

***Gideon Paul Caplovitz***

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**2021 - Present          Professor          UNIVERSITY of NEVADA RENO**

**EDUCATION:**

2008 **Ph.D. Cognitive Neuroscience**          Dartmouth College  
 1998 **M.S. Mathematics**          Courant Institute New York University  
 1995 **B.A. Computational Mathematics**          University of California Santa Cruz

**HONORS/AWARDS:**

2022 University Distinguished Outreach and Engagement Faculty Award: Finalist  
 2021 Recipient: College of Science Berninsone Award for Excellence in Service  
 2020 Alan Bible Excellence in Teaching Award: Finalist  
 2019 Best Visual Illusion of the Year Contest: 3<sup>rd</sup> Place  
 2017 Best Visual Illusion of the Year Contest: Judge  
 2016 Best Visual Illusion of the Year Contest: 1<sup>st</sup> Place  
 2014 Best Visual Illusion of the Year Contest: 1<sup>st</sup> Place  
 2011 Nominee: Outstanding Undergraduate Research Mentor Award  
 2008 AAAS/Science Program for Excellence in Science  
 2007 Cold Spring Harbor Laboratory: Struct, Fncnt & Dev. of the Visual System  
 2007 Recipient: Marie Center 1982 Award for Research Excellence  
 2007 Best Visual Illusion of the Year Contest: Judge  
 2006 Recipient: Marie Center 1982 Award for Teaching Excellence  
 2006 Best Visual Illusion of the Year Contest: 3<sup>rd</sup> Place  
 2005 Nominee: Marie Center 1982 Award for Teaching Excellence  
 2004 Dartmouth College Summer Institute in Cognitive Neuroscience Fellow  
 2003 Dartmouth College Presidential Fellow

**FUNDING:**

2021-2023 ACTIVE NSF NCS-FO: Collaborative Research: Electroencephalography of  
 Octopus bimaculoides using frequency tagging #2122702 (PI)  
 2016-2021 NSF RII Track-2 FEC: Neural Basis of Attention #1632738 (Co-PI)  
 2016-2021 NSF RII Track-2 FEC: Neural networks underlying the integration of  
 knowledge and perception #1632849 (Co-I)  
 2018-2020 NSF NCS-FO: Collaborative Research: Developing Underwater EEG  
 Electrodes for Octopus Research #845123 (PI)  
 2016 UNR VPRI  $\mu$ ICRo Grant (Co-PI): \$5000  
 2016 PSI CHI Summer Research Grant: \$5000: Anni Aguzzi  
 2015 UNR General Undergraduate Research Award: \$1500: Annie Aguzzi  
 2014 UNR General Undergraduate Research Award: \$1500: Cody Cushing  
 2012 NIH/NIGMS COBRE (Project Leader): 1P20GM103650-01A1  
 2012-2015 NIH/NEI (Co-PI): Investigating Working Memory Encoding using  
 Frequency-Tagging of Evoked Response: 1R15 EY022775-01  
 2012 UNR Honors Undergraduate Research Award \$1000: Lianne Barnes  
 2011 UNR Honors Undergraduate Research Award \$1000: Megan Stricker

2011 UNR GSA Capital Grant \$3500: Chris Blair  
 2008 NIH T32 NRSA Postdoctoral training fellowship  
 2005 National Science Foundation Graduate Research Fellow

#### EMPLOYMENT HISTORY:

2016 - 2021	Associate Professor	UNIVERSITY of NEVADA RENO
2011 - 2016	Assistant Professor	UNIVERSITY of NEVADA RENO
2010 - 2011	Visiting Assistant Professor	UNIVERSITY of NEVADA RENO
2008 - 2010	Post-Doctoral Research Fellow	PRINCETON UNIVERSITY
1998 - 2003	Senior Mathematician	ABRATECH CORPORATION
1997	Scientific Programmer	LUCENT TECHNOLOGIES
1995 - 1996	UNIX Programmer	AT&T BELL LABORATORIES
1994	SONAR Analyst	NAVAL UNDERSEA WARFARE CENTER

#### PUBLISHED ARTICLES:

1. Mruczek REB, Fanelli M, Kelly S, Caplovitz GP. The combination of target motion and dynamic changes in context greatly enhance visual size illusions. *Front Hum Neurosci.* 2022 Sep 15;16:959367. doi: 10.3389/fnhum.2022.959367. PMID: 36188172; PMCID: PMC9519898.
2. Gurariy G, Mruczek REB, Snow JC, Caplovitz GP. Using High-Density Electroencephalography to Explore Spatiotemporal Representations of Object Categories in Visual Cortex. *J Cogn Neurosci.* 2022 May 2;34(6):967-987. doi: 10.1162/jocn\_a\_01845. PMID: 35286384; PMCID: PMC9169880.
3. Caplovitz GP. On the Spatiotemporal Nature of Vision, as Revealed by Covered Bridges and Puddles: A Dispatch from Vermont. *i-Perception.* 2021. doi:10.1177/20416695211062625
4. Boswell AM, Kohler PJ, McCarthy JD, Caplovitz GP. Perceived group size is determined by the centroids of the component elements. *J Vis.* 2021;21(13):1. doi: 10.1167/jov.21.13.1. PMID: 34851391; PMCID: PMC8648053.
5. Im S, Stavas J, Lee J, Mir Z, Hazlett-Stevens H, Caplovitz G. Does mindfulness-based intervention improve cognitive function?: A meta-analysis of controlled studies. *Clin Psychol Rev.*;84:101972.(2021)
6. Mruczek REB, Blair CD, Cullen K, Caplovitz GP. Opposite effects of motion dynamics on the Ebbinghaus and corridor illusions. *Atten Percept Psychophys.*;82(4):1912-1927. (2020)
7. Erlikhman G, Lytchenko T, Heller NH, Maechler MR, Caplovitz GP. Object-based attention generalizes to multisurface objects. *Atten Percept Psychophys.* ;82(4):1599-1612. (2020)
8. Blair CD, Erlikhman G, Caplovitz GP. The Wandering Circles: A Flicker Rate and Contour-Dependent Motion Illusion. *Iperception.*;10(5):2041669519875156. (2019)
9. Erlikhman G, Gutentag S, Blair CD, Caplovitz GP. Interactions of flicker and motion. *Vision Res.* ;155:24-34 (2019)
10. Erlikhman G, Fu M, Dodd MD, Caplovitz GP. The motion-induced contour revisited: Observations on 3-D structure and illusory contour formation in moving stimuli. *J Vis.* 2;19(1):7. (2019)

11. Killebrew KW, Gurariy G, Peacock CE, Berryhill ME, Caplovitz GP. Electrophysiological correlates of encoding processes in a full-report visual working memory paradigm. *Cogn Affect Behav Neurosci.*;18(2):353-365. (2018)
12. Erlikhman G, Caplovitz GP, Gurariy G, Medina J, Snow JC. Towards a unified perspective of object shape and motion processing in human dorsal cortex. *Conscious Cogn.* ;64:106-120. (2018)
13. Erlikhman, G., Strother, L, Barzakov, I, Caplovitz, GP. On the legibility of mirror-reflected and rotated text. *MDPI: Symmetry.* 9, 28 (2017)
14. Gurariy G, Killebrew KW, Berryhill ME, Caplovitz GP. Induced and Evoked Human Electrophysiological Correlates of Visual Working Memory Set-Size Effects at Encoding. *PLoS One.*;11(11):e0167022 (2017)
15. Erlikhman G, Caplovitz GP. Decoding information about dynamically occluded objects in visual cortex. *Neuroimage.* 146:778-788. (2017)
16. Erlikhman G, Gurariy G, Mruczek RE, Caplovitz GP. The neural representation of objects formed through the spatiotemporal integration of visual transients. *Neuroimage.*15;142:67-78 (2016)
17. J.D. McCarthy, L. Strother, G.P. Caplovitz. Spatiotemporal Form Integration: Sequentially presented inducers can lead to representations of stationary and rigidly rotating objects. *Attention Perception and Psychophysics* 77(8):2740-54(2015)
18. J.D. McCarthy, P.J. Kohler, P.U. Tse, G.P. Caplovitz. Extrastriate visual areas integrate form features over space and time to construct representations of stationary and rigidly rotating objects. *Journal of Cognitive Neuroscience.* 27(11):2158-73.(2015)
19. R.E.B. Mruczek, C.D. Blair, L. Strother and G.P. Caplovitz. The Dynamic Ebbinghaus: motion dynamics greatly enhance the classic contextual size illusion. *Front. Hum. Neurosci.* 9:77. (2015)
20. L. Strother, K.W. Killebrew and G.P. Caplovitz. The Lemon Illusion: Seeing curvature where there is none. *Front. Hum. Neurosci.* 9:95. (2015)
21. A.G. Shapiro, G.P. Caplovitz and E.L. Dixon. Feature- and Face-Exchange illusions: New insights and applications for the study of the binding problem. *Front. Hum. Neurosci.* 8:804.(2014)
22. D.J. Peterson, G. Gurariy, G.G. Dimotsantos, H. Arciniega, M.E. Berryhill & G.P. Caplovitz. The steady-state visual evoked potential reveals neural correlates of the items encoded into visual working memory. *Neuropsychologia*, 63, 145-153. (2014).
23. J.D. McCarthy, G.P. Caplovitz. Color synesthesia improves color but impairs motion perception. Spotlight. *Trends in Cognitive Science.* 18(5), 224-228. (2014)
24. R.E. Mruczek, C.D. Blair, G.P. Caplovitz. Dynamic Illusory Size-Contrast: A relative-size illusion modulated by stimulus motion and eye movements. *Journal of Vision.* 14(3):2, 1-15. (2014)
25. P.J. Kohler, G.P. Caplovitz, P.U. Tse. The global slowdown effect: Why does perceptual grouping reduce perceived speed? *Attention Perception and Psychophysics.* 76(3):780-92. (2014).

26. C.D. Blair, J. Goold, K. Killebrew & G.P. Caplovitz. Form features provide a cue to the angular velocity of rotating objects. *Journal of Experimental Psychology: Human Perception & Performance*; 40(1):116-28. (2014).
27. J.D. McCarthy, L.N. Barnes, B.D. Alvarez & G.P. Caplovitz. Two plus blue equals green: Grapheme-color synesthesia allows cognitive access to numerical information via color. *Consciousness & Cognition*; 22(4), 1384-1392. (2013).
28. D.J. Peterson, G. Gurariy, G.P. Caplovitz, M.E. Berryhill. The Neural Fate of Individual Item Representations in Visual Working Memory. *Visual Cognition*; 21(6). (2013)
29. J.D. McCarthy, C. Kupitz, G.P. Caplovitz. The Binding Ring Illusion: assimilation affects the perceived size of a circular array. *F1000Research*, 2-58. (2013)
30. E.A. Reavis, P.J. Kohler, G.P. Caplovitz, T.P. Wheatley, P.U. Tse. Effects of attention on visual experience during monocular rivalry. *Vision Research*.83:76-81. (2013)
31. H.C. Hughes, G.P. Caplovitz, R. Loucks, R. Fendrich. Attentive and Pre-Attentive Processes in Change Detection and Identification. *PLoS ONE*.7(8):e42851 (2012)
32. J.D. McCarthy, D. Cordeiro, G.P. Caplovitz. Local form-motion interactions influence global form perception. *Attention, Perception and Psychophysics*. 74(5): 816-23. (2012)
33. C.D. Blair, G.P. Caplovitz. The Effect of Attention on Context Dependent Synesthetic Experiences. *Seeing and Perceiving* 25(6):619-29 (2012)
34. K.B. Porter\*, G.P. Caplovitz\*, C.M. Ackerman, P.J. Kohler, P.U. Tse. Rotational and translational motion interact independently with form. *Vision Res*. 8;51(23-24):2478-87. (2011) \* Authors contributed equally
35. G.P. Caplovitz, A.G. Shapiro, S. Stroud. The maintenance and disambiguation of object representations depend upon feature contrast within and between objects. *Journal of Vision*;11(14).1 (2011)
36. G.P. Caplovitz, M.J. Arcaro, S. Kastner. Stage 3 and what we see. *Cognitive Neuroscience*;1(3):220-222. (2010)
37. G.P. Caplovitz, P.U. Tse. Extrastriate cortical activity reflects segmentation of motion into independent sources. *Neuropsychologia*;48(9):2699-708 (2010)
38. P.J. Kohler, G.P. Caplovitz, P-J. Hsieh, J. Sun, P.U. Tse. Motion fading is driven by perceived, not actual angular velocity. *Vision Research*;50(11):1086-94 (2010)
39. G.P. Caplovitz, S. Kastner. Carrot sticks or joysticks: video games improve vision. *Nat Neurosci*.;12(5):527-8. (2009)
40. P.U. Tse, G.P. Caplovitz, P-J. Hsieh. Microsaccade directions do not predict directionality of illusory brightness changes of overlapping transparent surfaces. *Vision Research*;49(7):790.e1-7. (2009)
41. P.J. Kohler, G.P. Caplovitz\*, P.U. Tse. The whole moves less than the spin of its parts. *Atten Percept Psychophys*.;71(4):675-9. (2009) \*corresponding author
42. G.P. Caplovitz, N.A. Paymer, P.U. Tse. The Drifting Edge Illusion: A stationary edge abutting an oriented drifting grating appears to move because of the 'other aperture problem'. *Vision Research*; 48(22):2403-14. (2008)

43. G.P. Caplovitz, R. Fendrich, H.C. Hughes. Failures to see: Attentive blank stares revealed by change blindness. *Consciousness & Cognition*; 17(3):877-86. (2008)
44. G.P. Caplovitz, D.J. Barroso, P-J. Hsieh, P.U. Tse. fMRI Reveals that non-local processing in ventral retinotopic cortex underlies perceptual grouping by temporal synchrony. *Human Brain Mapping*; 29(6):651-61. (2008)
45. G.P. Caplovitz, P.U. Tse. Rotating dotted ellipses: Motion perception driven by grouped figural rather than local dot motion signals. *Vision Research*; 47(15), 1979-1991. (2007)
46. G.P. Caplovitz, P.U. Tse. V3A processes contour curvature as a trackable feature for the perception of rotational motion. *Cerebral Cortex*; 17(5):1179-89. (2007)
47. X.G. Troncoso, P.U., S.L. Macknik, G.P. Caplovitz, P-J. Hsieh, A.A. Schlegel, J. Otero-Millan, S. Martinez-Conde. BOLD activation varies parametrically with corner angle throughout human retinotopic cortex. *Perception*; 36(6) 808-820. (2007)
48. G.P. Caplovitz, P.U. Tse. The Bar-Cross-Ellipse Illusion: alternating percepts of rigid and non-rigid motion based on contour ownership and trackable feature assignment. *Perception*; 35(7):993-7. (2006)
49. P.U. Tse., G.P. Caplovitz, P-J. Hsieh. Microsaccade directions do not predict directionality of illusory brightness changes of overlapping transparent surfaces. *Vision Research*; 46(22):3823-30. (2006)
50. G.P. Caplovitz, P-J. Hsieh, P.U. Tse. Mechanisms underlying the perceived angular velocity of a rigidly rotating object. *Vision Research*; 46(18):2877-93. (2006)
51. P-J. Hsieh, G.P. Caplovitz, P.U. Tse. Bistable illusory rebound motion: Event-related functional magnetic resonance imaging of perceptual states and switches. *Neuroimage*; 32(2):728-39. (2006)
52. P-J. Hsieh, G.P. Caplovitz, P.U. Tse. Illusory motion induced by the offset of stationary luminance-defined gradients. *Vision Research*; 46(6-7):970-8. (2006)
53. P-J. Hsieh, G.P. Caplovitz, P.U. Tse. Illusory Rebound Motion and the motion continuity heuristic. *Vision Research*; 45(23):2972-85. (2005)
54. D.L. Jewett, G.P. Caplovitz, B. Baird, M. Trumpis, M.P. Olson, L.J. Larson-Prior. The use of QSD (q-sequence deconvolution) to recover superposed, transient evoked-responses. *Clinical Neurophysiology*; 115:2754-2775. (2004)

#### BOOK CHAPTERS:

55. McCarthy JD, Erlikhman G, Caplovitz GP. The maintenance and updating of representations of no longer visible objects and their parts. *Prog Brain Res*; 236:163-192. (2017)
56. R.E. Mruzec, C.D. Blair, L. Strother & G.P. Caplovitz. Dynamic Illusory Size Contrast. In *Oxford Compendium of Visual Illusions*. Arthur Shapiro, Dejan Todorovic (Ed.), New York, New York: Oxford University Press. (2017)
57. R.E. Mruzec, C.D. Blair, L. Strother & G.P. Caplovitz. Size contrast and assimilation in the Delboeuf and Ebbinghaus illusions. In *Oxford Compendium of Visual Illusions*. Arthur Shapiro, Dejan Todorovic (Ed.) New York, New York:

- Oxford University Press. (2017)
58. Caplovitz, G., Porter, K. A., Kohler, P. J., Hsieh, P.-J. Spinning Ellipse Speed Illusion. In *Oxford Compendium of Visual Illusions*. Arthur Shapiro, Dejan Todorovic (Ed.) New York, New York: Oxford University Press. (2017)
  59. Caplovitz, G., Boswell, A., Killebrew, K. Bar Cross Ellipse Illusion. In *Oxford Compendium of Visual Illusions*. Arthur Shapiro, Dejan Todorovic (Ed.), New York, New York: Oxford University Press. (2017)
  60. Blair, C. D., Tse, P. U., Caplovitz, G. *Interactions of form and motion in the perception of moving objects*. In Handbook of Perceptual Organization. Johan Wagemans (Ed.), Oxford, U.K.: Oxford University Press. (2015)
  61. P. U. Tse, E. A. Reavis, P. J. Kohler, G. P. Caplovitz & T. P. Wheatley. How attention can alter appearances. In *The Wiley-Blackwell Handbook of Experimental Phenomenology: Visual Perception of Shape, Space and Appearance*. L. Albertazzi (ed.), Wiley-Blackwell (2013).
  62. G.P. Caplovitz. Visual Form-Motion Interactions. In: *Advances in Psychology Research Volume 82*. Ed. A.M. Columbus. 133-152. Nova Science. New York (2011).
  63. P.U. Tse, G.P. Caplovitz. Chapter 15 Contour discontinuities subserve two types of form analysis that underlie motion processing. *Prog Brain Res.*; 154:271-92 (2006).

#### OTHER PUBLICATIONS:

1. Taissa Lytchenko, Mira Seekins, Stephanie Huntamer, Tess White, Gideon Paul Caplovitz, Ryan E.B. Mruzeczek. "Attention: Your Neural Superpower". *Frontiers for Young Minds*. (2021)

#### PUBLISHED ABSTRACTS:

##### ***Vision Science Society Meeting, St. Petersburg, FL 2022***

1. Wise M, Kelly S, Mruzeczek R., Crognale M., Caplovitz G. Topological specificity of VEP responses: a comparison of tripolar and traditional electrodes

##### ***Vision Science Society Meeting, St. Petersburg, FL 2021***

2. Lytchenko T, Heller, N, Saleki S. Tse, P., Gideon P. Caplovitz; Neural Correlates of Object-Based Attention in Early Visual Cortex in a 100% Valid Exogenous Cuing Task
3. Mruzeczek R, Caplovitz G: The Orbiting Circles Illusion: Induced changes in the length and direction of motion trajectory
4. Kelly S, Wise M, Foster G., Peterson E., Mruzeczek R., Crognale M., Caplovitz G. Comparison of decoding of visual-evoked potentials from tri-polar and conventional EEG

##### ***Vision Science Society Meeting, St. Petersburg, FL 2020***

5. Ryan E.B. Mruzeczek; Sean Kelly; Abigail Sagona; Matthew Fanelli; Gideon P. Caplovitz Effects of motion dynamics on classic visual size illusions

6. Mackenzie V. Wise; Gabriel Foster; Erica Peterson; Gideon Paul Caplovitz; Michael A. Crognale Tri-polar EEG is well suited for the study of the visual system

***Vision Science Society Meeting, St. Petersburg, FL 2019***

7. Tess White; David Sheinberg; Vanessa Godina; Gideon P Caplovitz Temporal integration negates pop-out and reveals attentive blank stares
8. Taissa Lytchenko; Genna Erlikhman; Nathan H Heller; Marvin R Maechler; Gideon P Caplovitz Surface-Object Interactions in Object-Based Attention

***Vision Science Society Meeting, St. Petersburg, FL 2018***

9. Gennady Erlikhman; Sion Gutentag; Christopher Blair; Gideon Caplovitz Flicker-Induced Induced Motion
10. Gideon Caplovitz; Gennady Erlikhman The Motion-Induced Contour Revisited: Rotations in depth reveal novel illusory contours
11. Mengzhu Fu; Gennady Erlikhman; Gideon Caplovitz; Michael Dodd Examining the influence of edge length, distance, and orientation on the Motion-Induced Contour
12. Peter Tse; Peter Kohler; Eric Reavis; LiWei Sun; Kevin Hartstein; Gideon Caplovitz How Top-down Attention Alters Bottom-up preconscious operations
13. Kyle Killebrew; Gideon Caplovitz The computation of angular velocity and the perceived speed of a rotating line

***Vision Science Society Meeting, St. Petersburg, FL 2017***

14. Erlikhman, G., Caplovitz, G. Behavioral Oscillations in Shape Perception
15. Gurariy, G., Caplovitz, G., Electrophysiological correlates of animate/inanimate and graspable/tool object representations
16. Killebrew, K., Peacock, C, Berryhill, M., Gurariy, G., Caplovitz, G. Frequency domain analyses of EEG reveal neural correlates of visual working memory capacity limitations observed during encoding using a full report paradigm.

***Cognitive Neuroscience Society Meeting, San Francisco, CA, 2017***

17. Caplovitz, G., Erlikhman, G. Behavioral Oscillations in Perceptual Organization.

***Vision Science Society Meeting, St. Petersburg, FL 2016***

18. Erlikhman, G. ,Caplovitz, G. Representations along the path of apparent motion in visual cortex
19. Harrison, M. ,Erlikhman, G. Caplovitz, G Rotating squares made out of drifting Gabors: the contributions of velocity and position based motion information to the perceived speed of a rotating object
20. Gurariy, G. ,Caplovitz, G. The Bendy Bars Illusion: Shape deformation of dynamically occluded stationary columns due to misbinding of motion signals
21. Mruczek, R. E. Blair, C., Cullen, K., Killebrew, K., Aguzzi, A., Caplovitz, G. The effects of motion dynamics on the Ebbinghaus and Corridor illusions

***Cognitive Neuroscience Society Meeting, New York, New York, 2016***

22. Caplovitz, G, Erlikhman, G., Gurariy, G. Mruczek, R. E. The neural representation of objects formed through the spatiotemporal integration of visual transients

***Vision Science Society Meeting, St. Petersburg, FL 2015***

23. G. Gurariy, D. Peterson, M.E. Berryhill, G.P. Caplovitz. Encoding-related neural correlates of set-size limitations of working memory
24. K. Killebrew, M.E. Berryhill G. Gurariy, D. Peterson, G.P. Caplovitz. Non-linear neural interactions at the time of encoding underlie grouping benefits in working memory
25. L. Strother, K. Killebrew, G.P. Caplovitz. The Lemon-Illusion: Seeing curvature where there is none
26. G.P. Caplovitz, G. Erlikhman, Decoding identity of spatiotemporal objects in intermediate and dorsal visual areas
27. C.D. Blair, R.E.B. Mruzec, G. P. Caplovitz. Decoding the neural representation of size using multivariate pattern analyses and high density electroencephalography

***Vision Science Society Meeting, St. Petersburg, FL 2014***

28. G. Erlikhman, G.P. Caplovitz, P. Kellman. Properties of Spatiotemporal Boundary Formation.
29. K. Tregillus, L. Strother, G.P. Caplovitz, M.A. Webster. Neural coding of image blur assessed by fMRI
30. C.D. Blair, L. Strother, G.P. Caplovitz. Walking with Cornsweet: Polarity Reversals Induce Illusory Motion Percepts
31. K. Killebrew, C.D. Blair, G.P. Caplovitz. Summary statistics influence how individuals are perceived in noise.
32. R. Mriczek, C.D. Blair, G.P. Caplovitz. Dynamic Illusory Size-Contrast: A relative-size illusion modulated by stimulus motion and eye movements.
33. J.D. McCarthy, L.N. Barnes, B.A. Alvarez, G.P. Caplovitz. Two plus blue equals green: Grapheme-color synesthesia allows cognitive access to numerical information via color.
34. G. Gurariy, D. Peterson, M.E. Berryhill, G.P. Caplovitz. The Neural Fate of Individual Item Representations in Visual Working Memory.

***Western Regional IDeA Scientific Conference, Honolulu, HI 2013***

35. G.P. Caplovitz, G. Erlikhman, P. Kellman. Neural Correlates of Spatiotemporal Boundary Formation

***Vision Science Society Meeting, Naples, FL 2013***

36. G.P. Caplovitz, G. Erlikhman, J. Lago, P. Kellman. Neural Correlates of Spatiotemporal Boundary Formation
37. Kaplan, G.P. Caplovitz. Conflating Kanizsa Figures with Perceptual Grouping?
38. C.D. Blair, G.P. Caplovitz. Constraints on dynamical evolution of motion perception
39. G. Gurariy, G.P. Caplovitz. Local motion-contrast Interactions Influence Global Shape Perception
40. Boswell, G. Gurariy, G.P. Caplovitz. Perceived Size of a Moving Target
41. J.D. McCarthy, G.P. Caplovitz, Robust shape perception of static and rotating objects revealed by spatiotemporal form integration.

***Cognitive Neuroscience Society Meeting, San Francisco, CA 2013***

42. J.D. McCarthy, L. Barnes, G.P. Caplovitz. Two Plus Blue Equals Green: The Minimal Cost Of Doing Math With Colors In Grapheme-Color Synesthesia

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***Western Psychological Society Meeting, Reno, NV 2013***

43. J.D. McCarthy, L. Barnes, G.P. Caplovitz. Two Plus Blue Equals Green: The Minimal Cost Of Doing Math With Colors In Grapheme-Color Synesthesia
44. S. Im, G.P. Caplovitz, V.M. Follette. Attention, PTSD and General Psychological Distress: A Mediational Model

***Association for Psychological Science Washington D.C. 2013***

45. S. Im, G.P. Caplovitz, V.M. Follette. Construct validity of mindfulness using a multi-method approach

***Vision Science Society Meeting, Naples, FL 2012***

46. G.P. Caplovitz, D. Cordeiro, J. Daniel McCarthy. Local form-motion interactions influence global form perception
47. C. Blair, J. Goold, K. Killebrew, G.P. Caplovitz. The motion of form features provides a cue to angular velocity
48. Boswell, G.P. Caplovitz. Size Perception of Arrays
49. P.J. Kohler, G.P. Caplovitz, S.V. Fogelson, P.U. Tse. Neural correlates of perceptually bistable motion-based grouping
50. J. Daniel McCarthy, P.J. Kohler, P.U. Tse, G.P. Caplovitz. The neural correlates of spatiotemporal form integration in object and motion perception

***Rocky Mountain Psychological Association Annual Meeting, 2012***

51. L. Barnes, J. Daniel McCarthy, G.P. Caplovitz. Two plus blue equals purple: Bidirectionality in synesthesia is revealed by math with colors
52. C. Blair, N. Clark, G.P. Caplovitz. Synesthetic Shape Pop-Out Effects at Varied Stimulus Presentation Durations
53. A. Boswell, S. Chuang, G.P. Caplovitz. Size Perception of Arrays
54. M. Stricker, G.P. Caplovitz. The "Color" of Music: An Investigation of Timbre and Color Association

***Cognitive Neuroscience Society Meeting, San Francisco, CA 2011***

55. G.P. Caplovitz, M. Arcaro, S. Kastner. Categorical representation of visually suppressed objects in visual cortex
56. J.D. McCarthy, C. Kupitz, G.P. Caplovitz. The Binding Ring Illusion: Misperceived size constrains models of size perception.

***Vision Sciences Society Meeting, Naples, FL 2011***

57. S.F. O'Neil, G.P. Caplovitz, M. Webster. Sibling Rivalry: Facial Distinctiveness and binocular rivalry.
58. G.P. Caplovitz, P.U. Tse. Extrastriate cortical activity reflects segmentation of motion into independent sources
59. P. Winkler, K.C. McDermott, G.P. Caplovitz, M. Webster. Figural Chasers.
60. J.D. McCarthy, G.P. Caplovitz. The Binding Ring Illusion: Misperceived size constrains models of size perception.

***Vision Sciences Society Meeting, Naples, FL 2010***

61. G.P. Caplovitz, M. Arcaro, S. Kastner. Categorical representation of visually suppressed objects in visual cortex
62. Shapiro, G.P. Caplovitz. Feature Exchange: the unstable contribution of features in the maintenance of objects moving along ambiguous trajectories

***Vision Sciences Society Meeting, Naples, FL 2009***

63. G.P. Caplovitz, P.U. Tse. Dotted Ellipses: Local and emergent motion signals differentially modulate BOLD activity in visual cortex
64. P.J. Kohler, G.P. Caplovitz, P.U. Tse. The Whole Moves More than the Spin of its Parts
65. J. Ales, G.P. Caplovitz, A. Norcia. Neural correlates of perceptual grouping in the occluded diamond illusion

***European Conference on Visual Perception, Regensburg, Germany 2009***

66. G.P. Caplovitz, K.B. Porter, C.M. Ackerman, P.J. Kohler, P.U. Tse. Independent processing of rotational and translational motion in the perception of moving objects

***Vision Sciences Society Meeting, Naples, FL 2008***

67. G.P. Caplovitz, R. Fendrich, H.C. Hughes. Seeing Changes Without Seeing What Changed.
68. N.A. Paymer, G.P. Caplovitz, P.U. Tse. Stimulus factors that influence the perceived direction of tilt-induced motion.

***European Conference on Visual Perception, Arezzo, Italy 2007***

69. G.P. Caplovitz, R. Fendrich, H.C. Hughes. Failures to See: Attentive Blank Stares Revealed by Change Blindness.

***Dartmouth Undergraduate Honors Thesis Presentations, 2007***

70. E. J. Ruberry, F.C. Davis, M.A. Stotland, T.F. Heatherton, G.P. Caplovitz, P.J. Whalen: Effects of facial paralysis on ability to identify facial expressions of emotion.

***Vision Sciences Society Meeting, Sarasota, FL 2007***

71. G.P. Caplovitz, P.U. Tse. Aperture Induced Motion: Illusory motion percepts arising from conflicting terminator and component motion signals.
72. P.-J. Hsieh, G.P. Caplovitz, P.U. Tse. Bistable Illusory Rebound Motion: Event-related functional magnetic resonance imaging of perceptual states and switches.

***Vision Sciences Society Meeting, Sarasota, FL 2006***

73. G.P. Caplovitz, P.U. Tse. Spinning Ellipses: Dotted contours reveal the spatial resolution for the tracking of unambiguously moving features.
74. P.U. Tse, G.P. Caplovitz. V3A processes contour curvature as a trackable feature for the perception of rotational motion.

***Society for Neurosciences Meeting, Washington, D.C. 2005***

75. G.P. Caplovitz, P.-J. Hsieh, P.U. Tse. The neural correlates of trackable feature motion processing on the basis of second-order motion stimuli.
76. C. Gomez, G. P. Caplovitz, P.-J. Hsieh, P. U. Tse. Neuronal correlates of common fate (spatial and temporal correlation) in retinotopic cortex.
77. X.G. Troncoso, P.U. Tse, S.L. Macknik, G.P. Caplovitz, P.-J. Hsieh, A.A. Schlegel, S. Martinez-Conde. fMRI correlates of corner-based illusions show BOLD activation varies gradually with corner angle.
78. P.-J., Hsieh, G.P. Caplovitz, P.U. Tse. Neuronal activity varies with motion-induced blindness in ipsilateral and contralateral retinotopic cortex & contralateral hMT+.

***Optical Society of America Vision Meeting, 2005***

79. X.G. Troncoso, P.U. Tse, S.L. Macknik, G.P. Caplovitz, P.-J. Hsieh, A.A. Schlegel, S. Martinez-Conde. fMRI correlates of corner-based illusions show BOLD activation varies gradually with corner angle.

***European Conference on Visual Perception, 2005***

80. P.U. Tse, G.P. Caplovitz, P.-J. Hsieh. The role of contour curvature in form-based motion processing.
81. X.G. Troncoso, P.U. Tse, S.L. Macknik, G.P. Caplovitz, P.-J. Hsieh, A. A. Schlegel, S. Martinez-Conde. fMRI correlates of corner-based illusions show BOLD activation varies gradually with corner angle.

***Vision Sciences Society Meeting, Sarasota, FL 2005***

82. G.P. Caplovitz, P.-J. Hsieh, P.U. Tse. The neural correlates of motion processing on the basis of trackable features.
83. P.-J. Hsieh, G.P. Caplovitz, P.U. Tse. Neural correlates of conscious visibility found in ipsilateral retinotopic cortex.
84. P.U. Tse, G.P. Caplovitz, P.-J. Hsieh. Voluntary attention modulates the brightness of overlapping transparent surfaces.
85. M.R. Samco, G.P. Caplovitz, P.-J. Hsieh, P.U. Tse. Neural correlates of human creativity revealed using diffusion tensor imaging.
86. C. Gomez, G.P. Caplovitz, P.-J. Hsieh, P.U. Tse. Neuronal correlates of Common Fate (spatial and temporal correlation) in retinotopic cortex.

***Society for Neurosciences, 2004***

87. P.U. Tse, M.R. Samco, G.P. Caplovitz, P.-J. Hsieh. Neural correlates of psychological attributes (creativity, schizotypy, psychopathy, handedness, and gender) revealed using Diffusion Tensor Imaging.

***Annual Meeting of the Association for Research in Otolaryngology, 2003***

88. D.L. Jewett, G.P. Caplovitz, B. Baird, L. Larson-Prior. Time-domain deconvolution of overlapped waveforms by "Q-Sequences".

**ADDITIONAL CONFERENCE PRESENTATIONS*****ESPCoR Neural Basis Of Attention Seminar Series 2017***

89. Caplovitz, G. Frequency Tagging the Double-Drift Illusion
90. Caplovitz, G. Collaborative Foci of Attention.
91. Caplovitz, G., Berryhill, M. Behavioral Oscillations in Attention and VWM retro-cue tasks.

***Bay Area Vision Research Day, Berkeley, CA 2013***

92. J.D. McCarthy, G.P. Caplovitz. Robust shape perception of static and rotating objects revealed by spatiotemporal form integration.

***California Cognitive Science Conference, Berkeley, CA, 2012***

93. J.D. McCarthy, L.N. Barnes, G.P. Caplovitz. Two plus blue equals green: Bidirectionality in synesthesia is revealed by math with colors

***Bay Area Vision Research Day, Berkeley, CA 2012***

94. C. Blair, N. Clark, G.P. Caplovitz. Synesthetic Shape Pop-Out Effects at Varied Stimulus Presentation Durations

95. K. Killebrew, J.G. Jones, G.P. Caplovitz. Apparent Motion : Perceived speed does not override spatial proximity in motion correspondence

***Psychology Undergraduate Research Conference, Berkeley, CA 2011***

96. D. Cordeiro, J.D. McCarthy, G.P. Caplovitz. Local form-motion interactions influence global form perception.  
97. J. Goold, K. Killebrew, C.D. Blair, G.P. Caplovitz. Perception of Angular Velocity.

***Bay Area Vision Research Day, Berkeley, CA 2011***

98. J.D. McCarthy, D. Cordeiro, G.P. Caplovitz. Local form-motion interactions influence global form perception.  
99. C.D. Blair, G.P. Caplovitz. The Effect of Attention on Context Dependent Synesthetic Experiences

**INVITED TALKS:**

- 07/28/18      *"Revisiting the Motion Induced Contour: Rotations in Depth Reveal Novel Illusory Contours"*, Cognitive Science Association for Interdisciplinary Learning
- 11/08/17      *"Revisiting the Motion Induced Contour and New Ways We Can Use Attention to Control What We See"*, Psychology Colloquia, UC Santa Cruz.
- 07/24/17      *"The Motion Induced Contour Revisited"*, NSF EPSCoR/ University of Nebraska.
- 11/17/16      *"Brain Computer Interface: Making music from EEG"*, SOTA research group meeting, UNR
- 04/11/16      *"Spatiotemporal relationships between features, objects, and their locations in the visual field"*. University of Kansas Cognitive Seminar Series.
- 02/17/16      *"Op Artists are Neuroscientists: Why Visual Illusions Work"*, Art History Visual Culture Studies Forum. UNR
- 09/18/15      *"Stationary and rigidly rotating objects perceived through the integration of form information over space and time"*. Bay Area Vision Research Day, UC Berkeley
- 02/21/14      *"Adventures in Seeing"* Colloquium Dept. of Psychology, University of Nevada Reno.
- 11/13/13      *"In the Mind's Eye"*. College of Liberal Arts, Great Conversations
- 11/01/13      *"Interactions of Visual Form and Motion"* Claremont McKenna College
- 08/21/13      *"Neural Correlates of Form-Motion Interactions"*. INBRE IDeA Meeting
- 11/07/12      *"The role of form processing in the perception of rotational motion"*  
2012 IDeA States Mini-Conference on Visual and Cognitive Neuroscience
- 11/19/11      *"Neural Correlates of the Unseen"* 2<sup>nd</sup> Annual Sierra Chapter of the Society for Neuroscience: Neuroscience Symposium

- 10/15/10 *"Cognitive and Neural Investigations of our Sensory Experiences"*  
Colloquium Dept. of Psychology, University of Nevada Reno.
- 04/2010 *"We see the cake, not the ingredients: intriguing contributions of form to motion processing"* Colloquium Dept. of Psychology, University of Nevada Reno.
- 02/2010 *'When features change and exchange'*  
Brown Bag Talk Series, Dept. of Psychology, University of Iowa
- 11/2009 *'Perceiving emergent information reveals intriguing contributions of form to motion perception'* Schnurmacher Institute for Vision Research  
Colloquia, SUNY Optometry
- 04/2009 *'Feature Exchange'* Treisman Lab, Princeton University
- 03/2009 *'The other aperture problem'* Treisman Lab, Princeton University
- 03/2009 *'Form Motion Interactions and what they tell us about perception'*  
Dept. of Psychology, Cognitive & Linguistic Sciences Brown University
- 03/2008 *'Looking and Not Seeing'* Treisman Lab, Princeton University
- 10/2007 *'Mechanisms underlying the perception of rotational motion'*.  
Neuroscience of Attention & Perception Laboratory, Princeton University
- 04/2007 *'Mechanisms underlying the perception of rotational motion'*.  
Martinos Center for Biomedical Imaging.

#### TEACHING EXPERIENCE

UNR Instructor (has not been updated since Fall 2016)

- Fall 2016: PSY210 Introduction to Statistics  
Spring 2016: PSY763 Graduate Seminar: Attention  
Fall 2015: PSY210 Introduction to Statistics  
Spring 2015: PSY210 Introduction to Statistics  
Fall 2014: PSY210 Introduction to Statistics  
Summer 2014: Psych FIT Faculty Instructor  
Spring 2013: PSY763 Graduate Seminar: Attention  
PSY479 Laboratory Instructor in: Techniques in Neuroscience Laboratory  
Fall 2013: PSY706 Graduate Statistics I  
Fall 2012: PSY301 Experimental Psychology  
PSY706 Graduate Statistics I  
Spring 2012: PSY763 Graduate Seminar: Attention  
Fall 2011: PSY301 Experimental Psychology  
PSY706 Graduate Statistics I  
Spring 2011: PSY301 Experimental Psychology  
PSY210 Introduction to Statistics  
Fall 2010: PSY301 Experimental Psychology  
PSY210 Introduction to Statistics

Prior to UNR

- 2010: Instructor: Psychophysics Laboratory Workshop, Graduate Seminar  
NEU502, Princeton University

2009: Invited Lecturer: Psychology 352, Advanced Perception  
Bucknell University

1998: Private mathematics tutor. Palo Alto, California

***McGraw Center Teacher-Training Workshops, Princeton University***

***Workshops attended:***

2010: Applying the Science and Research of Learning to Lecturing

2009: Designing a Course

2009: Master Class on Lecturing

2008: The Scholar as Teacher

***Graduate Student Instructor, Dartmouth College***

2007 Psych 10: Statistics

2005 Psych 24: Perception

2005 Psych 64: Sensory Psychology

2004 Psych 11: Experimental Methods in Psychological Research

**V.S.S Demo Night Presentations**

2019: 17<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'Fun with Birefringent Surfaces and Polarized Light'

2018: 16<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'The Motion Induced Contour Revisited'

2017: 15<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'The Rotating Line'

2016: 14<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'Vision Scientists Still Love Drifting Gabors That Move'

2015: 13<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'Vision Scientists Love Drifting Gabors That Move'

2014: 12<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'The Dynamic Ebbinghaus Illusion'

2014: 12<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'The Wandering Circles'

2013: 11<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'Dynamic Size Contrast Illusion'

2012: 10<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'The Anorthoscope and Kinetic Anamorphosis'

2011: 9<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'Spinning Ellipses'

2010: 8<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'Fun with stick-shadow motion'

2009: 7<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'The Bar-Cross-Ellipse Illusion'

2008: 6<sup>th</sup> Annual Demo Night Presentation, Vision Science Society Annual Meeting: 'An opti -mechanical demonstration of differential

- chromatic and achromatic flicker fusion'
- 2007: 5<sup>th</sup> Annual Demo Night Presentation, Vision Science Society  
Annual Meeting: 'Aperture Induced Motion'

### ***Undergraduate Research Supervision***

- 2010 - Present Supervisor, Undergraduate Research Opportunity PSY 375
- 2016-2017 S. Gutentag, Honors Thesis. Flicker-Induced Induced-Motion.. Supervisor
- 2012-2013 L. Barnes, Honors Thesis. Six is Sapphire, but is Sapphire Six?  
Bidirectionality and Numerosity in Grapheme-Color Synesthesia.  
Supervisor \*\*\*\*\* Named 2013 National Collegiate Honors Council Portz  
Scholar\*\*\*\*\*
- 2011-2012 M. Stricker, Honors Thesis. The color of music. Supervisor
- 2010-2011 C. Kupitz, Honors Thesis. The Binding Ring Illusion. Supervisor
- 2003-2008 Supervisor, Undergraduate Research Opportunity, Tse Vision Lab
- 2007 E.J. Ruberry. Honors Thesis. Effects of facial paralysis on ability to  
identify facial expressions of emotion. Co-author
- 2004 M.R. Samco. Honors Thesis. Neuro-anatomical correlates of  
psychological traits as revealed by diffusion tensor imaging. co-supervisor

### **JOURNAL REVIEWING:**

- *Frontiers in Human Neuroscience*
- *Behavior Research Methods*
- *PeerJ*
- *Brain and Cognition*
- *Consciousness and Cognition*
- *Perception*
- *Visual cognition*
- *Journal of Experimental Psychology: General*
- *Journal of Experimental Psychology: Human Perception and Performance*
- *Journal of Vision*
- *Journal of the Optical Society of America*
- *Human Brain Mapping*
- *Vision Research*
- *Attention Perception and Psychophysics*
- *Neuropsychologia*
- *Journal of Neuroscience*
- *Psychological Science*
- *PLoS ONE*
- *Science*

### **JOURNAL EDITING:**

*Sage Open*

*Attention Perception & Psychophysics*

*Frontiers for Young Minds*

### **GRADUATE ADVISING:**

<i>Alex Boswell</i>	<i>M.A. Psychology</i>	<i>2013</i>
<i>J.Daniel McCarthy</i>	<i>Ph.D. Psychology</i>	<i>2014</i>
<i>Christopher D. Blair</i>	<i>Ph.D. Psychology</i>	<i>2015</i>
<i>Gennadiy Gurariy</i>	<i>Ph.D. Psychology</i>	<i>2017</i>
<i>Kyle Killebrew</i>	<i>Ph.D. Psychology</i>	<i>2018</i>
<i>Lauren Gregg</i>	<i>M.S. Psychology</i>	<i>2021</i>
<i>Taissa Lytchenko</i>	<i>Ph.D. Psychology</i>	<i>In Progress</i>
<i>Tess White</i>	<i>Ph.D. Psychology</i>	<i>In Progress</i>

