

Arthur Gilman Shapiro

American University, Department of Psychology
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Professional Positions

American University

Associate Professor of Psychology 2009-
Affiliate, Department of Mathematics and Statistics 2010-

Bucknell University

Associate Professor of Psychology 2003-2009
Affiliate, Program in Neuroscience 2007-2009
Affiliate, Biomedical Engineering 2004-2009
Assistant Professor of Psychology 1998-2002

Florida Institute for Human and Machine Cognition

Visiting Research Scientist 2008-present

University of Cambridge, Corpus Christi College

External Director of Studies 2000-2001

Lewis and Clark College

Assistant Professor of Psychology 1995-1998

Education

The University of Chicago

Post-doctoral fellow 1992-1995
Laboratory of Joel Pokorny and Vivianne C. Smith

Columbia University

Ph.D., Department of Psychology 1992
Laboratory of Qasim Zaidi

University of California, San Diego

B.A., Mathematics, with a specialization in Computer Science 1987
B.A., Psychology, with a specialization in Cognitive Science

Grants

National Institutes of Health, AREA Award, \$409,404 2010-2013
"Separating the Visual Response to Color from the
Visual Response to Color Contrast"

National Institutes of Health, AREA Award, \$100,000 2000-2003
"Visual Adaptation at Mesopic Light Levels"

Medical Research Foundation of Oregon, \$25,000 1995-1997
"Color Vision and the Interaction of Photoreceptor Signals"

National Institutes of Health, Individual National Research Service Award 1992-1995
"Temporal Properties of the L- and M-Cone Systems"

Best Illusion of the Year contest, Top 10

Contest Judge (2010)

The Break of the Curveball (2009), **First prize**, Shapiro, A. G., Lu, Z. L., Knight, E. J., & Ennis, R.
Dramatically Different Percepts between Foveal and Peripheral Vision (2008), Knight, E. J.,
Shapiro, A. G., & Lu, Z. L.

Perpetual Collisions (2008), Shapiro, A. G. & Knight, E. J.

Where Has All the Motion Gone? (2007), **Third prize**, Shapiro, A. G. & Knight, E. J.

Swimmers, Eels and Other Gradient-Gradient Illusions (2007), Knight, E. J. & Shapiro, A. G.

'Weaves' and the Hermann Grid (2007), Hamburger, K. & Shapiro, A. G.

Contest Judge (2006)

Motion-Illusion Building Blocks (2005), **First prize**, Shapiro, A. G. & Charles, J. P.

Journal Editorial Board

Perception and Psychophysics, consulting editor (2008-present)

Book Contract

Oxford Compendium of Visual Illusions, Oxford University Press

Book to be co-edited with Dejan Todorovic (Contract signed July, 2010)

Publications

- Shapiro, A. G., Shapiro, A.R., & Lu, Z.L. (in preparation). "Separate perceptual signatures for fine-scale and coarse-scale contrast information."
- Caplovitz, G. & Shapiro, A.G. (in preparation). "Feature Exchange shows that the mis-binding of features to objects depends on stimulus contrast."
- Shapiro, A.G. and Lu, Z.L. (in preparation). "A de-blurring process can account for relative brightness levels in natural images."
- Shapiro, A.G., Knight, E.J., & Lu, Z.L. (submitted). "A first- and second-order motion analysis of several peripheral motion illusions leads to 'feature blur' as a new hypothesis about peripheral vision."
- Shapiro, A.G. & Hamburger, K. (in press). "What makes an illusion an illusion? An examination of contrast information in grouping and grid phenomena," in *Psychological Realism: A New Look at an Old Theory* (E. Charles, Ed.). Piscataway, NJ: Transaction Publishers.
- Shapiro, A.G., Lu, Z.L., Huang, C.B., Knight, E. J., Ennis, R. (2010). "Transitions between central and peripheral vision create spatial/temporal distortions: a hypothesis concerning the perceived break of the curveball." *PLoS ONE* 5(10): e13296. doi:10.1371/journal.pone.0013296
- Shapiro, A.G. & Leaver, A.M. (2010). "Edges can eliminate the appearance of the contrast asynchrony." *Ophthalmic and Physiological Optics*. Vol. 30, No. 5, pp. 534-544.
- Hamburger, K. & Shapiro, A.G. (2009). "Spillmann's weaves are more resilient than Hermann's grid." *Vision Research*, Vol. 49, No. 16, pp. 2121-30.
- Shapiro, A.G. & Knight, E. J. (2008). "Spatial and temporal influences on the contrast gauge asynchrony." *Vision Research*, Vol. 48, No. 26, pp. 2642-2648.
- Shapiro, A. G. (2008). "Separating color from color contrast." *Journal of Vision*, Vol. 8, No. 1:8, pp. 1-18. <http://journalofvision.org/8/1/8>, doi:10.1167/8.1.8.
- Shapiro, A.G. & Hamburger, K. (2007). "Grouping by contrast—figure-ground segregation is not necessarily fundamental." *Perception*, Vol. 36, No. 7, pp. 1104-1107.
- Shapiro, A. G., Charles, J. P., & Shear-Heyman, M. (2005). "Visual illusions based on single-field contrast asynchronies." *Journal of Vision*. Vol. 5, No. 10, pp. 764-782. <http://journalofvision.org/5/10/2/>.
- Shapiro, A. G., D'Antona, A. D., Smith, J. B., Belano, L. A., & Charles, J. P. (2004). "Induced contrast asynchronies may be useful for luminance photometry." *Visual Neuroscience*, Vol. 21, pp. 243-247.
- Shapiro, A. G., D'Antona, A. D., Charles, J. P., Belano, L. A., Smith, J. B., & Shear-Heyman, M. (2004). "Induced contrast asynchronies." *Journal of Vision*, Vol. 4, No. 6, pp. 459-468. <http://journalofvision.org/4/6/5/>.
- Shapiro, A. G., Hood, S. M., & Mollon, J. D. (2003). "Temporal sensitivity and contrast adaptation." *Normal and Defective Colour Vision*, Oxford University Press.
- Shapiro, A. G., Beere, J. L., & Zaidi, Q. (2003). "Time course of S-cone system adaptation to simple and complex fields." *Vision Research*, Vol. 43, pp. 1135-1147.
- Shapiro, A. G. (2002). "Cone-specific mediation of rod system sensitivity." *Investigative Ophthalmology and Visual Sciences*, Vol. 43, No. 1, pp. 898-905.
- Shapiro, A. G., Beere, J. L., & Zaidi, Q. (2001). "Time course of adaptation along the RG cardinal axis." *Color: research and application*, Vol. 26, pp. S43-S47.
- Eisner, A., Shapiro, A. G., & Middleton, J. A. (1998). "Equivalence between temporal frequency and modulation depth in flicker response suppression: analysis of the three-process model of adaptation." *Journal of the Optical Society of America*, Vol. 15, No. 8, pp. 1987-2002.

- Shapiro, A. G., Pokorny, J., & Smith, V. (1996). "Cone-rod receptor spaces with illustrations that use CRT phosphor and light-emitting-diode spectra." *Journal of the Optical Society of America*, Vol. 13, No. 12, pp. 2319-2328.
- Shapiro, A. G., Pokorny, J., & Smith, V. (1996). "Conditional variables of the scotopic threshold-versus-illuminance curve." *Color: research and application*, Vol. 21, pp. 80-85.
- Ábráham, G., Körösi, H., Schanda, J., Shapiro, A. G., & Wenzel, K. (1995). "Anomalies in additive color matches." *Color: research and application*, Vol. 20, pp. 235-249.
- Shapiro, A. G., Pokorny, J., & Smith, V. (1994). "Rods and the 10 color-matching functions." *Color: research and application*, Vol. 19, pp. 236-245.
- Zaidi, Q. & Shapiro, A. G. (1993). "Adaptive orthogonalization of opponent-color signals." *Biological Cybernetics*, Vol. 69, No. 5/6, pp. 415-428.
- Shapiro, A. G., Pokorny, J., & Smith, V. (1993). "Rod activity and large-field color-matching functions." *Commission Internationale de l'Eclairage (CIE), Advanced Colorimetry Report x007*, pp. 65-70.
- Greenstein, V., Shapiro, A. G., Zaidi, Q., & Hood, D. (1993). "Chromatic and luminance sensitivity in diabetes and glaucoma." *Journal of the Optical Society of America*, Vol. 10, No. 8, pp. 1785-1791.
- Greenstein, V., Shapiro, A. G., Zaidi, Q., & Hood, D. (1992). "Sites of disease action in diabetics." *Investigative Ophthalmology & Visual Science*, Vol. 33, pp. 2781-2790.
- Shapiro, A. G. & Zaidi, Q. (1992). "The effects of prolonged temporal modulation on the differential response of color mechanisms." *Vision Research*, Vol. 32, pp. 2065-2075.
- Zaidi, Q., Shapiro, A. G., & Hood, D. (1992). "The effect of adaptation on the differential sensitivity of the s-cone color system." *Vision Research*, Vol. 32, No. 7, pp. 1297-1318.

Extended abstracts

- Shapiro, A. G., Pokorny, J., & Smith, V. (1995). "Defining rod-photoreceptor space." In *The annual report of the pan-chromatic society*.
- Zaidi, Q. & Shapiro, A. G. (1992). "Combinations of signals from opponent color mechanisms." In *Advances in Color Vision, Technical Digest* (Optical Society of America, Washington, D.C.), Vol. 4, pp. 201-203.

Reviews

- Jenness, J. & Shapiro, A. G. (1994). "Review of the 1993 Optical Society of America Annual Meeting." *Color: research and application*, Vol. 19, pp. 231-232.

Invited presentations and public lectures

- University of Maryland -- Invited colloquium, Program in Neuroscience and Cognitive Science "Why are we surprised by only some of the things we see? Implications of separating color from color contrast" (October, 2010).
- Williams College -- Invited public lecture and participation in seminar, Psychology Department and 1960 Scholars Program, Williamstown, MA. "Visual Illusions: Research at the intersection of Neuroscience, Psychology, Physics, Computer Science, Art, and Philosophy" (April 2010).
- Board of Trustees, American University -- Invited talk, AU Provost's office, Washington, D.C. "The art and science of visual illusions" (February 2010).
- Hillcrest Technologies -- Invited talk, Rockville, MD. "The art and science of visual illusions" (February 2010).
- NIH Colloquium -- Invited talk, Sensory Group, NIH, Bethesda, MD. "The implications of separate color and color contrast responses for the perception of relative brightness" (January 2010).
- Georgia Tech -- Invited public lecture and participation in final Honors seminar, Atlanta, GA. "The art and science of visual illusions" (December 2009).
- American University Psychology Club -- Invited talk, Washington, D.C. "Visual Illusions': Where the Brain, Psychology, Mathematics, Computer Science, Art, and Design all Come Together" (November 2009).

- University of Maryland, Baltimore County -- Invited colloquium, Biology Department, Baltimore, MD. "Why are we surprised by only some of the things we see? Color, color contrast, and visual illusions" (November 2009).
- International Colour Vision Society Conference -- Keynote lecture, Braga, Portugal. "Color is slow; color contrast is fast" (July 2009).
- Pennsylvania State University -- Invited colloquium, Department of Neuroscience, Hershey, PA. "Spatial contrast, color contrast, and visual illusions" (April 2009).
- York University -- Invited colloquium, Centre for Visual Science, Toronto, Canada. "Separating color from color contrast: the implications for motion and brightness illusions" (February 2009).
- Florida Institute for Human and Machine Cognition -- Invited colloquium, Pensacola, FL. "Why are we surprised by only some of the things we see? Spatial contrast, color contrast, and visual illusions" (May 2008).
- Lehigh University -- Invited seminar (speaker selected by vote of Biology graduate students), Allentown, PA. "Contrast, Color, and Neuroscience" (March 2008).
- Rochester Institute of Technology -- Invited talk, Department of Imaging Sciences, Rochester, NY. "Separating color from color contrast" (April 2007).
- Senior Bucknellians -- Invited talk, Bucknell University, Lewisburg, PA. "Distortions of reality: what visual illusions can tell us about the brain" (March 2007).
- Georgia Tech -- Invited talk, International symposium for biologically inspired design in science and engineering, Atlanta, GA. "Counter shading, camouflage, and the design of visual illusions" (May 2006).
- Trustee group, Bucknell University -- Presentation of senior seminar projects, Lewisburg, PA. "Visual illusions and an advanced seminar in visual perception" (April 2006).
- U.S. Congressional Representative and staff visit, Bucknell University -- Invited presentation, President's office, Lewisburg, PA. "Visual perception and the importance of the campus wireless network" (February 2006).
- Bucknell University -- Invited colloquium, Mathematics and Physics Departments, Lewisburg, PA. "Why physicists and mathematicians should be interested in Psychology" (October 2005).
- University of California, Davis -- Invited colloquium, Center for Neuroscience, Davis, CA. "First- and second-order color vision" (April 2005).
- University of California, Davis -- Invited colloquium, Department of Psychology, Davis, CA. "New class of illusions based on contrast asynchronies" (April 2005).
- Lewisburg Area High School -- Invited presentation on Perception for Psychology class, Lewisburg, PA "The Science of Perception" (Spring 2004, 2005, 2006, 2007, 2008).
- Parents' Board, Bucknell University -- Invited presentation, Provost's office, Lewisburg, PA. (February 2004).
- Board of Trustees, Bucknell University -- Invited Faculty lecturer, President's office, Lewisburg, PA. (November 2003).
- Bucknell University, Physics Coffee Talk -- Invited talk, Physics Department, Lewisburg, PA. "Why physicists should be interested in Psychology, Part II" (November 2003).
- City University of London -- Invited colloquium, Applied Vision Research Center, London, UK. "Temporal sensitivity and contrast adaptation" (August 2001).
- University of Cambridge -- Invited talk, Kenneth Craik Club, Cambridge, UK. "Cone-specific mediation of rod system sensitivity" (March 2001).
- Bucknell University, Physics Coffee Talk -- Invited talk, Physics Department, Lewisburg, PA. "Why physicists should be interested in Psychology: examples from visual adaptation and color perception" (April 1999).
- Oregon Health Sciences University -- Invited talk to the residents of the medical school, Portland, OR. "Psychophysics in the medical environment" (June 1998).
- Lewis and Clark College, Physics and Mathematics symposium -- Invited talk, Dean of Science, Portland, OR. "Color vision, color matching, and color space" (December 1997).
- Oregon Health Sciences University -- Invited talk, Current Research Issues in Ophthalmology seminar, Portland, OR. "Rod-mediated vision at mesopic light levels" (November 1997).
- Optical Society of America Annual Meeting -- Invited talk, Long Beach, CA. "Rod-photoreceptor contribution to color perception" (October 1997).
- Inter-Society Color Council Annual Meeting -- Invited talk, Newport, RI.

"Rods and the 10 color-matching functions" (April 1993).

Conference Presentations

- Shapiro, A.G. & Caplovitz, G. (2010). "Feature Exchange: the unstable contribution of features in the maintenance of objects moving along ambiguous trajectories." Vision Sciences Society, Naples, FL.
- Lu, Z.L., Shapiro, A.G., & Huang, C.B. (2010). "Visual Illusion Contributes to the Break of the Curveball." Vision Sciences Society, Naples, FL.
- Shapiro, A. G. & Lu, Z. L. (2009). "Long-range argyles and spatial-scale models of brightness." Vision Sciences Society, Naples, FL.
- Shapiro, A. G., Knight, E. J., & Lu, Z. L. (2008). "Feature blur in peripheral vision." Society for Neuroscience, Washington D.C.
- Shapiro, A. G., Knight, E. J., & Lu, Z. L. (2008). "Spatial scale models of lightness illusions: contrast, anchoring, and tunable filters." Vision Sciences Society, Naples, FL. <http://journalofvision.org/8/6/288/>.
- Knight, E. J., Shapiro, A. G., & Lu, Z.L. (2008). "Drastically different percepts of five illusions in foveal and peripheral vision reveal their differences in representing visual phase." Vision Sciences Society, Naples, FL. <http://journalofvision.org/8/6/967/>.
- Shapiro, A. G. (2007). "Temporal and spatial factors that influence luminance gauge photometry." Festschrift for Joel Pokorny and Vivianne Smith, Chicago, IL.
- Shapiro, A. G., Smith, J., & Knight, E. (2007). "Spatial scale and simultaneous contrast phenomena." Vision Sciences Society, Sarasota, FL. <http://journalofvision.org/7/9/555/>.
- Hamburger, K. & Shapiro, A.G. (2007). "The Hermann grid is an equiluminant weave." Vision Sciences Society, Sarasota, FL. <http://journalofvision.org/7/9/236/>.
- Shapiro, A. G., & Smith, J. S. (2006). "Are simultaneous contrast phenomena a product of the visual systems representation of spatial scale?" Fall Vision Meeting, Rochester, NY. <http://journalofvision.org/6/13/22/>.
- Shapiro, A. R., & Shapiro, A. G. (2006). "A multiscale filtering model can explain brightness motion in single-field contrast asynchronies." Vision Sciences Society, Sarasota, FL. <http://journalofvision.org/6/6/713/>.
- Shapiro, A. G. (2005). "First-order color vision is slow; second-order color vision is fast." Vision Sciences Society, Sarasota, FL. <http://journalofvision.org/5/8/96/>.
- Corballis, P. M., Parks, N. A., Holder, M. K., & Shapiro A. G. (2005). "Identification of luminance and contrast modulation signatures in the VEP." Vision Sciences Society, Sarasota, FL. <http://journalofvision.org/5/8/488/>.
- Shapiro, A. G., Charles, J. P., Schatten, H. (2004). "Luminance gauge photometry." Fall Vision Meeting, Rochester, NY. <http://journalofvision.org/4/11/81/>.
- Shapiro, A. G., Shear-Heyman, M., Milanak, M., Leaver, A., & Charles, J. P. (2004). "Thin edges and the induced contrast asynchrony." Vision Sciences Society, Sarasota, FL. <http://journalofvision.org/4/8/349/>.
- Shapiro, A. G. & D'Antona, A. D. (2003). "Perceived Contrast Asynchrony and Independent Directions in Color Space." International Colour Vision Society, Seattle, WA.
- Shapiro, A. G. & D'Antona, A. D. (2003). "Independent Directions in Color Space Identified Through Contrast Asynchrony." Vision Sciences Society, Sarasota, FL. <http://journalofvision.org/3/9/313/>.
- Shapiro, A. G., Baldwin, L.A & Mollon, J. D. (2002). "The S and L-M chromatic systems have matched temporal processing characteristics only at low-light levels." European Conference for Visual Perception, Glasgow, Scotland.
- Shapiro, A. G., Baldwin, L. & Zaidi, Q. (2002). "Time Course of L-M System Adaptation to Simple and Complex Fields." Vision Sciences Society, Sarasota, FL. <http://journalofvision.org/2/7/142/>.
- Shapiro, A. G., Hood, S.M., & Mollon, J.D. (2001). "Temporal frequency and contrast adaptation." The Thomas Young Symposium, Cambridge, England.
- Johnson, J. J., Lowry, B., Eliseuson, S., & Shapiro, A. G. (2001). "Phantom-type referred sensations in a non-amputee." Cognitive Neuroscience Society, New York, NY.
- Stasson, S. W., Pokorny J., Smith V. C., & Shapiro, A. G. (2001). "Reaction times to rod and cone incremental and decremental stimuli." ARVO Annual Meeting, Fort Lauderdale, FL. *Investigative Ophthalmology Suppl.*, Vol. 42.

- Shapiro, A. G., Beere, J., & Creasy, D. (2000). "Adaptation stages in the S-cone system." United Engineering Foundation Conference, Tuscany, Italy. In *The proceedings of the United Engineering Foundation Conference on Sensors and Sensing*.
- Shapiro, A.G., Beere, J. L., & Zaidi, Q. (2000). "Time course of higher order adaptation in the S-(L+M) color system." ARVO Annual Meeting, Fort Lauderdale, FL. *Investigative Ophthalmology Suppl.*, Vol. 41.
- Shapiro, A.G., Beere, J. L., & Zaidi, Q. (1999). "Temporal properties of adaptation stages along the S-(L+M) cardinal axis." The 15th symposium of the International Colour Vision Society, Göttingen, Germany.
- Shapiro, A.G., Chessman, L. J., Knight, R., & Buck, S. L. (1998). "Cone contribution to the rod threshold versus illuminance function." ARVO Annual Meeting, Fort Lauderdale, FL. *Investigative Ophthalmology Suppl.*, Vol. 39.
- Fowler, G. A., Buck, S. L., Shapiro, A.G., & Knight, R. (1997). "Linear opponent models of rod influence on hue perception." ARVO Annual Meeting, Fort Lauderdale, FL. *Investigative Ophthalmology Suppl.*, Vol. 38, No. 4, p. 453.
- Reyes, N. & Shapiro, A.G. (1997). "Localization and detection thresholds in one- and two-interval tasks." Western Psychological Association, Seattle, WA.
- Shapiro, A. G., Pokorny, J., & Smith, V. (1996). "Cone-Rod Receptor Spaces." ARVO Annual Meeting, Fort Lauderdale, FL. *Investigative Ophthalmology Suppl.*, Vol. 37.
- Shapiro, A. G., Pokorny, J., & Smith, V. (1994). "Lines of equal rod activity in color space." Optical Society of America Annual Meeting, Dallas, TX.
- Shapiro, A. G., Pokorny, J., & Smith, V. (1994). "The effects of viewing color CRT monitors on the rod-photoreceptors." Inter-Society Color Council Annual Meeting, Detroit, MI.
- Shapiro, A. G., Smith, V., & Pokorny, J. (1993). "Rod contribution to the 10 color-matching functions." Optical Society of America Annual Meeting, Toronto, Ont. *OSA Technical Digest*, Vol. 24, p. 83.
- Shapiro, A. G., Smith, V., & Pokorny, J. (1993). "Rods and color-matching functions." Presented by V. Smith at the Commission Internationale de l'Eclairage (CIE) Symposium on Advanced Colorimetry, Vienna, Austria.
- Zaidi, Q. & Shapiro, A. G. (1993). "Functional models of adaptation to color mechanisms." ARVO Annual Meeting, Sarasota, FL. *Investigative Ophthalmology Suppl.*, Vol. 34, No. 4, p. 765.
- Shapiro, A. G. & Zaidi, Q. (1992). "Prolonged temporal modulation and the interaction of color mechanisms." Optical Society of America Annual Meeting, Albuquerque, NM. *OSA Technical Digest*, Vol. 23, p. 51.
- Greenstein, V., Ritch, R., Shapiro, A., Zaidi, Q., & Hood, D. (1992). "The effects of glaucoma on cone pathways." ARVO Annual Meeting, Sarasota, FL. *Investigative Ophthalmology Suppl.*, Vol. 33, No. 4, p. 1383.
- Shapiro, A. G. & Zaidi, Q. (1991). "The effects of prolonged temporal modulation on the response of color mechanisms." ARVO Annual Meeting, Sarasota, FL. *Investigative Ophthalmology Suppl.*, Vol. 32, No. 4, p. 842.
- Greenstein, V., Shapiro, A. G., Carr, R., Harooni, M., Hood, D., Ritch, R., & Zaidi, Q. (1991). "Chromatic and achromatic threshold changes associated with ocular disorders." ARVO Annual Meeting, Sarasota, FL. *Investigative Ophthalmology Suppl.*, Vol. 32, No. 4, p. 1231.
- Shapiro, A. G., Zaidi, Q., & Hood, D. (1990). "Adaptation in the red-green (l-m) color system." ARVO Annual Meeting, Sarasota, FL. *Investigative Ophthalmology Suppl.*, Vol. 31, No. 4, p. 262.
- Greenstein, V., Thomas, S., Shapiro, A. G., Zaidi, Q., & Hood, D. (1990). "A comparison of techniques for measuring s-cone sensitivity in diabetics." ARVO Annual Meeting, Sarasota, FL. *Investigative Ophthalmology Suppl.*, Vol. 31, p. 423.
- Zaidi, Q., Hood, D., & Shapiro, A. G. (1989). "The time course of sensitivity change in s-cone color mechanisms." ARVO Annual Meeting, Sarasota, FL. *Investigative Ophthalmology Suppl.*, Vol. 30, No. 4, p. 221.
- Shapiro, A. G., Meck, W. H., & Williams, C. L. (1988). "Choline supplementation during development: time frames for spatial memory facilitation." Society of Neuroscience Annual

Meeting, Toronto, Ont. *Neuroscience Suppl.*, Vol. 14, p. 58.

Meck, W. H., Shapiro, A. G., & Williams, C. L. (1988). "Prenatal choline exposure produces long-term improvement in temporal processing." Society of Neuroscience Annual Meeting, Toronto, Ont. *Neuroscience Suppl.*, Vol. 14, p. 58.

Meck, W. H., Gibbon, J., Allan, L., & Shapiro, A. G. (1988). "Psychometric functions with and without reversals in temporal bisection." Psychonomic Society Annual Meeting, Chicago, IL. *Psychonomic Society Suppl.*, Vol. 29, p. 13.

Presentations for Vision Sciences Society Demonstration Night

Shapiro, A. G. (2009). "The break of the curveball, rolling rolls, and other illusions." Naples, FL.

Knight, E. J., Shapiro, A. G., & Lu, Z.L. (2008). "Illusions that illustrate fundamental differences between foveal and peripheral vision." Naples, FL.

Shapiro, A. G., & Knight, E. J. (2008). "Perpetual collisions, long-range argyles, and other illusions." Naples, FL.

Shapiro, A. G., Knight, E. J., & Johnson, T. (2007). "'Where has all the motion gone?' and other visual effects." Sarasota, FL.

Hamburger, K. & Shapiro, A.G. (2007). "Weaves." Sarasota, FL.

Shapiro, A.G., Knight, E, J, Palmor, Y., & Mancusi, D. (2006). Swimmers, eels and other gradient-gradient illusions. Sarasota, FL.

Shapiro, A. G., & Charles, J. P. (2005). "Contrast asynchronies: 57 varieties." Sarasota, FL.

Shapiro, A. G. & D'Antona, A. D. (2004). "The Winking Effect." Sarasota, FL.

Conference and Symposia Organizing

Chair and co-curator, Demo Night, Vision Sciences Society Annual Meeting (2009, 2010).

Co-curator, Demo Night, Vision Sciences Society Annual Meeting (2007, 2008).

Session chair, Lightness and brightness session, Vision Sciences Society Annual Meeting (May 2007).

Member of the organizing committee, International Colour Vision Society Bi-Annual Meeting, Cambridge, England (July 2001).

Co-organizer and chair of symposium entitled "Long-range interaction in the visual system." Optical Society of America Annual Meeting, Santa Clara, CA (October 1999).

Co-organizer and chair of symposium entitled "Vision in Virtual Environments." Optical Society of America Annual Meeting, Portland, OR (September 1995).

Teaching Experience

The Senses (2009, 2010)

Visual neuroscience and visual illusions (2010)

Introduction to Neuroscience (2008, 2009)

Supervisor, University of Cambridge (2000-01)

Part Ib, Psychology: Corpus Christi College, Magdalene College

Medical and Veterinary Sciences, Psychology: Corpus Christi College

Part II Vision, Experimental Psychology: Gonville and Caius College, Pembroke College, New College, Trinity College

Perception (1995-2000, 2002-09)

Perception Laboratory (1999-2001, 2003-07)

Advanced Perception (1999, 2000, 2002, 2005, 2006, 2008, 2009)

Cognition (1996-98)

Statistics (1995-2000)

Advanced Statistics (1997)

Introduction to Psychology (1996, 1998, 2001, 2003, 2006, 2007, 2008)

First-year seminar: Distortions of Reality (2002, 2006, 2008)

Journal and Grant Reviewing

Color: research and application

Department of Veterans Affairs

Human Factors

Journal of Imaging Science and Technology

Journal of Vision

National Science Foundation

Perception

Perception and Psychophysics

Vision Research

Visual Neuroscience

Other Professional Activities

Departmental Representative, Institutional Review Board, Bucknell University (2008-2009)

Participant Pool Coordinator, Psychology Department, Bucknell University (2008-2009)

Faculty Adviser for BRAIN (Bucknell research advocates in neuroscience), Bucknell University (2008-2009)

Judge for the 2006 best visual illusion of the year contest, Neural Correlate Society

Curriculum Committee, Bucknell University (2005, 2006)

Committee on Admission and Financial Aid, Bucknell University (2001-04; chair, 2002-04)

Departmental Library Committee, Bucknell University (2001-2004, 2005-2008)

Selection Committee for Godlove Award, Intersociety Color Council (1999, 2001, 2003)

Professional Societies and Memberships

International Colour Vision Society

Optical Society of America

Psychonomic Society

Society for Neuroscience

Vision Sciences Society

Faculty for Undergraduate Neuroscience