K., Yao, Q., Gerhardstein, P. & Barr, R. (2015). Can context facilitate learning and diminish the video deficit effect? Frontiers in Psychology, 6, 561.
- Zhang, X., L. Yin, D. Hipp, & P. Gerhardstein. (2014). Evaluation of Perceptual Biases in Facial Expression Recognition by Humans and Machines. Paper presented and extended version published, International Symposium on Visual Computing (ISVC), Las Vegas, NV, USA.
- Taylor, G., Hipp, D., Moser, A., Dickerson, K. & Gerhardstein, P. (2014). The development of contour processing: Evidence from physiology and psychophysics. Frontiers in Psychology, 5, 1-22.
- Hipp, D., Dickerson, K., Moser, A. & Gerhardstein, P. (2014). Age-related changes in visual contour integration: Implications for physiology from psychophysics. Developmental Psychobiology, 56, 1390-1405.

- Zack, E., Gerhardstein, P., Meltzoff, A.M., & Barr, R. (2013). 15-month-olds' transfer of learning between touch screen and real-world displays: Language cues and cognitive load. Scandinavian Journal of Psychology, 54, 20-25. [L]
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- Dickerson, K., Gerhardstein, P., Zack, E. & Barr, R. (2013). Age-related changes in learning across early childhood: A new imitation task. Developmental Psychobiology, 55, 719-732.
- Gerhardstein, P., Tse, J., Dickerson, K., Hipp, D., & Moser, A. (2012). The human visual system uses a global closure mechanism. Vision Research, 71, 18-27.
- Gerhardstein, P., Dickerson, K., Miller, S., & Hipp, D. (2012). Early operant learning is unaffected by socio-economic status and other demographic factors: A metaanalysis. Infant Behavior and Development, 35, 472-478.
- Zhang, X., Yin, L., Gerhardstein, P., & Hipp, D. (2010). Expression-driven salient features: Bubble-based facial expression study by human and machine. In Proceedings of IEEE International Conference on Multimedia and Expo (ICME 2010: Conference Publication), Singapore, 1184-1189. [L]
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- Zack, E., Barr, R., Gerhardstein, P., Dickerson, K., & Meltzoff, A.N. (2009). Infant imitation from television using novel touch-screen technology. British Journal of Developmental Psychology, 27, 13-26.
- Gerhardstein, P., G. Shroff, K. Dickerson, & S. A. Adler (2009). The development of object recognition through infancy. In (Ed.s), B. C. Glenyn & R. P. Zini, New Directions in Developmental Psychobiology, Ch. 5. Nova Science Publishers: Hauppauge, NY, USA.
- Liu, A., Yaing, D.J, Gerhardstein, P., & Hsu, S. (2008). Relapse of acne following isotretinoin treatment: A retrospective study of 405 patients. Journal of Drugs in Dermatology, 7, 1545-9616.
- Baker, T., Tse, J., Gerhardstein, P., & Adler, S. (2008). Contour integration by 6month-old infants: Discrimination of distinct contour shapes. Vision Research, 48, 136-148.
- Gerhardstein, P., Tse, J., & Kraebel, K. (2007). Empirical support for object constancy in 3-month-old infants using a memory reactivation task. Journal of Early & Intensive Behavioral Intervention, 4, 548-560.
- Kraebel, West, & Gerhardstein (2007). The influence of training views on infant's long-term memory for simple 3D shapes. Developmental Psychobiology, 49, 406-420.

- Gerhardstein, P., Kraebel, K., & Tse, J. (2006). Using operant techniques with human infants. Behavioral Analyst Today, 7, 56-69.
- Kraebel, K. & Gerhardstein, P. (2006). Three-month-olds' recognition of multi-part objects across viewpoint. Infant Behavior and Development, 29, 11-23.
- Kovacs, I., Gerhardstein, P., Ditre, J., Feher, A., Kozma, P., Bebedek, G., & Kaldy, Z. (2004). Normal development of visual integration. In I. Kovacs (Ed.), Visual Integration: Developmental Impairments, Monograph series, Ed. C. Pleh, Neurocognitive Development and Impairments, 5-38.
- Gerhardstein, P., Kovacs, I., Ditre, J., & Feher, A. (2004). Detection of contour continuity and closure in 3-month-olds. Vision Research, 44, 2981-2988.
- Kraebel, K.S., Fable, J., & Gerhardstein, P. (2004). New methodology in infant operant kicking procedures: computerized stimulus control and computerized measurement of kicking. Infant Behavior and Development, 27, 1-18.
- Gerhardstein, P., & West, R. (2003). The relationship between perceptual input and infant memory. In C. Rovee-Collier & L. Lipsitt (Ed.s), Progress in Infancy Research, vol. III, 121-158, Erlbaum Assoc: NJ.
- Gerhardstein, P. (2003). Something for Everyone: A Strong Survey of Current Work with Infants. Review of Progress in Infancy Research, vol. 1. C. Rovee-Collier, L. P. Lipsitt, & H. Hayne (Ed.s), Lawrence Erlbaum Associates, Inc., 2000. Contemporary Psychology.
- Gerhardstein, P., Kraebel, K., Gillis, J., & Lassiter, S. (2002). Visual search for highlevel configural differences as well as low-level critical features is highly efficient early in childhood. Developmental Psychobiology, 41, 241-252.
- Gerhardstein, P., & Rovee-Collier, C. (2002). The development of visual search in infants and very young children. Journal of Experimental Child Psychology, 81, 194-215.
- Gerhardstein, P., Adler, S. A., & Rovee-Collier, C. (2000). A dissociation in infants' memory for stimulus size: Evidence for the early development of multiple memory systems. Developmental Psychobiology, 36, 123-135.
- Peterson, M. A., de Gelder, B., Rapsak, S. Z., Gerhardstein, P. C., & Bachoud-Lévi, A. (2000). Object memory effects on figure assignment: Conscious object recognition is not necessary or sufficient. Vision Research, 40, 1549-1567.
- Gerhardstein, P., Renner, M., & Rovee-Collier, C. (1999). Color pop-out in infants and target-distractor similarity. British Journal of Developmental Psychology, 17, 403-420.

- Peterson, M. A., Gerhardstein, P., Mennemeier, M., & Rapcsak, S. Z. (1998). Object-centered attentional biases and object recognition contributions to scene segmentation in left- and right-hemispheric-damaged patients. Psychobiology, 26, 357-370.
- Gerhardstein, P., Peterson, M. P., & Rapcsak, S. Z. (1998). Age-related hemispheric asymmetry in object discrimination. Journal of Clinical and Experimental Neuropsychology, 20, 174-185.
- Gerhardstein, P., Liu, J., & Rovee-Collier, C. (1998). Perceptual constraints on infant memory retrieval. Journal of Experimental Child Psychology, 69, 109-131.
- Hartshorn, K., Rovee-Collier, C., Gerhardstein, P., Bhatt, R. S., Klein, P., Aaron, F., Wondoloski, T., & Wurtzel, N. (1998). Developmental changes in the specificity of memory over the first year of life. Developmental Psychobiology, 33, 61-78.
- Adler, S. A., Inslicht, S. S., Rovee-Collier, C., & Gerhardstein, P. (1998). Perceptual asymmetries and memory retrieval in three-month-old infants. Infant Behavior and Development, 21, 253-272.
- Hartshorn, K., Rovee-Collier, C., Gerhardstein, P., Bhatt, R., Wondoloski, T., Klein, P., Gilch, J., & Wurtzel, N., & Campos-de-Carvalho, M. (1998). The ontogeny of learning and memory over the first year-and-a-half of life. Developmental Psychobiology, 32, 69-89.
- Adler, S. A., Gerhardstein, P., & Rovee-Collier, C. (1998). Levels-of-processing effects in infant memory. Child Development, 69, 280-294.
- Rovee-Collier, C. & Gerhardstein, P. (1997). The development of infant memory. In N. Cowan (Ed.), The development of memory in childhood (ch. 2, pp. 5-40). Hove East Sussex, UK: Psychology Press.
- Biederman, I. Gerhardstein, P., Cooper, E. E., & Nelson, C. A. (1997). High-level object recognition without an anterior temporal lobe. Neuropsychologia, 35, 271-287.
- Biederman, I., & Gerhardstein, P. (1995). Viewpoint-dependent mechanisms in visual object recognition: Reply to Tarr and Bulthoff (1995). Journal of Experimental Psychology: Human Perception and Performance, 21, 1506-1514.
- Biederman, I. & Gerhardstein, P. (1993). Recognizing depth-rotated objects: Evidence and conditions for three-dimensional viewpoint invariance. Journal of Experimental Psychology: Human Perception & Performance, 19, 1162-1182.
- Biederman, I., Hummel, J. E., Cooper, E. E. & Gerhardstein, P. C. (1993). Shape recognition in mind, brain, and machine. In P. Rudomen & F. Cervantes (Eds.),

Neuroscience: From neural networks to artificial intelligence (pp. 282-293).
Berlin: Springer-Verlag.

Biederman, I., Hummel, J. E., Gerhardstein, P. C. & Cooper, E. E. (1992). From image edges to geons to viewpoint invariant object models: A neural net implementation. In Applications of artificial intelligence X: Machine vision and robotics (pp. 570-578). Bellingham: SPIE.

Hummel, J. E., Biederman, I., Gerhardstein, P. C. & Hilton, H. J. (1988). From image edges to geons: A connectionist approach. In D. Touretsky, G. Hinton, & T. Sejnowski (Eds.), Proceedings of the 1989 Connectionist Models Summer School (pp. 462-471). San Mateo: Morgan Kaufman.

Manuscripts Under Review & In Preparation

Taylor, G., Gerhardstein, P., Kolak, J., Sala, G. & Lingwood, J (under review).
Learning and co-use of digital media: A meta-analysis.

Hipp, D. & Gerhardstein, P. (under review). Complexity in digital media addiction:
Domain-personality interactions and the distinctive challenges of adolescence.

Duggan, N., Blakley, E. & Gerhardstein, P. (under review). Saccadic pre-attentive
measures provide insight into the development of illusory contour detection.

Cuevas, K., Hayne, H., Colobo, J., Gerhardstein, P., Richardson, R., Fagen, J., Barr.,
R., Adler, S. & Hunt, P. (under review). Commentary on the Scientific Rigor of
Sen and Gredebäck's Simulation: Why Empirical Parameters are Necessary to
Build Simulations.

Invited Addresses

(2016, November). Invited panelist for public discussion following presentation of a
documentary on digital use and issues in education hosted by the Vestal Central
School system, Vestal, NY.

(2010, March). Young children's transfer of learning from television media to 3D test
contexts. Invited talk, 1st International Conference for Psychological Science &
Applications, United Arab Emirates University, Al-Ain, UAE.

(2007, November). Operant conditioning with 3-month-olds: A paradigm for learning
and a tool for study. Invited talk, with C. Rovee-Collier (co-presenter), 7th
International Conference on Epigenetic Robotics, Rutgers University, New
Brunswick, NJ.

(2007, September). The development of contour perception from co-linearity cues.
Invited colloquium address, Department of Psychology, SUNY-Oswego,
Oswego, NY.

- (2003, October). The development of viewpoint invariance in very young infants. Invited colloquium presentation, Department of Psychology, York University, Toronto, Canada.
- (2002, September). Investigating object perception in infancy. Invited colloquium presentation, Department of Psychology, University of South Florida, Tampa, FL.
- (2001, November). Gabor patches and infants' detection of contours. Invited colloquium presentation, Vision Workgroup, Department of Psychology, Cornell University, Ithaca, NY.

Conference Presentations

- Taylor, G., Sala, G., Kolak, J., Gerhardstein, P. & Lingwood, J. (2023, Sept). Does adult-child co-use during digital media use improve children's learning? A meta-analysis. Poster to be presented at the annual meeting of the British Psychological Society, London, England.
- Duggan, N., Blakley, E., Hackert, V. & Gerhardstein, P. (November, 2022). Individual differences in children's orientation anisotropy and digital media consumption. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- Blakley, E., Hackert, V., Duggan, N. & Gerhardstein, P. (November, 2022). The influence of emergent literacy on the global precedence effect. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- Duggan, N., Blakley, E., Hackert, V., Gerhardstein, P. (2021). Changing orientation anisotropy influenced by the digital age. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Chicago, IL.
- Dickerson, K., Duff, M., Moser, A., Olsen, S. & P. Gerhardstein (November, 2021). Speech and Sound Cues Provide Comparable Levels of Facilitation when Controlling for Stimulus Uncertainty Effects. Poster presented at the annual meeting of the Psychonomics Society, New Orleans.
- Blakley, E., Gaspelin, N. & Gerhardstein, P. (May, 2021). The development of oculomotor suppression of salient distractors in children. Poster presented at the annual meeting of the Vision Sciences Society, Virtual Mtg.
- Plaza, V., Arnal, L.A.M., Gerhardstein, P., Bella-Fernandez, M. & Leon, J. (April, 2021). Expectations of reinforcement vs. instructions: How do they influence learning? Spanish Society for Experimental Psychology (SEPEX), Virtual Conference.

- Blakley, E., Duggan & Gerhardstein, P. (2020). The global precedence effect throughout childhood. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Virtual Mtg.
- Blakley, E., Stockwell, K., Duggan, N., Gaspelin, N. & Gerhardstein, P. (October, 2019). Can children suppress attentional capture by salient distractors? Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Chicago, IL.
- Duggan, D., E. Blakley, E. Yamazaki, K. Stockwell, A. Moser & P. Gerhardstein (May, 2019). Saccadic pre-attentive measures provide insight into illusory contour detection in children. Poster presented at the annual meeting of the Vision Sciences Society, Tampa, FL.
- Blakley, E.C., Duggan, N.C., Olsen, S., Moser, A., & Gerhardstein, P. (May, 2019). The global precedence effect in children with and without the use of complex instructions. Poster presented at the annual meeting of the Vision Sciences Society, Tampa, FL.
- Olsen, M., Duff, A. Moser, K. Dickerson & P. Gerhardstein (November, 2018). Sound guiding vision: using the visual world paradigm to directly compare speech and sound cueing image search. Poster presented at the annual meeting of the Psychonomic Society, New Orleans, LA.
- Hipp, D., S. Olsen, A. Moser, & P. Gerhardstein (October, 2018). Mind-craft: How digital media experience changes the visual mind. Poster presented at the 2nd Digital Media and Developing Minds Congress, Cold Spring Harbor, NY.
- Duggan, N.C., E. Blakley, E. Yamazaki, G. Song, S. Olsen, A. Moser, & P. Gerhardstein (July, 2018). Detection of illusory contours: Eye-tracking data provides insight into young children's visual development. Poster presented at the bi-annual meeting of the International Congress on Infant Studies.
- Dickerson, K., M. Duff, A. Moser, S. Olsen, & P. Gerhardstein (2018, May). Cross modal priming effects during auditory identification of environmental sounds. Poster presented at the International Meeting of the Psychonomics Society, Amsterdam, The Netherlands.
- Liu, P., I. Yazgan, S.T. Olsen, A.M. Moser, U.A. Ciftci, S. Bajwa, C.D. Tvetenstrand, P. Gerhardstein, O.A. Sadik, & L. Yin (2018, May). Clinical valid pain database with biomarker and visual information for pain level analysis. Proceedings of the 13th IEEE International Conference on Automatic Face and Gesture Recognition, Xi'an, China. (Extended abstract published).
- Moser, A., R. Skulnik, S. Olsen, C. Sendek, G. Taylor, and P. Gerhardstein. (2017, November). The differential outcomes effect in adults and young children using

- an eye-tracking paradigm. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Washington, DC.
- Gerhardstein, P., Olsen, S. & Moser, A. (2017, May). Using eye-tracking to examine feature and component priming in adults and 3- to 5-year-old children. Poster presented at the 17th annual meeting of the Vision Sciences Society, Tampa, FL.
- Dickerson, K., Perlman, B. & Gerhardstein, P. (2017, May). Cross-modal matching as a means of stimulus norming for the visual world paradigm. Poster presented at the 17th annual meeting of the Vision Sciences Society, Tampa, FL.
- Moser, A., S. Olsen, D. Hipp, S. Rusnak, R. Barr, & P. Gerhardstein (2016, November). Breaking the 4th wall: Using closed circuit TV and eye-tracking to parse the video deficit effect. Poster presented at the 49th annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- Gerhardstein, P. (2016, November). The impact of memory load and perceptual cues on puzzle learning by 2-year-olds. Talk presented at the 49th annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- Learmonth, A., R. Barr, P. Gerhardstein, E. Janerhofer, J. Napolitano, A. Blazkiewicz, M. Lui, & N. Strautman (2016, November). Video modeling and imitation in children with ASD: preliminary analyses. Poster presented at the 49th annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- Moser, A., Olsen, S., Rusnak, S., Barr, R., & Gerhardstein, P. (2016, May). Metaanalysis of toddlers' labeling behavior predicts goal imitation success in transfer learning task. Poster presented at the 20th Biennial International Conference on Infant Studies, New Orleans, LA.
- Gerhardstein, P., Moser, A., Lee, H., Grenell, A., Zimmermann, L., & Barr, R. (March, 2015). Reversing the Transfer Deficit Effect: The Role of Ghost v. Social Demonstrator. Paper presented at the Society for Research in Child Development, Philadelphia, PA.
- Hipp, D., Taylor, G., Moser, A. & Gerhardstein, P. (2014, November). Hijacking eye-tracking: Using HD-CCTV and eye-tracking to parse the video deficit effect. Poster presented at the 47th annual meeting of the International Society for Developmental Psychobiology, Washington, DC.
- Moser, A., Xiang, J., Dickerson, K., Zimmerman, L., Grenell, A., Hipp, D., Barr, R. & Gerhardstein, P. (2014, November). Toddlers' labeling behavior predicts goal imitation success in transfer learning task. Poster presented at the 47th annual

meeting of the International Society for Developmental Psychobiology, Washington, DC.

Zimmermann, L., Moser, A., Dickerson, K., Grenell, A., Barr, R., Gerhardstein, P. (2014, July), Using puzzles to assess the effects of perceptual cues on social learning strategy in 24-month-olds. Poster presented at the bi-annual meeting of the International Conference on Infant Studies, Berlin, DRG.

Moser, A., Dickerson, K., Monell, A., Lee, H., Zimmerman, L., Barr, R., & Gerhardstein, P. (2013, October). Transfer learning across social learning contexts in 2.5- and 3-year-olds. Poster presented at the 46th annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.

Hipp, D., Moser, A., Dickerson, K. & Gerhardstein, P. (2013, October). Age-related changes in visual contour integration: Implications for physiology from psychophysics. Paper presented at the 46th annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.

Hipp, D., Moser, A., Zhang, X., Yin, L. & Gerhardstein, P. (2013, May). Using reverse correlation to let adults and children show us their emotional expression templates. Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.

Zimmermann, L., Dickerson, K., Moser, A., Gerhardstein, P., Barr, R., Grenell, A. & Yao, C. (2013, March). Using puzzles to assess the effects of memory load on social learning strategy in preschool aged children. Poster presented at the biannual meeting of the Society for Research in Child Development, Seattle, WA.

Barr, R., Moser, A., Grenell, A., Yao, C., Mendelson, C., Zimmermann, L., Dickerson, K., & Gerhardstein, P. (2013, March). Examining transfer of learning through puzzle play: The impact of context and dimensional change. Symposium presentation at the bi-annual meeting of the Society for Research in Child Development, Seattle, WA.

Hipp, D., Gerhardstein, P. Zhang, X., Yin, L., Simon, D., & Gaudinier, M. (2012, October). Beyond Mona Lisa: Using reverse correlation with real faces and sinusoidal noise to estimate developing visual biases. Poster presented at the Annual Meeting of the International Society for Developmental Psychobiology, New Orleans, LA.

Moser, A.L., Dickerson, K., Gerhardstein, P., Zimmermann, L., Oot, E. & Barr, R. (2012, October). Transfer of learning across dimensional changes in 2.5-year-olds. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, New Orleans, LA

- Dickerson, K., Gerhardstein, P., & Barr, R. (2012, June). The effect of instructions on imitation from live and video demonstrations. Poster presented at the biannual meeting of the International Conference on Infant Studies, Minneapolis, MN.
- Hipp, D., Moser, A.L., O'Conner, M. & Gerhardstein, P. (2012, May). The impact of closure on contour detection thresholds in children and adults. Poster presented at the annual meeting of the Vision Sciences Society, Naples, FL.
- Hipp, D., Gerhardstein, P., Zhang, X., Yin, L., Laguio, J. & Jankow, C. (2011, November). Estimating perceptual biases mediating facial expression classification in adults and children using reverse correlation. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Washington, DC.
- Dickerson, K., McIntyre, P., Oot, E., Yao, C., Gerhardstein, P. & Barr, R. (2011, November). Strategies for enhancing encoding of information from screen media. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Washington, DC.
- Dickerson, K., McIntyre, P., Barr, R. & Gerhardstein, P. (2011, May). The effects of repetition and exposure duration on the video deficit effect. Poster presented at the annual meeting of the American Psychological Society, Washington, DC.
- Barr, R., Dickerson, K., Gerhardstein, P., Zack, E., Frank, H., McIntyre, P. & Shuler, J. (2011). The protracted video deficit: Examining 1- to 4-year-olds' imitation of a puzzle task. Poster presented at the annual meeting of the Eastern Psychological Association, Boston, MA.
- Dickerson, K., Gerhardstein, P., Zack, E., Barr, R. (2010, November). The video deficit effect: Learning the means and the ends from live and video demonstrations. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- Hipp, D., Miller, S., Gerhardstein, P., & Dickerson, K. (2010, November). The relation of demographic variables to associative learning in infancy. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- Hipp, D., Gerhardstein, P., Corbett, R., Zhang, X., & Yin, L. (2010, May). Testing emotional expression recognition with an adaptation of the "Bubbles" masking approach. Poster presented at the annual conference of the Vision Sciences Society, Naples, FL.

- Dickerson, K., P. Gerhardstein, E. Zack, & R. Barr. (2010, March). The video deficit in older children: Exploring task difficulty as a performance-limiting factor. Poster presented at the bi-annual meeting of the International Conference on Infant Studies, Baltimore, MD.
- Gerhardstein, P., K. Dickerson, E. Zack, & R. Barr. (2009, October). Learning from screen media in older infants: An extension of the video deficit effect. Talk presented at the annual meeting of the International Society for Developmental Psychobiology, Chicago, IL.
- Zack, E., J. Zocca, R. Barr, & P. Gerhardstein. (2009, October). Mothers enhance infants' 2D-3D transfer of learning. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Chicago, IL.
- Dickerson, K., Gerhardstein, P., Zack, E., Barr, R., & Meltzoff, A. (2009, October). The video deficit effect. Poster session presented at the Joint Attention Conference, Boston MA.
- Shroff, G., A. Mirabel, & P. Gerhardstein (2009, May). Can motion cues facilitate configural face processing in children? Poster presented at the annual conference of the Vision Sciences Society, Naples, FL.
- O'Riordan, M., K. Peabody, C. Allison, S. Baron-Cohen, P. Gerhardstein & G. Iarocci (2009, May). Superior visual search in 3 year old children with autism. Poster presented at the annual International Meeting For Autism Research, Chicago, IL.
- Zack, E., R. Barr, L. Shuck, E. Sperle, K. Dickerson, P. Gerhardstein, & A. Meltzoff (2008, November). Do language cues facilitate cross-dimension transfer in 15month-olds? Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Washington, DC.
- Shroff, G., Gerhardstein, P., & Yin, L. (2008, August). Children's sensitivity to configural cues in faces undergoing rotational motion. Poster presented at the 8th International Conference on Automatic Face and Gesture Recognition (FGR08), Sept. 2008, Amsterdam, The Netherlands.^[1]_{SEP}
- Zack, E., R. Barr, L. Shuck, E. Sperle, G. Shroff, K. Dickerson, S. Miller, P. Gerhardstein, & A. N. Meltzoff (2008, March). Infants fail at a transfer of learning task from 2D to 3D and 3D to 2D. Poster presented at the bi-annual meeting of the International Conference for Infant Studies, Vancouver, Canada.
- Reilly, G., K. Dickerson, G. Schroff, J. Nelsen, & P. Gerhardstein (2008, March). The effect of shared parts and spatial configuration on visual search performance in

young children. Poster presented at the bi-annual meeting of the International Conference for Infant Studies, Vancouver, Canada.

Gerhardstein, P. (2007, November). Infants' perception of contours in the absence of contrast or brightness cues. Invited presentation: Seventh International Conference on Epigenetic Robotics: Modeling Cognitive Development in Robotic Systems, Rutgers University, New Brunswick, NJ.^[1]_{SEP}

Zack, E., Barr, R., Shuck, L., Dickerson, K., Miller, S., Gehardstein, P., & Meltzoff, A. N. (2007, October). Cross-dimensional transfer in 15-month-olds: Imitation from 3D to 2D & 2D to 3D. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.

Shroff, G., Reilly, G., Nelson, J., Dickerson, K., & Gerhardstein, P. (2007, May). The effect of shared parts and spatial configuration on visual search performance in young children. Poster presented at the annual conference of the Vision Sciences Society, Sarasota, FL.

Tse., J., Baker, T., Adler, S., & Gerhardstein, P. (2007, May). The role of awareness in saccadic conditioning. Poster presented at the annual conference of the Vision Sciences Society, Sarasota, FL.

Miller, S., Shroff, G., Gerhardstein, P., Zack, E., O'Brien, E., Meltzoff, A., & Barr, R. (2007, March). Imitation from touchscreens by 9- and 15-month-olds. Poster presented at the annual meeting of the Society for Research in Child Development: Boston, MA.

Gerhardstein, P. , Tse, J., & Shroff, G. (2006, October). Young infants' capacity for perception of objects across 2D views. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Atlanta, GA.

Zack, E., Barr, R., Schroff, G., & Gerhardstein, P. (2006, October). Imitation from touchscreens by 9- and 15-month-olds. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Atlanta, GA.

Tse, J., & Gerhardstein, P. (2006, May). Contour detection in young human infants: Effects of density. Poster presented at the annual meeting of the Vision Sciences Society, Sarasota, FL.

Tse, J., Miller, S.S., & Gerhardstein, P. (2005, November). Measuring contour detection performance in young human infants with eye movements. Poster presented at the bi-annual meeting of the International Society for Developmental Psychobiology, Washington, DC.

- Tse, J., & Gerhardstein, P. (2005, May). A higher-order mechanism beyond good continuation in contour integration. Poster presented at the annual meeting of the Vision Sciences Society, Sarasota, FL.
- Baker, T.J., Adler, S.A., Tse, J., & Gerhardstein, P. (2005, May). Can 6-month-olds integrate individual elements to discriminate contours? Poster presented at the annual meeting of the Vision Sciences Society, Sarasota, FL.
- Gerhardstein, P., Tse, J., & West., R. (2005, March). Infants' perception of 3D shapes rendered in 2D. Invited symposium presentation, annual meeting of the Eastern Psychological Association.
- Tse, J., Kraebel, K.S., Makam, R., & Gerhardstein, P. (2004, May). Computer mobile: A new procedure for investigating viewpoint invariance. Poster presented at the bi-annual meeting of the International Society on Infant Studies, Chicago, IL.
- Kraebel, K., & Gerhardstein, P. (2004, May). Viewpoint-invariant recognition of complex objects in 3-month-old infants. Poster presented at the bi-annual meeting of the International Society on Infant Studies, Chicago, IL.
- West, R., Gerhardstein, P., Grover, L., & Eisenberg, R. (2004, May). Visual pop-out in 3-month-old infants. Poster presented at the bi-annual meeting of the International Society on Infant Studies, Chicago, IL.
- Gerhardstein, P., Kraebel, K., Tse, J., & Makum, R. (2003, November). Precise perceptual control over infants' visual experience during operant learning: Adapting the mobile procedure to present generated stimuli. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, New Orleans, LA.
- Tse, J., & Gerhardstein, P. (2003, May). Simulating the development of contour integration. Poster presented at the annual meeting of the Vision Sciences Society, Sarasota, FL.
- Langman, A., & Gerhardstein, P. (2003, March). Elongation and symmetry effects on object recognition. Poster presented at the annual meeting of the Eastern Psychological Association, Baltimore, MD.
- Tse, J., & Gerhardstein, P. (2003, March). Modeling contour integration based on the geometry of the visual cortex. Poster presented at the annual meeting of the Eastern Psychological Association, Baltimore, MD.
- West, R., & Gerhardstein, P. (2002, October). Recognition and priming tests of 3month-olds' Ability to transfer training with an illusory shape to a shape defined by luminance edges. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, Orlando, FL.

- Kraebel, K., & Gerhardstein, P. (2002, April). Viewpoint invariance for multi-part objects at 3 months of age. Poster presented at the International Conference on Infant Studies, Toronto, Canada.
- West, R., & Gerhardstein, P. (2002, April). Infants' recognition memory and reactivation of a memory for a single-part volume across viewpoint at 3 months. Poster presented at the International Conference on Infant Studies, Toronto, Canada.
- Kapp, S., & Gerhardstein, P. (2002, March). Infant temperament and learning. Poster presented at the annual meeting of the Eastern Psychological Association, Boston, MA.
- Gangat, M., West, B., & Gerhardstein, P. (2002, March). Memory for subjective contours at 3 months. Poster presented at the annual meeting of the Eastern Psychological Association, Boston, MA.
- Korba, N., Kraebel, K., & Gerhardstein, P. (2002, March). Conjugate reinforcement of 3-month-olds using a computerized apparatus. Poster presented at the annual meeting of the Eastern Psychological Association, Boston, MA.
- Gerhardstein, P., & Kovacs, I. (2001, November). Three-month-olds do not discriminate between open and closed contours. Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- West, R., & Gerhardstein, P. (2001, November). Is object recognition viewpointinvariant at 3 months of age? Poster presented at the annual meeting of the International Society for Developmental Psychobiology, San Diego, CA.
- Gerhardstein, P., & Kovacs, I. (2000, May). Three-month-olds' detection of open and closed contours. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.
- Gillis, J., & Gerhardstein, P. (2000, March). The development of pop-out of 2D cues to 3D structure. Poster presented at the annual meeting of the Eastern Psychological Society, Baltimore, MD.
- Gerhardstein, P., Ditre, J., & Kovacs, I. (1999, May). Three-month-olds' detection of closure depicted by Gabor patches. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.
- Peterson, M.A., & Gerhardstein, P. (1999, May). Object-centered attentional biases in the intact brain. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.

- Gerhardstein, P., Lassiter, S., & Coates, D. (1999, April). Developmental factors in children's visual search. Poster presented at the annual meeting of the Eastern Psychological Association, Providence, RI.
- Ditre, J., & Gerhardstein, P. (1999, April). Three-month-olds' detection of closure in the absence of local cues. Poster presented at the annual meeting of the Eastern Psychological Association, Providence, RI.
- Gerhardstein, P., Renner, P., & Rovee-Collier, C. (1998, April). Infants discriminate colors on the basis of perceptual distance, not category. Poster presented at the meeting of the International Conference on Infant Studies, Atlanta, GA.
- Peterson, M.A., de Gelder, B., Rapcsak, S.Z., Gerhardstein, P., & Bachoud-Levi, A. (1998, April). A double dissociation between implicit and explicit object recognition processes revealed by figure-ground segregation. Poster presented at the annual meeting of the Assoc. for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.
- Gerhardstein, P., Rovee-Collier, C., & Adler, S. A. (1997, April). 3-month-olds show a dissociation in memory for size. Paper presented at the annual meeting of the Eastern Psychological Association, Washington, DC.
- Gerhardstein, P. (1997, April). Reaction time measures of visual search at 1, 2, and 3 years of age. Poster presented at the meeting of the Society for Research in Child Development, Washington, DC.
- Gerhardstein, P., & Rovee-Collier, C. (1996, November). Assessing visual search in 1- to 3-year-olds using a touch screen. Paper presented at the annual meeting of the International Society for Developmental Psychobiology, Washington, DC.
- Gerhardstein, P., Adler, S. A., & Rovee-Collier, C. (1996, April). Task-specific size invariance in 3-month-old infants. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.
- Gerhardstein, P., Adler, S. A., & Rovee-Collier, C. (1996, April). Attention enhances and suppresses retention at 3 months. Poster presented at the meeting of the International Conference on Infant Studies, Providence, RI.
- Gerhardstein, P., Rovee-Collier, C., & Liu, J. (1996, March). Effects of stimulus similarity on visual pop-out in infants. Paper presented at the annual meeting of the Eastern Psychological Society, Philadelphia, PA.
- Biederman, I., Gerhardstein, P., & Bar, M. (1995, May). An inadvertent experiment fails to confirm the employment of viewpoint dependent mechanisms in human object recognition. Paper presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL.

- Gerhardstein, P., & Peterson, M. A. (1995, May). Object symmetry and axis orientation affect recognition of misoriented objects. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.
- Adler, S. A., Gerhardstein, P., & Rovee-Collier, C. (1995, March). Facilitation and suppression effects of differential attention on infants' memory. Poster presented at the annual meeting of the Eastern Psychological Association, Boston, MA.
- Liu, J., Gerhardstein, P., & Rovee-Collier, C. (1995, March). Search asymmetries in 3-month-old infants is independent of stimulus familiarity. Poster presented at the annual meeting of the Eastern Psychological Society, Boston, MA.
- Gerhardstein, P., Peterson, M. P., & Rapcsak, S. Z. (1994, March). Age dependent shift in hemispheric specialization for object discrimination. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Peterson, M. P., Rapcsak, S. Z., & Gerhardstein, P. (1994, March). Deficits in prefigural recognition processes in patients with bilateral lesions: A new distinction. Poster presented at the annual meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- Biederman, I., Fiser, J., Cooper, E. E., & Gerhardstein, P. (1993, November). Intermediate representations and visual shape recognition. Paper presented at the annual meeting of the Psychonomic Society, Washington, DC.
- Gerhardstein, P., & Biederman, I. (1993, May). Viewpoint invariance in recognizing unfamiliar depth-rotated objects. Poster presented at the Annual meeting of the Association for Research in Vision and Ophthalmology, Sarasota, FL.
- Biederman, I., Gerhardstein, P., Cooper, E. E., & Nelson, C. A. (1992, May). Highlevel object recognition without a temporal lobe. Poster presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Sarasota, FL.
- Biederman, I., Cooper, E. E., & Gerhardstein, P. (1991, November). Picture naming reveals the major invariances expected of a shape recognition system. Poster presented at the annual meeting of the Psychonomic Society, San Francisco, CA.
- Gerhardstein, P., & Biederman, I. (1991, May). 3D orientation invariance in object recognition. Paper presented at the annual meeting of the Association for Research in Vision and Ophthalmology, Sarasota, FL.

Biederman, I., Cooper, E. E., & Gerhardstein, P. (1989, November). Priming fragmented images. Paper presented at the annual meeting of the Psychonomic Society, Atlanta, GA.

Hummel, J. E., Biederman, I., Gerhardstein, P., & Hilton, H. J. (1988, August). A connectionist model of geon recognition. Paper presented at the Neural Architectures for Computer Vision Workshop at the Meetings of the Seventh National Conference on Artificial Intelligence, St. Paul, MN.

Professional Affiliations

International Conference on Infant Studies
International Society for Developmental Psychobiology
Society for Research in Child Development
Eastern Psychological Association
American Psychological Association [L]
Psychonomics Society [SEP]
Vision Sciences Society

Grant Review Activities

NSF GRFP Panel Reviewer, 2019
NIH/NCRR Review Panel, Centers of Biomedical Research Excellence, 2011-2015
NIH Panel, Surgical Sci., Biomedical Imaging & Bioengineering IRG, 2014 & 2016
NIH/CP Review Panel, Guest Member (multiple meetings)
NSF External reviewer 2010

Recent Journal Reviewer Activities

Infancy
Perception
Child Development Perspectives
Child Development Research
Child Development
Journal of Experimental Child Psychology
Education Researcher
Frontiers in Psychology
Developmental Psychobiology
Attention, Performance & Psychophysics
Infant Behavior & Development
Vision Research
Journal of Vision
Developmental Science
Developmental Psychology

Postdoctoral Fellows

Matthew Windsor, PhD: 2014-15
Gemma Taylor, PhD: 2013-14
Kimberly Kraebel, PhD: 2001-04

References

References Available Upon Request