

## CURRICULUM VITAE

MARY A. PETERSON

September 11, 2013

### PERSONAL

Office Address:

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### EDUCATION

Ph.D. 1984

Columbia University, Psychology  
Dissertation title:  
Measures of selective components in perceptual organization  
Dissertation advisor: Julian Hochberg

M. Phil. 1983

M.A. 1978 - 1980

Columbia University  
Columbia University

B.A. 1968 - 1972

Marymount Manhattan College, English Literature,  
*summa cum laude*

### APPOINTMENTS

2012- present

Chair, Executive Committee of the School of Mind, Brain, and Behavior,  
University of Arizona

2011 – present

Professor, Department of Psychology; Professor and Director, Cognitive  
Science Program; Chair Cognitive Science Graduate Interdisciplinary  
Program; Member Neuroscience Graduate Interdisciplinary Program,  
University of Arizona

2000 – 2010

Professor, Department of Psychology, and Research Social Scientist,  
Cognitive Science Program, The University of Arizona

1995 – August, 2002

Director, Cognitive Psychology Program, University of Arizona

1988 - 2000

Assistant through Full Professor, Department of Psychology, and Research  
Social Scientist, Cognitive Science Program, The University of Arizona

1984 - 1988

Assistant Professor, Department of Psychology,  
State University of New York at Stony Brook.

Fall, 1983

Instructor, Department of Psychology,  
State University of New York at Stony Brook.

1978 - 1983

Graduate Faculty Fellow, Psychology Department,  
Columbia University.

1980 and 1982

Research Assistant, Columbia University with Julian Hochberg.

## **SABBATICAL APPOINTMENTS**

9/2002 – 5/2003 Visiting Scholar, University of California, Berkeley  
2/2010 – 6/2010 Visiting Professor, University of Toronto

## **RESEARCH AWARDS**

7/2011 – 7/2012 Confluence Collaboration and Innovation Grants, The University of Arizona, “*Effectively Employing Three-Dimensional Effects to Enhance Student Engagement in Online Learning.*” \$24,903. Co-PI with Heshan Sun.

5/2010 – 5/2014 National Science Foundation, “Iterative Models In Figure-Ground Perception: Tests And Challenges.” \$444,193.

8/2004 – 7/2008 National Science Foundation, “Implicit Measures of Shape Learning and Shape Perception.” \$343,396.

8/2004 – 7/2008 National Science Foundation, “Perceptual Organization in Visual Search: Context Effects, \$255,105. (Sole PI years 2 & 3; co-PI with Robert Rauschenberger, year 1.)

8/15/99 - 7/30/2003 National Science Foundation, “Inhibitory and Facilitatory Processing in Image Segregation.” \$220,815.

Summer, 1996 Social and Behavioral Sciences Research Institute, University of Arizona, Grant development award, \$2,500.

12/15/90 - 5/31/94 National Science Foundation, "Shape Recognition and Figure-Ground Organization," \$202,843. (Jointly funded by Air Force Office of Scientific Research.)

11/13/92-8/10/93 Social and Behavioral Sciences Research Institute, University of Arizona, "The Neuropsychology of Object Recognition," \$1,324.

3/1/92-9/30/93 Biomedical Research Support Grant Program, "The Neuropsychology of Visual Perception," \$3,500.

9/1/88 - 2/28/91 National Science Foundation, "Measures of Subjective Variables in Visual Cognition," \$85,000. (Jointly funded by Air Force Office of Scientific Research.)

1985 - 1986 Office of the Provost Non-Tenured Faculty Research Grant-in Aid, State University of New York at Stony Brook, \$3,000.

1985: New York State/United University Professions New Faculty Development Award, \$1,000.

1984: SUNY Stony Brook Psychology Dept. Research Incentive Award, \$990.

1983 - 1987 PHS Biomedical Research Support, The structure of sensory expectations and the limits of the effects of intention on perception, \$16,422.

## **RESEARCH HONORS**

- 12/2009 Elected Fellow, American Association for the Advancement of Science.
- 12/2004 Elected to the Society of Experimental Psychologists
- 5/2003 Elected Fellow, Association for Psychological Science
- 8/2001 Elected Fellow, Division 3, American Psychological Association
- 7/2000 Elected Member of the International Neuropsychological Symposium
- Fall, 1992 Research Professorship, College of Arts and Sciences, University of Arizona

## **TEACHING AWARDS**

- 2000, 2007 & 2008 University of Arizona, Honors College: Outstanding Honors Advisor
- 1986-87 & 1987-88 State University of New York at Stony Brook Psychology Department: Teacher of the Year

## **PROFESSIONAL ACTIVITIES**

### ***Psychonomic Society***

Past-Chair of the Governing Board, 2010

**Chair of the Governing Board, 2009**

Chair-Elect of the Governing Board, 2008

Governing Board Member, 2005 – 2010

Publications Committee, *Chair*, 2008; Member, 2005 – 2008.

Chair, Search Committee for Editor of *Perception & Psychophysics*, 2007

***Vision Sciences Society***, Governing Board Member, May 2005 – May 2009

Board of Abstract Reviewers, 2000 – 2005

***Women in Cognitive Science***, Advisory Board Member, 2003 – present

Chair of Travel Award Committee, 2003 – 2006;

Panel Moderator, Women in Cognitive Science Meeting, 2007

**Series Co-Editor**, with Gillian Rhodes, *Oxford Series in Visual Cognition*, Oxford University Press, 2003 – present

**Associate Editor**, *Wiley Interdisciplinary Reviews: Cognitive Science*, 2008 – present

**Associate Editor**, *Journal of Vision*, 2011 - present

**Associate Editor**: *Journal of Experimental Psychology: Human Perception and Performance*

July, 1996 – July, 1999

### **Editorial Board Membership**

*Journal of Experimental Psychology: Human Perception and Performance*,  
1991 – 1996 and 2000 – 2011

*Psychological Science*, 1999 – 2007

*Psychonomic Bulletin & Review*, 1993 – 1997; 2007 - 2011

**Member**, *Human Cognition and Perception Panel*, National Science Foundation, 2000 - 2002

**Program Director**, Rocky Mountain Psychological Association Meeting, April 27-29, 1990

## **PROFESSIONAL ACTIVITIES, continued**

**Associate:** Behavioral and Brain Sciences

**Ad hoc reviewer:** *Acta Psychologica, Brain Research, Cognitive, Affective & Behavioral Neuroscience, Cognitive Psychology, Current Directions in Cognitive Science, Journal of Cognitive Neuroscience, Journal of Experimental Psychology: General, Memory & Cognition, Journal of Neuroscience, Journal of Vision; Neuropsychologia, Perception, Perception & Psychophysics, Proceedings of the Natl. Academy of Sciences, Psychobiology, Psychological Bulletin, Psychological Review, , Science, Visual Cognition, Vision Research, Air Force Office of Scientific Research, Israel Science Foundation, National Science Foundation*

**MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS:** American Psychological Association, Association for Psychological Science, American Association for the Advancement of Science, Cognitive Neuroscience Society, International Neuropsychology Symposium, Psychonomic Society, Society of Experimental Psychologists, Society for Neuroscience, Vision Sciences Society, Association of Women Faculty, Women in Cognitive Science.

### **SERVICE AT THE UNIVERSITY LEVEL (recent)**

2011 - Director, Cognitive Science Program and Cognitive Science Graduate Interdisciplinary Program, The University of Arizona  
2011 - Mind, Brain, and Behavior Executive Committee; Chair 2012-present  
2003 – 2010 Cognitive Science Executive Committee Member  
2007 Member, 5-year Review Committee for Psychology Department Head  
2003 – 2006 Promotion and Tenure Committee, College of Social and Behavioral Science, University of Arizona (Chair, 2004)  
1999 – 2002 University of Arizona Committee on Ethics and Commitment  
1995 – 1998 Sabbatical Review Committee, College of Social and Behavioral Sciences (Chair, 1998)

### **SERVICE AT THE DEPARTMENT LEVEL (recent)**

2010 – 2012 Member, Faculty Executive Advisory Committee (Chair, AY 2010-2011)  
2010 – 2011 Member, Cognition and Neural Systems, Faculty Search Committee  
1995 – 2011 Psychology Department Honors Advisor  
2007 - 2010 Promotion and Tenure Committee, Psychology Department  
2005 – 2007 Chair, Faculty Executive Advisory Committee  
2004 – 2005 Cognition and Neural Systems, Search Committee Member  
2000 – 2006 Faculty Annual Review Committee (Chair, 2003 – 2005)  
2000 – 2006 Psi Chi Advisor  
1999 - 2001 Chair, Cognitive Psychology Faculty Search Committee  
1999 – 2002 Colloquium Committee, Co-Chair  
1997 – 2002 Subject Pool Committee  
1997 – 2000 Technology Committee

### **POST-DOCTORAL FELLOWS**

Peter C. Gerhardstein, now Associate Professor, Binghamton University, SUNY  
Satoru Suzuki, now Associate Professor, Northwestern University  
Robert Rauschenberger, now employed by Siemens Corporation

## **STUDENTS (Primary Advisor)**

### **Ph.D. Advisor**

Gary Chon-Wen Shyi (1988), Professor, National Chung Cheng University  
Bradley S. Gibson (1992), Associate Professor, University of Notre Dame  
Logan T. Trujillo (May, 2007), Post-doctoral fellow, UT Austin  
Emily Skow-Grant (August, 2007), Assistant Professor, Simpson College, Indianola, Iowa  
Laura Cacciamani, in progress  
Andrew J. Mojica, in progress  
Elizabeth Salvagio, in progress  
J. L. Sanguinetti, in progress

### **Masters Degrees: University of Arizona**

Completed:

Sabrina Geoffrion  
Erin M. Harvey, Assistant Professor, Ophthalmology Department, University of Arizona  
Jee Hyun Kim  
Elizabeth P. Merikle  
Abrie Schroeder  
Melissa F. Schulz  
Emily Skow-Grant  
Logan T. Trujillo  
Elizabeth M. Salvagio  
Laura Cacciamani  
J. L. Sanguinetti  
Brian Roller

### **Masters Degrees: SUNY, Stony Brook (completed)**

Gary Chon-Wen Shyi  
Elliot Sprecher (co-advisor with Robert Liebert)  
Hollis L. Weidenbacher

## **PUBLICATIONS (Books in Boldface)**

1. Peterson, M. A., and Hochberg, J. (1983). Opposed-set measurement procedure: A quantitative analysis of the role of local cues and intention in form perception. *Journal of Experimental Psychology: Human Perception and Performance*, 9, 183-193.
2. Peterson, M. A. (1986). Illusory concomitant motion in ambiguous stereograms: Evidence for nonsensory components in perceptual organization. *Journal of Experimental Psychology: Human Perception and Performance*, 12, 50-60.
3. Peterson, M. A. (1986). Something for everyone: Four new sensation and perception texts [Review of *Sensation & Perception*, *Sensation and Perception*, *Introduction to Sensation/Perception*, *Perception*]. *Contemporary Psychology*, 31, 137-138.
4. Hochberg, J., and Peterson, M. A. (1987). Piecemeal organization and cognitive components in object perception: Perceptually coupled responses to moving objects. *Journal of Experimental Psychology: General*, 116, 370-380.
5. Peterson, M. A., and Shyi, G. C. -W. (1988). The perception of real and illusory concomitant rotation in a three-dimensional cube. *Perception & Psychophysics*, 44, 31-42.

## **PUBLICATIONS** (continued)

6. Johnson, M. K., Peterson, M. A., Chua-Yap, E. and Rose, P. (1989). Frequency judgments: The problem of defining a perceptual event. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 15, 126-136.
7. Hochberg, J., and Peterson, M. A. (1989). Pictures in the mind's eye: Images in our perception of world and art. In M. Schuster and B. Woschek (Eds.), *Nonverbale Kommunikation durch Bilder*. (pp. 33 – 51) Stuttgart: Verlag fur Angewandte Psychologie.
8. Peterson, M. A., and Hochberg, J. (1989). Necessary considerations for a theory of form perception: A theoretical and empirical reply to Boselie and Leeuwenberg, *Perception*, 18, 105-119.
9. Kihlstrom, J. F., Glisky, M. L., Peterson, M. A., Harvey, E. M., and Rose, P. M. (1990). Vividness and control of mental imagery: A psychometric analysis. *Journal of Mental Imagery*, 15, 133-142.
10. Peterson, M. A., and Gibson, B. S. (1991). Directing spatial attention within an object: Altering the functional equivalence of shape descriptions. *Journal of Experimental Psychology: Human Perception and Performance*, 17, 170-182.
11. Peterson, M. A., and Gibson, B. S. (1991). The initial identification of figure-ground relationships: Contributions from shape recognition routines. *Bulletin of the Psychonomic Society*, 29, 199-202.
12. Schacter, D. L., Cooper, L. A., Delaney, S. M., Peterson, M. A., and Tharan, M. (1991). Implicit memory for possible and impossible objects: Constraints on the construction of structural descriptions. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 17, 3-19.
13. Peterson, M. A., Harvey, E. H., and Weidenbacher, H. L. (1991). Shape recognition inputs to figure-ground organization: Which route counts? *Journal of Experimental Psychology: Human Perception and Performance*, 17, 1075-1089.
14. Peterson, M. A., Kihlstrom, J. F., Rose, P. M., and Glisky, M. L. (1992). Mental images can be ambiguous: Reconstruals and reference-frame reversals. *Memory & Cognition*, 20, 107-123.
15. Shyi, G. C. -W., and Peterson, M. A. (1992). Perceptual organization in a brief glance: The effects of figure size, figure location, and the attentional focus. *Chinese Journal of Psychology*, 34, 1-18.
16. Peterson, M. A., and Gibson, B. S. (1993). Shape recognition contributions to figure-ground organization in three-dimensional displays. *Cognitive Psychology*, 25, 383-429.
17. Peterson, M. A. (1993). The ambiguity of mental images: Insights regarding the structure of shape memory and it's function in creativity. In B. Roskos-Ewoldsen, M. J. Intons-Peterson, and R. Anderson (Eds.), *Imagery, Creativity, and Discovery: A Cognitive Perspective*. (pp. 151 – 185) Amsterdam: North Holland.

## **PUBLICATIONS** (continued)

18. Hochberg, J., and Peterson, M. A. (1993). Mental representations of occluded objects: Sequential disclosure and intentional construal. *Giornale Italiano di Psicologia*, 20, 805-820. (Monograph edition published in English in honor of Gaetano Kanizsa.)
19. Peterson, M. A. (1994). Object recognition processes can and do operate before figure-ground organization. *Current Directions in Psychological Science*, 3, 105-111.
20. Peterson, M. A. (1994b). The proper placement of uniform connectedness. *Psychonomic Bulletin and Review*, 1, 509-514.
21. Peterson, M. A., and Gibson, B. S. (1994a). Must figure-ground organization precede object recognition? An assumption in peril. *Psychological Science*, 5, 253-259.
22. Peterson, M. A., and Gibson, B. S. (1994b). Object recognition contributions to figure-ground organization: Operations on outlines and subjective contours. *Perception & Psychophysics*, 56, 551-564.
23. Gibson, B. S., and Peterson, M. A. (1994). Does orientation-independent object recognition precede orientation-dependent recognition? Evidence from a cueing paradigm. *Journal of Experimental Psychology: Human Perception and Performance*, 20, 299-316.
24. **Bloom, P., Peterson, M. A., Nadel, L., and Garrett, M. F. (1996). *Language and Space*. Cambridge, Mass: MIT Press.**
25. Peterson, M. A., Nadel, L., Bloom, P., and Garrett, M. F. (1996). Space and Language. In P. Bloom, M. A. Peterson, L. Nadel, and M. F. Garrett (Eds.), *Language and Space*. (pp. 553 – 577) Cambridge, Mass: MIT Press.
26. Peterson, M. A., Gerhardstein, P. C., Mennemeier, M., & Rapcsak, S. Z. (1998). Object-centered attentional biases and object recognition contributions to scene segmentation in left- and right-hemisphere-damaged patients. *Psychobiology*, 26, 557-570.
27. Gerhardstein, P. C., Peterson, M. A., & Rapcsak, S. Z. (1998). Age-related hemispheric asymmetries in object discrimination. *Journal of Clinical and Experimental Neuropsychology*, 20, 174-185.
28. Peterson, M. A. (1999). What's in a stage name? *Journal of Experimental Psychology: Human Perception and Performance*, 25, 276-286.
29. Peterson, M. A. (1999). Organization, segregation, and recognition. *Intellectica*, 28, 37 - 51.
30. Peterson, M. A. (1999). High-level vision. In R. A. Wilson, F. C. Keil (Eds.), *The MIT Encyclopedia of the Cognitive Sciences*. (pp. 374-377) Cambridge, MA: The MIT Press.
31. Peterson, M. A. (1999). Knowledge and intention can penetrate vision. *Behavioral and Brain Sciences*, 22, 389 - 390.
32. Peterson, M. A., de Gelder, B., Rapcsak, S. Z., Gerhardstein, P. C., and Bachoud-Lévi, A.-C. (2000). Object memory effects on figure assignment: Conscious object recognition is not necessary or sufficient. *Vision Research*, 40, 1549-1567.

## **PUBLICATIONS** (continued)

33. Suzuki, S., and Peterson, M. A. (2000). Multiplicative effects of intention on the perception of bistable apparent motion. *Psychological Science*, *11*, 202-209.
34. Peterson, M. A. Object perception. (2001). In E. B. Goldstein (Ed.), *Blackwell Handbook of Perception*, Chapter 6, pp. 168-203. Oxford: Blackwell Publishers.
35. Peterson, M. A. & Kim, J. H. (2001). On what is bound in figures and grounds. *Visual Cognition. Special Issue: "Neural Binding of Space and Time,"*8, 329-348.
36. Gibson, B. S. and Peterson, M. A. (2001). Inattentional blindness and attentional capture: Evidence for attention-based theories of visual salience. In C. L. Folk & B. S. Gibson (Eds.), *Attraction, Distraction, and Action: Multiple Perspectives on Attentional Capture*. (pp. 51-76) Elsevier Science: Oxford, London.
37. Peterson, M. A. (2003). Vision: Top-down effects. In L. Nadel (Ed.), *Encyclopedia of Cognitive Science*, volume 4, pp. 500-504. London: Macmillan.
38. Peterson, M. A. (2003). On figures, grounds, and varieties of amodal surface completion. In R. Kimchi, M. Behrmann, & C. Olson (Eds.) *Perceptual Organization in Vision: Behavioral and Neural Perspectives*. pp. 87-116. Mahwah, NJ: LEA.
- 39. Peterson, M. A., & Rhodes, Gillian (2003). *Perception of Faces, Objects, and Scenes: Analytic and Holistic Processes*. New York: Oxford University Press.**
40. Peterson, M. A. (2003). Overlapping partial configurations in object memory: an alternative solution to classic problems in perception and recognition. In M. A. Peterson & G. Rhodes (Eds.) *Perception of Faces, Objects, and Scenes: Analytic and Holistic Processes*. pp. 269-294. New York: Oxford University Press.
41. Peterson, M. A., & Rhodes, Gillian (2003). Analytic and holistic processing: The view through different lenses. In M. A. Peterson & G. Rhodes (Eds.), *Perception of Faces, Objects, and Scenes: Analytic and Holistic Processes*. pp. 3-19. New York: Oxford University Press.
42. Peterson, M. A. & Skow-Grant, E. (2003). Memory and learning in figure-ground perception. In B. Ross & D. Irwin (Eds.) *Cognitive Vision: Psychology of Learning and Motivation*, *42*, 1-34.
43. Peterson, M. A. & Lampignano, D. L. (2003). Implicit memory for novel figure-ground displays includes a history of border competition. *Journal of Experimental Psychology: Human Perception and Performance*, *29*, 808-822.
44. Rauschenberger, R., Peterson, M. A., Mosca, F., & Bruno, N. (2004). Amodal completion in visual search: Preemption or context effects? *Psychological Science*, *15*, 351-355.
45. Trujillo, L.T., Peterson, M.A., Kaszniak, A.W., & Allen, J. J. B. (2005). EEG Phase Synchrony: An Investigation of Recording and Analysis Artifacts in the Context of a Visual Cognition Experiment. *Clinical Neurophysiology*, *116*, 172-189.
46. Burge, J., Peterson, M. A., Palmer, S. E. (2005). Ordinal configural cues combine with metric disparity in depth perception. *Journal of Vision*, *5(6)*, 534-542. <http://www.journalofvision.org/5/6/5/>



## **PUBLICATIONS** (continued)

47. Peterson, M. A., & Enns, J. T. (2005). The edge complex: Implicit perceptual memory for cross-edge competition leading to figure assignment. *Perception & Psychophysics*, 4, 727-740.
48. Behrmann, M., Peterson, M. A., Suzuki, S., & Moscovitch, M. (2006). Independent representation of parts and the relations between them: Evidence from integrative agnosia. *Journal of Experimental Psychology: Human Perception and Performance*, 32(5), 1169-1184.
49. **Peterson, M. A., Gillam, B., Sedgwick, H. A. (2007). *In the Mind's Eye: Julian Hochberg's Contributions to Our Understanding of the Perception of Pictures, Films, and the World*. NY: Oxford University Press.**
50. Peterson, M. A. (2007). The Piecemeal, Constructive, and Schematic Nature of Perception. In M. A. Peterson, B. Gillam, H. A. Sedgwick (Eds). *In the Mind's Eye: Julian Hochberg's Contributions to Our Understanding of the Perception of Pictures, Films, and the World*. Pp. 419-428. NY: Oxford University Press.
51. Gillam, B., Sedgwick, H. A., & Peterson, Mary A. (2007). Introduction: In the Mind's Eye. In M. A. Peterson, B. Gillam, H. A. Sedgwick (Eds). *In the Mind's Eye: Julian Hochberg's Contributions to Our Understanding of the Perception of Pictures, Films, and the World*. Pp. xv – xxi. NY: Oxford University Press.
52. Aviezer, H., Landau, A. N., Robertson, L. C., Peterson, M. A., Soroker, N., Sacher, Y., Bonneh, Y., & Bentin, S. (2007). Implicit integration in a case of integrative visual agnosia. *Neuropsychologia*, 45 (9), 2066-2077.
53. Peterson, M. A., & Skow, E. (2008). Suppression Of Shape Properties On The Ground Side Of An Edge: Evidence For A Competitive Model Of Figure Assignment. *Journal of Experimental Psychology: Human Perception and Performance*, 34 (2), 251-267.
54. Thomas, C., Moya, L., Avidan, G., Humphreys, K., Jung, K.J., Peterson, M. and Behrmann, M. (2008). Reduction in white matter connectivity, revealed by DTI, may account for age-related changes in face perception. *Journal of Cognitive Neuroscience*, 20 (2), 268-284.
55. Kimchi, R. & Peterson, M. A. (2008). Figure-ground Segmentation Can Occur Without Attention. *Psychological Science*, 19(7), 660-668.
56. Peterson, M. A., & Salvagio, E. (2008). Inhibitory Competition in Figure-Ground Perception: Context and Convexity. *Journal of Vision*, 8(16): 4, 1-13. <http://www.journalofvision.org/8/16/4/>
57. Gothard, K., Brooks, K., & Peterson, M. A. (2009). Multiple perceptual mechanisms of face processing in macaque monkeys. *Animal Cognition*, 12 (1), 155-167.
58. **Tommasi, L., Peterson, M. A., & Nadel, L. (2009). *Cognitive Biology: Evolutionary and Developmental Perspectives on Mind, Brain and Behavior*. Cambridge, MA: MIT Press.**
59. Tommasi, L., Peterson, M. A., & Nadel, L. (2009). Cognitive Biology: The New Cognitive Sciences? In *Cognitive Biology: Evolutionary and Developmental Perspectives on Mind, Brain and Behavior*. L. Tommasi, L. Nadel, & M. A. Peterson (Eds). Cambridge, MA: MIT Press.

## **PUBLICATIONS** (continued)

60. Peterson, M. A. & Salvagio, E. (2009). Attention and Competition in Figure-Ground Perception. In N. Srinivasan (Ed). *Attention*. Chapter 1, pp. 1-13. Elsevier Progress in Brain Research Series.
61. Trujillo, L. T., Allen, J. J. B., Schnyer, D., & Peterson, M. A. (2010). Neurophysiological Evidence for the Influence of Past Experience on Figure-Ground Perception. *Journal of Vision*, 10(2), 5, 1-21. <http://journalofvision.org/10/2/5/> doi:10.1167/10.2.5.
62. Peterson, M. A. & Salvagio, E. (2010). Figure-ground perception. *Scholarpedia*, 5(4):4320.
63. Peterson, M. A. (2011). Variable Exemplars May Operate by Facilitating Latent Perceptual Organization. *Infancy*, 16(1), 52-60. Article first published online: 10 DEC 2010. DOI: 10.1111/j.1532-7078.2010.00055.
64. Barense, M. G., Ngo, J., Hung, L., & Peterson, M. A. (2012). Interactions of Memory and Perception in Amnesia: The Figure-Ground Perspective. *Cerebral Cortex*, 22(11), 2680-2691. doi: 10.1093/cercor/bhr347
65. Salvagio, E.M., Cacciamani, L., & Peterson, M. A. (2012). Competition-Strength-Dependent Ground Suppression in Figure-Ground Perception. *Attention, Perception, & Performance*, 74(5), 964-978.
66. Peterson, M. A. (2012). Plasticity, competition, and task effects in object perception. In Wolfe, J. M. & Robertson, L. (Eds.) *From Perception to Consciousness: Searching with Anne Treisman*. Ch. 11, pp. 253-262. (Accompanying article by Treisman, pp. 237-252.) NY: Oxford University Press.
67. Goldreich, D. & Peterson, M.A. (2012). A Bayesian Observer Replicates Convexity Context Effects. *Seeing and Perceiving*, 25 (3-4), 365-395.
68. Peterson, M. A., Cacciamani, L., Barense, M. D., & Scalf, P. E. (2012.) The perirhinal cortex modulates V2 activity in response to the agreement between part familiarity and configuration familiarity. *Hippocampus*, 22, 1965-1977.
69. Wagemans, J., Elder, J.H., Kubovy, M., Palmer, S.E., Peterson, M. A., Singh, M, & von der Heydt, R. (2012). A century of Gestalt psychology in visual perception I. Perceptual grouping and figure-ground organization. *Psychological Bulletin*, November, 138(6), 1172-1217. (\*After first author, alphabetical author order)
70. Peterson, M. A., Cacciamani, L., Mojica, A.J., & Sanguinetti, J. L. (2012). The Ground Side of A Figure: Shapeless but not Meaningless. *Journal of Gestalt Theory*, 34 (3/4), 297-314.
71. Peterson, M. A. (2013). Borders, Contours, and Mechanisms. *Cognitive Neuroscience*, 4(1), 52-53. DOI:10.1080/17588928.2012.748026
72. Peterson, M. A., & Kimchi, R. (2013). Perceptual Organization. In D. Reisberg (Ed.) *Handbook of Cognitive Psychology*. Oxford University Press, pp. 9-31.
73. Peterson, M.A., & Cacciamani, L. (2013). Toward a dynamical view of object perception. In Dickinson, S. & Pizlo, Z. (Eds.) *Shape Perception in Human and Computer Vision: An Interdisciplinary Perspective*. Chapter 30, pp. 445-459. Springer.

## **PUBLICATIONS** (continued)

74. West, G., Pratt, J., & Peterson, M.A. (2013). Attention is Biased to Near Surfaces. *Psychonomic Bulletin & Review*. 1-8 (published online, July 2013).
75. Nadel, L. & Peterson, M.A. (2013). The Hippocampus: Part of a Massively Interactive Representational System Spanning Perceptual and Memorial Systems. *Journal of Experimental Psychology: General*.
76. Peterson, Mary A. (2013). Low-level and High-level Contributions to Figure-Ground Organization: Evidence and Theoretical Implications. In J. Wagemans (Ed.), *The Oxford Handbook of Perceptual Organization*. NY: Oxford University Press.
77. Chan, D., Peterson, M. A., Barense, M.D., & Pratt, J. (2013). How Action influences Object Perception. *Frontiers in Psychology*, 4: 462. doi: 10.3389/fpsyg.2013.00462
78. Sanguinetti, J. L., Allen, J. J. B., & Peterson, M. A. (in press). A Repetition Paradigm With Figure-ground Stimuli Reveals that Both Semantic and Shape Representations Can Be Accessed Outside of Awareness. *Psychological Science*
79. Spanò, G., Peterson, M.A., Nadel, L., & Edgin, J.O. (under review). Attenuated influence of memory representations on perception in Down syndrome. *Developmental Science*.
80. Cacciamani, L., Mojica, A.J., Sanguinetti, J. L., & Peterson, M.A. (under review). Semantic access occurs outside of awareness for the groundside of a figure.
81. Mojica, A. J. and Peterson, M. A. (under review). Display-wide Influences on Figure-Ground Perception: The Case of Symmetry.
82. Gómez, R.L., Frye, S. S., Bishop, K., Peterson, M. A. Prior experience can override configural cues in scene segregation in 4.5 month old infants.

## **PAPERS IN PROGRESS**

1. Skow, E., & Peterson, M. A. (under revise & resubmit) Memory in Visual Search. *Attention, Perception, & Psychophysics*.
2. Cacciamani, L. & Peterson, M. A. Behavioral Interference Provides Evidence for a Distributed Face Perception Network.
3. Salvagio, E. M. and Peterson, M. A. The time course of convexity context effects: Evidence for competition between local and global interpretations in figure-ground perception.
4. Roller, B., Mojica, A.J., Salvagio, E., Peterson, M.A. Grouping Eliminates Object based Attention Effects.
5. Peterson, M.A., Mojica, A. J., Salvagio, E., and Kimchi, R. Attention is Drawn to Figure Cues not to Figures.
6. Peterson, M. A. Figure-ground perception: History and future directions. *Attention, Perception & Psychophysics*.
7. Mojica, A. J., Salvagio, E. M., & Peterson, M. A. The strength of small area as a figural cue.
8. Peterson, M. A. Mon, C., Raz, D., & Gerken, L. Perceptual Organization in infancy: The Configural Cue of Convexity.
9. Skow, E., Peterson, M. A., & Rauschenberger, R. On the Separability of Object-Based and Location-Based IOR.

**CONFERENCE PRESENTATIONS AND POSTERS (since 1997 only) \* published abstract**

- Suzuki, S., Peterson, M. A., Moscovitch, M., and Behrmann, M. (1997, March). Viewpoint Specificity in the Identification of Simple Volumetric Objects (Geons) is Evident in Control Subjects and Very Exaggerated in Persons with Visual Object Agnosia. Poster presented at the Fourth Annual Meeting of the Cognitive Neuroscience Society, Boston, MA.
- \* Suzuki, S., & Peterson, M. A. (1997, May). Intentional (Attentional) Control of Bi-Stable Apparent Motion Depends Upon Retinal Location. Poster presented at the Annual Meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.
- Peterson, M. A., & Hector, J. E. (1997, November). Relative location-specificity of object Peterson, M. A., & deGelder, B. (1997, June). Preserved object recognition contributions to depth segregation in an agnosic patient. Poster presented at the McDonnell-Pew Cognitive Neuroscience Meeting, Oxford, England.
- Peterson, M. A. (1997, November). Shape recognition cues to depth segregation. Paper presented at the Annual Meeting of the Psychonomic Society, Philadelphia, PA.
- Peterson, M. A., Suzuki, S., Zemel, R. S., & Rapsack, S. Z. (1998, March). Intact and impaired object processing following dorsal visual system damage. Poster presented at the Fifth Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA.
- \* Peterson, M. A., de Gelder, B., Rapsack, S. Z., Gerhardstein, P. C., and Bachoud-Lévi, A.-C. (1998, May). A double dissociation between implicit and explicit object recognition processes revealed by figure-ground segmentation. Poster presented at the Annual Meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL.
- Peterson, M. A., & Zemel, R. S. (1998, November). Location specificity in memories of novel objects. Paper presented at the Annual Meeting of the Psychonomic Society, Dallas, TX.
- \* Peterson, M. A. & Gerhardstein, P. C. (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, Fort Lauderdale, FL.
- Peterson, M. A. (1999, November). Inhibition and facilitation of object memories during image segregation. Paper presented at the Annual Meeting of the Psychonomic Society, LA, CA.
- \* Peterson, M. A. & Zemel, R. S. (2000, May). Location specificity in object learning. Paper presented at the Annual Meeting of the Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL. Abstract published in: *Investigative Ophthalmology and Visual Sciences*, 41, 1725.
- Peterson, M.A., & Rapsack, S. Z. (2001, March). Task requirements and attention. Poster presented at the Eighth Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- \* Lampignano, D. L., & Peterson, M. A. (2001, March). Are long term memories established for the shapes of grounds? Poster presented at the Eighth Annual Meeting of the Cognitive Neuroscience Society, New York, NY.
- \* Kim, J. H. & Peterson, M. A. (2001, May). Contextual modulation of the strength of the Gestalt configural cues. Poster presented at the first annual meeting of the Vision Sciences Society, Sarasota, FL. Abstract published in: *Journal of Vision*, 1, 3, 390.
- Payne, J.D. Peterson, M.A. Jacobs, W.J.& Nadel, L. (2001. November). Stress Effects On Perceptual Binding, Attention And False Memory. Poster presented at the Annual Society for Neuroscience Meeting, San Diego, CA.
- Schulz, M. F., Peterson, M. A., Sanocki, T., & Sellers, E. W. (2001, November). Time course of perceptual grouping: A priming study. Paper to be presented at the Annual Object Perception and Memory Meeting, Orlando, FL.

### **CONFERENCE PRESENTATIONS and POSTERS** (since 1997, continued)

- Peterson, M. A., & Kim, J.H. (2001, November). Context Modulates the Gestalt Configural Cue of Convexity. Paper presented at the Annual Meeting of the Psychonomic Society, Orlando.
- Payne, J. D, Jacobs, W.J., Peterson, M. A., Lopez, C., Hardt, O., & Nadel, L. (2002, April). Stressing Memory: Effects on Spatial and Episodic Memory. Cognitive Neuroscience Meeting, San Francisco, CA.
- \* Peterson, M. A. & Lampignano, D. L. (2002, May). Memory for novel shapes of grounds? An alternative hypothesis. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 408.
- \* Peterson, M. A. & Enns, J. T. (2002, May). Memory for an edge includes figure and ground assignment. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 7, 497.
- \* Rauschenberger, R. Peterson, M. A., Mosca, F., & Bruno N. (2002, May). A modified search task investigates an alternative to the two-stage model of amodal completion. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 7, 680.
- \* Skow Grant, E. , Lampignano, D. W., Kim, J. H., & Peterson, M. A. (2002, May). Tests of a competitive interactive model of figure assignment. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 7, 472.
- \* Schulz, M. F., Rauschenberger, R., & Peterson, M. A. (2002, May). Amodal completion in passively viewed displays: A priming study. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 681.
- \* Kim, J.H., & Peterson, M.A. (2002, May). Contextual modulation of the strength of Gestalt configural cues. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 2, 7, 481.
- \* Peterson, M. A., & Rauschenberger, R. (2003, May). Context affects border assignment in the target stimulus in visual search. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 3, 9, 232.
- \* Skow-Grant, E. & Peterson, M. A. (2003, May). Where has object-based IOR gone? Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 3, 9, 335.
- \* Peterson, M. A., & Kim, J. H. (2003, October). Does context modulate the strength of the configural cue of symmetry? Fall Vision Meeting, Tucson, AZ. Abstract published in: *Journal of Vision*, 3, 12, 80.
- Kim, J.H., & Peterson, M.A. (2003, November). Long range interactions among local competitions for figural status. Object Perception, Attention, and Memory meeting, Vancouver, B.C.
- Skow-Grant, E., Rauschenberger, R., & Peterson, M. A. (2003, November). Attention, not Inhibition of Return, Tracks Objects. Object Perception, Attention, and Memory Meeting, Vancouver, B.C.
- \* Burge, J., Peterson, M. A., & Palmer, S. E. (May, 2004). Perceived depth is influenced both by binocular disparity and configural cues. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 4, 8, 193.
- \* Rauschenberger, R., & Peterson, M. A. (May, 2004). When unambiguous stimuli become ambiguous: Spatiotemporal context effects with nominally unambiguous stimuli. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 4, 8, 179.
- \* Skow-Grant, E., & Peterson, M. A. (May, 2004). Past experience in figural assignment: partial configurations are sufficient. Vision Sciences Society Meeting, Sarasota, FL. Abstract published in: *Journal of Vision*, 4, 8, 725.
- Peterson, Mary A. (August, 2004). Past Experience and Competition in Figure Assignment. Talk invited for symposium, "Neo-Gestalt Contributions to the Understanding of Perceptual Organization," at the International Congress of Psychology, Beijing, China.
- Trujillo, L. T. & Peterson, M. A. (October, 2004). P100 and N170 ERP Components Reflect Differences Among Upright, Inverted, And Scrambled Mooney Faces. Poster presented at the Annual Society for Neuroscience Meeting, San Diego, CA.
- \* Peterson, M.A., & Skow, E. (May, 2005). Intermediate level medium-span configurations can mediate past experience effects on figure assignment. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 217.

**CONFERENCE PRESENTATIONS and POSTERS** (since 1997, continued)

- \*Kim, J.H., & Peterson, M.A. (May, 2005). The time course of the operation of bilateral symmetry as a configural cue. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 342.
- \*Landau, A., Aviezer, H., Robertson, L.C., Peterson, M.A., Soroker, N., Sacher, Y., Boneh, Y., & Bentin, B. (2005). Implicit object recognition in visual integrative agnosia: case SE. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 289.
- \*Skow, E., & Peterson, M.A. (May, 2005). Competing action memories can produce the appearance of memory-free visual search. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 418.
- \*Trujillo, L.T., Peterson, M.A., & Allen, J.B. (May, 2005). Electrophysiological evidence for early access to object memories during figure assignment in humans. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 5(8), 910.
- Trujillo, L.T., Peterson, M.A., & Allen, J.B. (November, 2005). Human ERP Correlates of Cross-Edge Figure Competition During Figure-Assignment. Poster presented at the Annual Society for Neuroscience Meeting, Washington, D.C.
- \*Trujillo et al (May, 2006). ERP Components Index Unconscious versus Conscious Perception of Familiar Shape With Figure-Ground Reversal. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 6(6), 97.
- \*Schroeder, A. & Peterson, M. A. (May, 2006). Do Synesthetes Excel Under Object-Substitution Masking? Type of Attention Matters. Vision Sciences Society Meeting, Sarasota, FL. Published abstract: *Journal of Vision*, 6(6), 1075.
- Peterson, M. A., Kim, J. H., & Salvagio, E. (November, 2006). Psychonomic Society Meeting, Houston, TX.
- \* Salvagio, E., Kim, J.H., & Peterson, M.A. (May, 2007). Context determines figure-ground perception by suppressing competition. Vision Sciences Society Meeting, Sarasota, FL. Published Abstract: *Journal of Vision*, 7(9), 904.
- \* Skow, E., & Peterson, M. A. (2007, May). Identity, location, and direction can be learned quickly in repeated search. Vision Sciences Society Meeting, Sarasota, FL. Published Abstract: *Journal of Vision*, 7(9), 1058.
- Kimchi, R., & Peterson, M. A. (2007, November). Figure-ground perception can occur without attention. Talk presented at the Psychonomic Society meeting, Long Beach, FL.
- \* Salvagio, E. M., Mojica, A. J., & Peterson, M. A. (May, 2008). Context effects in figure-ground perception: The role of biased competition, suppression and long-range connections. Vision Sciences Society Meeting, Naples, FL. Published Abstract: *Journal of Vision*, 8(6), 1007.
- \* Kimchi, R. & Peterson, M. A. (May, 2008). Figure-ground segmentation can occur without attention. Vision Sciences Society Meeting, Naples, FL. Published Abstract: *Journal of Vision*, 8(6), 825.
- Peterson, M.A., Salvagio, E., & Mojica, A. J. (November, 2008). Context effects reveal that figure-ground perception is an instance of biased competition. Talk presented at the *Psychonomic Society* meeting, Chicago, IL
- Mojica, A., Salvagio, E. M., Kimchi, R., & Peterson M. A. (2009). On the relationship between attention and figure-ground perception. *Vision Sciences Society Meeting*, Naples, FL. Published Abstract: *Journal of Vision*, 9(8), 937.
- Salvagio, E. M., & Peterson, M. A. (2009). The Dynamics of Cross-Edge Competition and Amodal Completion in Figure-Ground Perception. *Vision Sciences Society Meeting*, Naples, FL. Published Abstract: *Journal of Vision*, 9(8), 938.
- Peterson, M. A. (November, 2009). Between-Shape Competition in Figure-Ground Perception: Measurements at Multiple Levels. Psychonomic Society Meeting, Boston, MA.
- Barens, M.D., Ngo, K.W.J., Peterson, M.A. (May, 2010). Figure-ground perception is impaired in medial temporal lobe amnesia. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 749; doi:10.1167/10.7.749

**CONFERENCE PRESENTATIONS and POSTERS** (since 1997, continued)

- Cacciamani, L., Salvagio, E., & Peterson, M. A. (May, 2010). Target Discrimination Performance Reveals That Competition For Figural Status Entails Mutual Inhibition. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 1195; doi:10.1167/10.7.1195
- Mojica, A., Roller, B., Salvagio, E., Peterson, M.A (May, 2010). Object-based attention benefits demonstrate surface perception in two-dimensional figure-ground displays. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 1203; doi:10.1167/10.7.1203
- Salvagio, E., & Peterson, M.A. (May, 2010). Temporal Dynamics in Convexity Context Effects. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 1214; doi:10.1167/10.7.1214
- Sawada, T., & Peterson, M.A. (May, 2010). The role of symmetry and volume in figure-ground organization. *Vision Sciences Society Meeting. Journal of Vision*, 10(7): 1170; doi:10.1167/10.7.1170
- Peterson, M. A. & Barense, M. D. (June, 2010). Is there a dividing line between perception and memory? Invited participant: Unification Symposium: Brain, Behavior and Cognitive Sciences, Dalhousie University Halifax, Nova Scotia.
- Sanguinetti, J. L., Peterson, M. A., & Allen, J. J. B. (October, 2010). Electrophysiological Evidence for Cross-Edge Competition During Figure-Ground Perception. Poster presented at the Society for Psychophysiological Research.
- Sanguinetti, J. L., Allen, J. J. B., & Peterson, M. A. (November, 2010). A Repetition Paradigm With Figure-ground Stimuli Reveals that Both Semantic and Shape Representations Can Be Accessed Outside of Awareness. Poster presented at the Society for Neuroscience Meeting, San Diego, CA.
- Peterson, M. A. (November, 2010). Familiar Configuration Effects on Figure-Ground Perception Are Impaired by Perirhinal Cortex Damage. Talk presented at the Configural Processing Consortium, Washington University, St. Louis, MO.
- Cacciamani, L. & Peterson, M. A. (November, 2010). Holding Faces in Memory Interferes with Face Discrimination but not Object Discrimination. Talk presented at the Configural Processing Consortium, Washington University, St. Louis, MO.
- Cacciamani, L. & Peterson, M. A. (November, 2010). Holding Faces in Memory Interferes with Face Discrimination but not Object Discrimination. Poster presented at the Object Perception and Memory Meeting, St. Louis, MO.
- Peterson, M. A. & Barense, M. D. (November, 2010). Familiar Configuration Effects on Figure-Ground Perception Are Impaired by Perirhinal Cortex Damage. Talk presented at the Psychonomic Society Meeting, St. Louis, MO.
- Salvagio, E., Mojica, A.J., Kimchi, R., Peterson, M.A. (May 9, 2011). Reevaluating whether attention is drawn to figures. *Vision Sciences Society Meeting. Journal of Vision*, (11): 1104; doi:10.1167/11.11.1104
- Cacciamani, L., & Peterson, M.A. (May 9, 2011). Frontal lobe involvement in face discrimination. *Vision Sciences Society Meeting. Journal of Vision*, (11): 657; doi:10.1167/11.11.657
- Roller, B., Mojica, A.J., Salvagio, E., & Peterson, M.A. (May 7, 2011). Object based attention effects disappear when flanking objects are present. *Vision Sciences Society Meeting. Journal of Vision*, (11): 143; doi:10.1167/11.11.143
- Mojica, A.J. & Peterson, M. A. (May 9, 2011). On the relative effectiveness of symmetry and convexity as figural cues. *Vision Sciences Society Meeting. Journal of Vision*, (11): 1099; doi:10.1167/11.11.1099
- Peterson, M.A. (May, 2011). Abnormal shape memory influences on figure-ground perception in temporal lobe amnesia. Symposium Talk. That "other" part of the temporal lobe involved in perception and memory." *Spring Hippocampal Research Conference*, Verona, Italy.
- Peterson, M.A. (August, 2011). Rethinking Figure-Ground Segregation: Evidence From Brain-damaged Individuals. Invited symposium presentation at the European Conference on Visual Perception, Toulouse, France.
- Peterson, M.A., Sanguinetti, J.L., & Allen, J.J.B. (September, 2011). ERP Evidence for Semantic Access for Objects That are Suggested but Not Perceived on the Groundside of a Figure. Talk presented at the *European Conference on Visual Perception*, Toulouse, France.

### **CONFERENCE PRESENTATIONS and POSTERS** (since 1997, continued)

- Peterson, M. A. (November, 2011). A Bayesian View of Convexity Context Effects. The Configural Processing Consortium, Seattle, WA.
- Peterson, M.A. (April 2012). Figure-Ground Segregation: A Dynamic Interactive Process. Tagung experimentell arbeitender Psychologen (Conference of Experimental Psychologists), Mannheim, Germany.
- Peterson, M.A. (April 2012). There's more to vision than meets the eye. University of Kaiserslautern, Germany.
- Peterson, Mary A. Aging and Competition Resolution in depth perception. Talk given at the McKnight Inter-institutional Meeting, University of Arizona.
- Cacciamani, L., Mojica, A. J., Sanguinetti, J. L. & Peterson, M. A. (May, 2012). Meaning can be Accessed for the Groundside of a Figure. *Journal of Vision*, August 13, 2012 12(9): 305; doi:10.1167/12.9.305
- Chan, D., Peterson, M. A., Qian, S., & Pratt, J. (May, 2012). The "Gist" of Visual Processing. *Journal of Vision*, August 13, 2012 12(9): 1058; doi:10.1167/12.9.1058
- Lass, J.W., Bennett, P.J., Peterson, A.A., & Sekuler, A.B. (May, 2012). The Effect of Context and Convexity on Figure Ground Perception in Aging. *Journal of Vision*, August 13, 2012 12(9): 1302; doi:10.1167/12.9.1302.
- Mojica, A.J., Salvagio, E., & Peterson, M. A. (May, 2012). Attention is allocated to figures only under conditions of uncertainty. *Journal of Vision*, August 13, 2012 12(9): 308; doi:10.1167/12.9.308
- Salvagio, E., & Peterson, M. A. (May, 2012). Revealing the Temporal Dynamics of Competitive Interactions in Figure-Ground Perception. *Journal of Vision*, August 13, 2012 12(9): 887; doi:10.1167/12.9.887
- Sanguinetti, J.L. & Peterson, M.A. (May, 2012). Ultra-Rapid Categorization Based on Perceptual Organization. Talk given at the Vision Sciences Society Meeting, Naples, FL.
- Viator, S., Gómez, R. L., Bishop, K., Peterson, M. A. (2012). Infants Can Use a Newly Learned Object Category for Scene Segregation. Poster presented at the International Conference on Infant Studies, Minneapolis, June.
- Cacciamani, L., Scalf, P.E., Barense, M.D., & Peterson, M.A. (2012, October). The perirhinal cortex modulates V2 activity in response to the agreement between part familiarity and configuration familiarity. Society for Neuroscience Conference, New Orleans, LA.
- Sanguinetti, J.L., Heshmati, S., Allen J.J.B., Peterson, M.A. (2012, October) Masked repetition priming with event-related potentials reveals that access to semantics can be dissociated from visual perception. Annual Meeting for the Society for Neuroscience, New Orleans, LA. 285.19/VV20
- Spanò, G., Peterson, M.A., Nadel, L., Edgin, J. O. (2012, October) Perceptual-mnemonic medial temporal lobe function in individuals with Down syndrome. Poster Presented at The 42<sup>nd</sup> annual meeting of The Society For Neuroscience in New Orleans, LA.
- Peterson, M. A., Cacciamani, L., Barense, M. D., & Scalf, P. (2012, November). On Parts, Wholes and Familiarity. Talk presented at the meeting of the Configural Processing Consortium, Minneapolis, MN.
- Peterson, M. A., Cacciamani, L., Barense, M. D., & Scalf, P. (2012, November). On Parts, Wholes and Familiarity: The Perirhinal Cortex Modulates V2 Activity In Response To The Agreement Between Part Familiarity And Configuration Familiarity. Talk presented at the meeting of the Psychonomic Society, Minneapolis, MN.
- Cacciamani, L., Mojica, A. J., Sanguinetti, J. L., & Peterson, M.A. (2013, May). Accessing meaning for the groundside of a figure: How long does it last? Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 71. doi:10.1167/13.9.71
- Chan, D., Peterson, M. A., Barense, M. D., & Pratt, J. (2013, May). Action influences object perception. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 1007. doi:10.1167/13.9.1007
- Duran, G., & Peterson, M. A. (2013, May). Interaction between visual and conceptual processing in art appreciation. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 1307. doi:10.1167/13.9.1307



### **CONFERENCE PRESENTATIONS and POSTERS** (since 1997, continued)

- Lass, J. W., Bennett, P., Peterson, M. A., & Sekuler, A. (2013, May). The effects of aging on figure/ground perception: Reduced competition resolution in older observers. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 719. doi:10.1167/13.9.719
- Mojica, A. J., & Peterson, M. A. (2013, May). Semantic priming affects figure assignment. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 714. doi:10.1167/13.9.714
- Salvagio, E., & Peterson, M. A. (2013, May). Infants (5.5 months old) use shape regularity to segment objects from their backgrounds. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 716. doi:10.1167/13.9.716
- Sanguinetti, L., & Peterson, M. A. (2013, May). Unmasking the mask: semantic similarity produces disinhibition in a masked priming paradigm. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 47. doi:10.1167/13.9.47
- Scalf, P. E., Cacciamani, L., Barense, M. D., & Peterson, M. A. (2013, May). Representation of object parts and wholes in V2 modified by medial temporal lobe structures. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 1002. doi:10.1167/13.9.1002
- Slugocki, M., Maurer, D., Peterson, M. A., & Lewis, T. (2013, May). Convexity as a cue to figure-ground segmentation in children. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 718. doi:10.1167/13.9.718
- Peterson, M. A., & Salvagio, E. (2013, May). Surprising evidence of competition in a classic figure-ground stimulus supports a role for background prior in figure assignment. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 717. doi:10.1167/13.9.717
- Wager, E., Peterson, M. A., Folstein, J. R., & Scalf, P. E. (2013, May). Automatic top-down processes mediate selective attention. Vision Sciences Society Meeting, Naples, FL. *Journal of Vision*, 13(9): 137. doi:10.1167/13.9.137
- Sun, H. & Peterson, M.A. (2013, December). An Empirical Study of the Impact of Stereo 3D on User Learning in the Web Environment. Thirty Fourth International Conference on Information Systems, Milan, Italy, December 15-18, 2013.

### **INVITED TALKS** (since 1997 only)

- The visual perception of holes. (February, 1997). Commentator: Reasoning and Rationality Session. *Reasoning, Language, and Cognition Conference*, Tucson-Paris (CREA), Tucson, AZ.
- Image segmentation, depth segregation, and object recognition. (May 29, 1997). Talk presented at the *First Conference of the Arizona Visionaries*.
- Figure-ground illuminates object recognition. (June 16, 1998). *Language, Reasoning, and Cognition Conference*, Villard de Lans, France.
- Figure-ground illuminates object recognition. (June 27, 1998). Object and Face Recognition Symposium at the *International Neuropsychological Symposium*, Jerusalem, Israel.
- Figure-ground illuminates object recognition. (July 14, 1998). In the *Mind, Brain, and Behavior Symposium Series*, jointly sponsored by Divisions 3 and 6, *American Psychological Association Meeting*, San Francisco, CA.
- Quick, unconscious object recognition effects on scene segmentation. (May 7, 1999) *Third Annual Vision Research Conference: Preattentive and Attentive Mechanisms in Vision*, Fort Lauderdale, FL.
- Access to object memories in the course of figure-ground assignment: Inhibitory and facilitatory processes. (March 17, 2000). *The Symposium on Neural binding of space and time: Spatial and temporal mechanisms for feature-object binding*. University of Leipzig, Germany
- Inhibition and facilitation in figure-ground assignment. (March 14, 2000). *Max Planck Institute, Tübingen*, Germany.
- On figures, grounds, and the perception of shape and relative depth. (June 2, 2000). *The 31<sup>st</sup> Carnegie Mellon Symposium on Cognition*.
- Object Perception Workshop (June 13, 2001), *Institute Jean Nicod*, Paris, France.

### **INVITED TALKS** (*since 1997, continued*)

- A Parallel Interactive Approach to Figure Assignment. (October 5, 2001). The Salk Institute, LaJolla, CA.
- On Figure and Ground Assignment: The Role of Memory and Context. (December 10, 2001). *Concordia University*, Montreal, PQ.
- On Figure and Ground Assignment: The Role of Memory and Context. (March 7, 2002). *University of Auckland*, Auckland, New Zealand.
- On Figure and Ground Assignment: The Role of Memory and Context. (March 11, 2002). *University of Otago*, Dunedin, New Zealand.
- On Figure and Ground Assignment: The Role of Past Experience (May 2, 2002). *University of California, Riverside*.
- On Figure and Ground Assignment: The Role of Past Experience (June 6, 2002). *University College, London*.
- Memory and Learning in Figure and Ground Perception. (September 13, 2002). *Irvin Rock Memorial Lecture, University of California, Berkeley*.
- The Front End of Spatial Cognition: Figures and Grounds. (October 26, 2002). Spatial Thinking in Humanities and Sciences: From Perception to Meaning. Stanford University. Interdisciplinary Workshop sponsored by the Center for the Study of Language and Information and the Stanford Center for Innovative Learning.
- Memory and Learning in Figure-Ground Perception (February 13, 2003). *Center for the Study of Language and Information, Stanford University*.
- Rethinking Figure-Ground Perception (March 20, 2003). *NASA Ames Research Center, Moffett Field, California*.
- Past experience and figure assignment (April 4, 2003), *Redwoods Neuroscience Institute, Menlo Park, CA*.
- Rethinking figure assignment and the role of past experience. (May 20, 2003). Center For Neuroscience, *University of California, Davis*.
- Rethinking figure assignment and the role of past experience. (September 12, 2003). Cognitive Science Program, *University of Arizona*.
- Rethinking figure assignment with an emphasis on inhibitory processes. (November 10, 2003). *University of British Columbia*.
- Past experience and competition in figure assignment. (February 20, 2004). *Department of Psychology, Rice University*.
- Past Experience and Competition in Figure Assignment (Shape Perception). (May 16, 2005). *Center for Visual Science, University of Rochester*.
- Behavioral and Electrophysiological Evidence of Competition in Figure Assignment. (June 21, 2005). Invited Symposium speaker, *International Neuropsychological Society, Alghero*.
- Competition and Suppression In Figure-Ground Perception (aka Shape Perception). (October 19, 2005). *Princeton University*.
- Partial Configurations: Less than an object, more than a feature. (May 5, 2006). *Invited Satellite Symposium speaker, Object Recognition – 20 Years Later, Vision Sciences Society Meeting, Sarasota, FL*.
- Reexamining how innate versus learned factors contribute to shape perception. Invited talk in the *New Cognitive Sciences Symposium, at the Konrad Lorenz Institute, Altenburg, Austria, June 16, 2006*.
- Context and Past Experience Effects on Shape Perception (October 8, 2006). Invited workshop talk, *Perceptual Expertise Network XIII Workshop, Tucson, AZ*.
- Context and Past Experience Effects on Figure-Ground Perception (aka Shape Perception). Psychology Department, *Rutgers University, Newark, NJ*. (October 27, 2006).
- Reconceptualizing figure-ground perception as biased competition. May 3, 2007. *Barrow Neurological Institute, Phoenix, AZ*.
- Biased Competition in Figure-Ground Perception. Invited General Audience Talk, *Configural Processing Consortium, Long Beach California, November, 2007*.

### **INVITED TALKS** (since 1997, continued)

- Reconceptualizing Figure-Ground Segregation As Between-Shape Competition: Familiarity Led Me To It. Invited presentation in the 2008 *Second Annual Tufts University Conference on Emerging Trends in Behavioral, Affective, Social, and Cognitive Neurosciences. Cognitive Neuroscience of Visual Knowledge: Where Vision Meets Memory*, May 29-31, 2008.
- Re-conceptualizing figure-ground perception. *International Congress of Psychology*, Berlin, Germany, July, 2008. (In invited symposium organized by Marlene Behrmann and Mary Peterson: Object Perception: New Views.)
- Figure-Ground Perception: From Familiarity to Competition. Invited Cognitive Science Colloquium, *Indiana University*, September 15, 2008.
- Context Affects Figure-Ground Perception: Global Effects on Local Competition. Invited Cognitive Colloquium, *Indiana University*, September 17, 2008.
- The Dynamics of Cross-Edge Competition & Amodal Completion in Figure-Ground Perception. Invited Presentation, *International Conference on Attention*, Centre of Behavioural and Cognitive Sciences, Allahabad, India, December 7-10, 2008.
- From "Figure-Ground" Perception To A New View of Shape Perception. Invited Ebbinghaus Empire Colloquium, *University of Toronto*, March 25, 2009.
- From "Figure-Ground" Perception To A New View of Shape Perception. Invited Colloquium, *McMaster University*, March 26, 2009.
- High-level and Contextual Influences on Figure-Ground Perception: A Case for Recurrent Processing. Invited Presentation, *2nd International Workshop on Shape Perception in Human and Computer Vision*, Regensburg, Germany, August 29, 2009.
- Perception and Memory: The "Figure-Ground" Perspective, *Rotman Institute*, Toronto, February 22, 2010.
- Context effects in figure assignment, University of Toronto, Scarborough, February 23, 2010.
- Memory Contributions to Scene Segregation: Where, When, and How? Cognitive Colloquium, University of Delaware, March 22, 2010.
- Memory Contributions to Scene Segregation: Where, When, and How? Brown University, April 7, 2010.
- Context effects in figure assignment, Cognitive Colloquium, McMaster University, April 9, 2010.
- Memory Contributions to Scene Segregation: Where, When, and How? Cognitive Colloquium, York University, June 10, 2010.
- The Probabilistic and Context-Dependent Nature of the Scene Segregation Cues of Convexity and Symmetry. University of Toronto, Department of Computer Science, June 28, 2010.
- The Cognitive Neuroscience of Object Perception. University of Arizona, Neuroscience GIDP, October 4, 2011.
- Peterson, M.A. (April 2012). Figure-Ground Segregation: A Dynamic Interactive Process. Tagung experimentell arbeitender Psychologen (Conference of Experimental Psychologists), Mannheim, Germany.
- Peterson, M.A. (April 2012). There's more to vision than meets the eye. University of Kaiserslautern, Germany.
- Memory Influences on Figure-Ground Perception: Evidence for Reentrant Processing. The University of New South Wales, June 20, 2012
- Memory Influences on Figure-Ground Perception: Evidence for Reentrant Processing. Attention & Perception Conference: Perceptual Organization, Taiwan, June 24, 2012.
- On Figure Cues, Ground Cues, and Figure-Ground Context Effects. Attention & Perception Conference: Perceptual Organization, Taiwan, June 25, 2012.
- Figure-Ground Perception: The Case for Memory Influences, Competition, and Re-entrant Processes. Ecole Polytechnique Federale Lausanne, March 6, 2013.
- Object Perception: Erasing the Border Between Perception and Memory. Smith-Kettlewell, San Francisco, CA, May, 23, 2013.
- Nadel, L. & Peterson, M.A. (2013, June). What is long term episodic memory for? Talk presented at the International Neuropsychological Symposium, Nerja, SPAIN, June 25-June 29.

## **RESEARCH IN PROGRESS**

- Investigating the neural substrates of object perception and recognition using fMRI, EEGs, and tests of brain damaged individuals
- Exploring the interaction between perception and memory
- Examining context effects in perceptual organization
- Investigating competition in shape perception
- Exploring the implications of synesthesia and hallucinations for theories of visual perception
- Investigating attention effects on perception
- Investigating perceptual development

## **COURSES TAUGHT**

### **Graduate**

Sensation and Perception  
Attention and Perception  
Perception and Memory  
Vision and the Brain  
Language and Vision  
Visual Cognition  
Neuropsychology of Visual Perception  
Perception, Recognition, Attention  
Theories of Object and Shape Recognition  
Object Recognition and Scene Perception  
Perceptual Learning  
Top-down Processing and Cross Modal Perception  
Interactive Processing in Vision  
Cognition and Neural Systems Core Seminar  
Teaching Methods and Practicum  
Presentation Skills (practicum)

### **Undergraduate**

Sensation and Perception  
Vision and Art  
Research Methodology Laboratory  
Attention and Perception  
Advanced Research in Psychology  
Honors ProSeminar  
Teaching Methods and Practicum