

# Curriculum Vita

Mark E. McCourt, Ph.D.  
Director, Center for Visual Neuroscience  
Professor, Department of Psychology  
North Dakota State University  
Fargo, ND 58108-6050

Office: (701) 231-8625  
FAX: (701) 231-8426  
mark.mccourt@ndsu.edu  
<http://www.cvn.psych.ndsu.nodak.edu>  
<http://www.psych.ndsu.nodak.edu/mccourt>

## Education:

1982                      Ph.D., Psychology, University of California, Santa Barbara  
1975                      B.A. (Cum Laude), Psychology, University of California, Davis

## Professional Positions:

2009-                      Director, Center for Visual Neuroscience  
Dale Hogoboom Distinguished Professor  
Department of Psychology  
North Dakota State University

2004-                      Director, Center for Visual Neuroscience  
James A. Meier Distinguished Professor  
Department of Psychology  
North Dakota State University

2001-2004                James A. Meier Distinguished Professor  
Department of Psychology  
College of Science and Mathematics  
North Dakota State University

1998-2000                Professor  
Department of Psychology  
North Dakota State University

1991-1998                Associate Professor  
Department of Psychology  
North Dakota State University

1985-91                    Assistant Professor  
Department of Psychology  
University of Texas at Austin

1983-85                    Postdoctoral Fellow  
Department of Physiology  
John Curtin School of Medical Research  
The Australian National University

1982-83                    NATO Postdoctoral Fellow  
Kenneth Craik Laboratory  
Department of Physiology  
Cambridge University, England

## Research Funding:

### *Pending*

Mark E. McCourt (PI/PD), Michael Robinson (Co-I), Mark Nawrot (Co-I), Wolfgang Teder-Sälejärvi (Co-I) and Stéphane Rainville (Co-I), National Center for Research Resources, P20 RR020151, "COBRE Center for Visual and Cognitive Neuroscience", 8/1/10-7/31/15, \$10,736,313.

Barbara Blakeslee (PI/PD) and Mark E. McCourt (Co-PI/PD), National Eye Institute, EY014015, "Spatial, Temporal and Intensive Analysis of Suprathreshold Vision: Brightness/Lightness Perception", 4/1/10-3/31/15, \$1,793,750.

### *Active*

Mark E. McCourt (PI/PD) and Barbara Blakeslee (Co-I), "Assessing Age-Related Changes in Inhibitory Visual Processing", Administrative Supplement (Advance Translational Research) to National Center for Research Resources, P20 RR020151, "COBRE Center for Visual Neuroscience", 9/25/09-9/24/10, \$203,332.

Mark E. McCourt (PI/PD), Wolfgang Teder-Sälejärvi and Michael Robinson (Co-I), "Vigilance and Avoidance in Affective Visual Processing", Administrative Supplement (Enhancing NCR Pilot Project Mechanism) to National Center for Research Resources, P20 RR020151, "COBRE Center for Visual Neuroscience", 9/22/09-9/21/10, \$179,659.

Mark E. McCourt (PI/PD) and Stéphane Rainville (Co-I), "Accelerated R&D of Early Diagnosis Tools for Disorders with Compromised Neural Dynamics", Administrative Supplement (Research Workforce Development and Dissemination) to National Center for Research Resources, P20 RR020151, "COBRE Center for Visual Neuroscience", 9/24/09-9/23/10, \$238,559.

Mark E. McCourt (PI/PD) and Mark Brady (Co-I), "Cross-Training in Electrophysiology and Statistical Modeling", Administrative Supplement (Research Workforce Development and Dissemination) to National Center for Research Resources, P20 RR020151, "COBRE Center for Visual Neuroscience", 9/23/09-9/22/10, \$172,157.

Mark E. McCourt (PI/PD), Linda Langley (Co-I), Robert Gordon (Co-I) and Chris Kelland Friesen (Co-I), "Video Game Training to Enhance Visual Cognition and Everyday Functioning in Older Adults", Administrative Supplement (Advance Translational Research) to National Center for Research Resources, P20 RR020151, "COBRE Center for Visual Neuroscience", 9/26/09-9/25/10, \$434,280.

Mark E. McCourt (PI/PD), Linda Langley (Co-I), Robert Gordon (Co-I), Chris Kelland Friesen (Co-I) and Mark Nawrot (Co-I), National Center for Research Resources, P20 RR020151, "COBRE Center for Visual Neuroscience", 9/20/04-7/31/10, \$8,919,844.

Kurt Johnson (PI), Kimberly Vachal (Co-I), Rob Gordon (Co-I), Linda Langley (Co-I), Mark Brady (Co-I) and Mark E. McCourt (Co-I), Federal Highway Administration, University Transportation Centers Program, DTRT07-G-0008, "Rural Road Signage: Simulated Driving to Evaluate Low-Cost Safety Improvements for Older Drivers", 7/1/08-6/30/10, \$110,000.

### *Completed*

Mark E. McCourt (PI/PD) and Linda Langley (Co-I), National Institute on Aging, AG022638, "Aging Effects on Multisensory Integration", 8/15/03-7/31/05, \$70,500.

Barbara Blakeslee (PI/PD) and Mark E. McCourt (Co-I), National Eye Institute, EY014015, "Spatial and Temporal Interactions in Brightness Perception", 3/1/03-2/28/08, \$698,850.

Mark E. McCourt (PI/PD), National Science Foundation, EPS-0132289, "Multisensory Integration Research Group", 5/20/02-6/30/05, \$450,000.

Barbara Blakeslee (PI/PD) and Mark E. McCourt (collaborator, consultant), National Science Foundation, IBN-0212798, "Studies of Brightness, Brightness Contrast and Lightness: Methods and Modeling", 7/15/02-7/14/05, \$150,501.

Mark E. McCourt (PI/PD), National Eye Institute, EY12267, "Psychophysical Analysis of Visual Line Bisection", 8/1/98-9/29/02, \$164,013.

Mark E. McCourt (PI/PD), North Dakota/NSF Experimental Program to Stimulate Competitive Research (ND-EPSCoR) Infrastructure Improvement Grant, "NDSU Laboratory in Human Psychophysiology", 10/98, \$85,000.

Mark E. McCourt (PI/PD), North Dakota/NSF Experimental Program to Stimulate Competitive Research (ND-EPSCoR) Infrastructure Improvement Grant, "Psychophysical and Functional Neuroimaging Approaches to the Study of Human Visuospatial Attention", 7/1/98-6/30/00, \$12,000.

Phillip Boudjouk (PI/PD), Mark E. McCourt (Co-I), Kevin McCaul (Co-I), H. Katherine O'Neill (Co-I), Mark Nawrot (Co-I), Mary Ann Gillispie (Co-I), Kathleen Slobin (Co-I), Janis Hulla (Co-I), Sanku Mallik (Co-I), and David Pierce (Co-I), National Center for Research Resources, RR11817-01, "NIH Research Infrastructure in North Dakota", 10/1/96-9/30/00, \$685,000.

Mark E. McCourt (PI/PD), Neuropsychiatric Research Institute, SGP-98-5, "Functional Neuroimaging in Line-Bisection Tasks", 1/1/98-10/31/99, \$5,625.

Barbara Blakeslee (PI/PD) and Mark E. McCourt (collaborator, consultant), National Science Foundation, IBN-9816690, "Lateral Interactions in Brightness Perception: Psychophysics and Modeling", 1/1/99-12/31/01, \$130,337.

Barbara Blakeslee (PI/PD) and Mark E. McCourt (collaborator, consultant), National Science Foundation, IBN-9514201, "Lateral Interactions in Brightness and Color Perception", 4/1/96-10/30/98, \$119,998.

Victor W. Mark (PI/PD), Mark E. McCourt (Co-I) and F. Richard Ferraro (Co-I), University of North Dakota, BRSG Research Fund, "Portable Computer Behavioral Assessment of Stroke", 3/1/96-2/28/97, \$4,920.

Mark E. McCourt (PI/PD), North Dakota State University Research Council Grant-in-aid, #1199, "Developing an Experimental Model of Visuospatial Neglect Using Transcranial Magnetic Stimulation", 1996, \$1,750.

Mark E. McCourt (PI/PD), Air Force Office of Scientific Research, F49620-94-1-0445, "Threshold and Suprathreshold Lateral Interactions in Brightness, Contrast and Stereoscopic Depth Perception", 9/1/94-2/29/96, \$94,000.

Mark E. McCourt (PI/PD), National Eye Institute, EY10133-01, "Analysis of Grating Induction", 5/1/93-5/14/97, \$115,250.

Mark E. McCourt (PI/PD), National Eye Institute, EY10133-01S, Supplemental Award to "Analysis of Grating Induction", 5/1/93-5/14/97, \$11,053.

Mark E. McCourt (PI/PD), North Dakota/NSF Experimental Program to Stimulate Competitive Research (ND-EPSCoR) Research Grant, "Analysis of Grating Induction and Suprathreshold Contrast Perception", 9/1/92-8/31/94, \$36,000.

Mark E. McCourt (PI/PD), North Dakota State University Research Council Grant-in-aid, #1154, "Pilot Investigation of a Novel Bistable Apparent Motion Phenomenon: The Lathe Illusion", 1992, \$5,900.

Mark E. McCourt (PI/PD), National Science Foundation, BNS-8616720, "Analysis of Grating

Induction", 3/87-3/90, \$114,391.

Mark E. McCourt (PI/PD), University of Texas at Austin Research Institute Grant, RG-326, "Assessing the Potential of Grating Induction to Study Suprathreshold Visual Processing in Patients Afflicted with Age-Related Maculopathy", 1990, \$5,419.

Mark E. McCourt (PI/PD), University of Texas at Austin Research Institute Grant, SRG-227, "Linear Modeling of Mechanisms Mediating Human Brightness Sensation", 1989, \$500.

Mark E. McCourt (PI/PD), University of Texas at Austin Research Institute Grant, RG-462, "Assessment of Fundamental Visual Capacities of Mammals", 1986, \$6,000.

Mark E. McCourt (PI/PD), University of Texas at Austin Research Institute Award, Summer Research Award, "Analysis of Grating Induction", 1985, \$5,444.

### **Honors and Awards:**

2009-2011 NDSU Dale Hogoboom Distinguished Professor

2008 Invited Keynote Speaker: 27<sup>th</sup> Annual Meeting of the Japanese Psychonomic Society (Sendai, Japan, 12/08)

2008 *Vision Research* Top Reviewer (2006-2007)

2005 NDSU Fred Waldron Award for Outstanding Research.

2001-2004 NDSU College of Science and Mathematics James A. Meier Distinguished Professor

1999 NDSU College of Science and Mathematics Excellence in Research Award

### **Professional Affiliations:**

American Psychological Society  
Cognitive Neuroscience Society  
International Multisensory Research Forum  
International Neuropsychological Society  
Optical Society of America  
Psychonomic Society  
Vision Sciences Society

### **Professional Service:**

Editorial Board/Section Editor: *NeuroReport* (2006-)

Consulting Editor: *Attention, Perception & Psychophysics* (2007-)

*Ad Hoc* Reviewer:

National Institutes of Health

NEI VISB Study Section: 1997; 1999

NEI VISB Special Emphasis Panel: 2003

BBBP-D Special Emphasis Panel: 2004; 2005; 2006

Air Force Office of Scientific Research: 1998

National Science Foundation: 1988; 2000; 2004

Canada Research Chairs Program: 2006; 2008; 2009

Canada National Sciences and Engineering Research Council (NSERC): 2008

International Science Foundation: 1984

The Wellcome Trust: 1983

*Applied Optics*

*Archives of Physical Medicine & Rehabilitation*  
*Attention, Perception and Psychophysics*  
*Behavior Research Methods, Instruments, and Computers*  
*Brain & Cognition*  
*Brain Topography*  
*Cahiers de Psychologie Cognitive*  
*Canadian Journal of Experimental Psychology*  
*Clinical Neurophysiology*  
*Cognition*  
*Cognitive Brain Research*  
*Cognitive, Affective and Behavioral Neuroscience*  
*Contemporary Psychology*  
*Cortex*  
*European Journal of Neuroscience*  
*Experimental Brain Research*  
*Experimental Psychology*  
*International Journal of Psychophysiology*  
*Investigative Ophthalmology and Visual Science*  
*Journal of Experimental Psychology: Human Perception and Performance*  
*Journal of General Psychology*  
*Journal of Neurophysiology*  
*Journal of Neuroscience*  
*Journal of Studies on Alcohol and Drugs*  
*Journal of the International Neuropsychological Society*  
*Journal of the Neurological Sciences*  
*Journal of the Optical Society of America*  
*Journal of Vision*  
*Laterality: Asymmetries of Body, Brain and Cognition*  
*Neuropsychologia*  
*NeuroReport*  
*Neuroscience Letters*  
*Perception*  
*Psychiatry Research*  
*Psychoneuroendocrinology*  
*Psychonomic Bulletin and Review*  
*Spatial Vision*  
*Vision Research*  
*Visual Neuroscience*

**Publications:**

- Clarke, A., Blakeslee, B. & McCourt, M.E. (2009). Temporal properties of second-order induction: Contrast-contrast. Journal of Vision (in preparation).
- Sosa, Y., Clarke, A. & McCourt, M.E. (2009). Hemifield asymmetry in the integration of exogenous auditory and visual cues in the capture of visuospatial attention in visual line bisection. Psychological Science (in preparation).
- McCourt, M.E. & Robinson, M. (2009). Personality does not modulate spatial attention in a tachistoscopic visual line bisection task. Brain & Cognition (in preparation).
- McCourt, M.E. & Wylie, G. (2009). A psychophysical analysis of task switching. Psychological Science (in preparation).
- McCourt, M.E. & Leone, L. (2009). Auditory "capture" of visual motion. Experimental Brain

Research (in preparation).

- McCourt, M.E. & Blakeslee, B. (2009). Spatiotemporal properties of brightness induction. Journal of Vision (in preparation).
- Leone, L. & McCourt, M.E. (2009). Audiovisual multisensory facilitation: Physical versus physiological simultaneity. European Journal of Neuroscience (under review).
- Sosa, Y., Teder-Sälejärvi, W.A. & McCourt, M.E. (2009). Biases of spatial attention in vision and audition. Neuropsychologia (under review).
- McCourt, M.E. & Blakeslee, B. (2009). Brightening prospects for understanding the neural coding of perceived luminance. Japanese Journal of Psychonomic Science (in press).
- McCourt, M.E. & Leone, L. (2009). Effects of stimulus strength on the timing of audiovisual multisensory facilitation. Japanese Journal of Psychonomic Science (in press).
- Leone, L. & McCourt, M.E. (2009). The effect of acute alcohol challenge on global visuospatial attention: Exaggeration of leftward bias in line bisection. Laterality: Asymmetries of Body, Brain and Cognition (in press).
- Cope, D., Blakeslee, B. & McCourt, M.E. (2009). Simple cell response properties imply receptive field structure: Balanced Gabor and/or bandlimited field functions. Journal of the Optical Society of America, A, *26*, 2067-2092.
- Blakeslee, B., Reetz, D. & McCourt, M.E. (2009). Spatial filtering versus anchoring accounts of brightness/lightness perception in staircase and simultaneous brightness/lightness contrast stimuli. Journal of Vision, *9*(3): 22, 1-17, <http://journalofvision.org/9/3/22/>, doi: 10.1167/9.3.22.
- Foxe, J.J., Strugstad, E.C., Sehatpour, P., Molholm, S., Pasieka, W., Schroeder, C.E. & McCourt, M.E. (2008). Parvocellular and Magnocellular contributions to the initial generators of the visual evoked potential: High-density electrical mapping of the "C1" component. Brain Topography, *21*, 11-21, doi: 10.1007/s10548-008-0063-4.
- Blakeslee, B., Reetz, D. & McCourt, M.E. (2008). Coming to terms with lightness and brightness: Effects of stimulus configuration and instructions on brightness and lightness judgments. Journal of Vision, *8*(11):3, 1-14, <http://journalofvision.org/8/11/3/>, doi: 10.1167/8.11.3.
- McCourt, M.E., Shpaner, M., Javitt, D.C. & Foxe, J.J. (2008). Hemispheric asymmetry and callosal integration of visuospatial attention in schizophrenia: A tachistoscopic line bisection study. Schizophrenia Research, *102*/1-3, 189-196, doi: 10.1016/j.schres.2008.03.021.
- Blakeslee, B. & McCourt, M.E. (2008). Nearly instantaneous brightness induction. Journal of Vision, *8*(2): 15, 1-8, <http://journalofvision.org/8/2/15/>, doi: 10.1167/8.2.15.
- Storbeck, J., Robinson, M.D. & McCourt, M.E. (2006). Semantic processing precedes affect retrieval: The neurological case for cognitive primacy in visual processing. Review of General Psychology, *10*, 41-55.
- Blakeslee, B. & McCourt, M.E. (2005). A multiscale spatial filtering account of grating induction and remote brightness induction effects: Reply to Logvinenko. Perception, *34*, 793-802.
- McCourt, M.E., Garlinghouse, M. & Reuter-Lorenz, P.A. (2005). A common origin for the effects of unilateral cueing and line geometry in the modulation of pseudoneglect. Cortex, *41*, 499-511.
- McCourt, M.E. (2005). Comparing the spatial frequency response of first- and second-order lateral interactions: Grating induction and contrast-contrast. Perception, *34*, 501-510.

- Blakeslee, B., Pasiaka, W. & McCourt, M.E. (2005). Oriented multiscale spatial filtering and contrast normalization: A parsimonious model of brightness induction in a continuum of stimuli including White, Howe and simultaneous brightness contrast. *Vision Research*, *45*, 607-615.
- Blakeslee, B. & McCourt, M.E. (2004). A unified theory of brightness contrast and assimilation incorporating oriented multiscale spatial filtering and contrast normalization. *Vision Research*, *44*, 2483-2503.
- McCourt, M.E. & Foxe, J.J. (2004). Brightening prospects for "early" cortical coding of perceived luminance: A high-density electrical mapping study. *NeuroReport*, *15*, 49-56 (Cover Article).
- Foxe, J.J., McCourt, M.E. & Javitt, D.C. (2003). Parietal control of visuospatial attention: Line bisection judgments evaluated with high-density electrical mapping and source analysis. *NeuroImage*, *19*, 710-726.
- Blakeslee, B. & McCourt, M.E. (2003). A multiscale spatial filtering account of brightness phenomena. In: Harris, L. & Jenkin, M. (Eds.): *Levels of Perception*, Springer, NY, New York.
- Blakeslee, B. & McCourt, M.E. (2003). A multiscale spatial filtering account of brightness phenomena: Reply to Todorovic and Gilchrist. In: Harris, L. & Jenkin, M. (Eds.): *Levels of Perception*, Springer, NY, New York.
- Blakeslee, B. & McCourt, M.E. (2001). A multiscale spatial filtering account of the Wertheimer-Benary effect and the corrugated Mondrian. *Vision Research*, *41*, 2487-2502.
- McCourt, M.E. (2001). Performance consistency of normal observers in forced-choice tachistoscopic visual line bisection. *Neuropsychologia*, *39*, 1065-1076.
- McCourt M.E., Freeman, P., Tahmahkera-Stevens, C. & Chaussee, M. (2001). The influence of unimanual response on pseudoneglect magnitude. *Brain and Cognition*, *45*, 52-63.
- McCourt, M.E., Garlinghouse, M. & Butler, J. (2001). The influence of viewing eye on pseudoneglect magnitude. *Journal of the International Neuropsychological Society*, *7*, 391-395.
- McCourt, M.E. & Garlinghouse, M. (2000). Asymmetries of visuospatial attention are modulated by viewing distance and visual field elevation: Pseudoneglect in peripersonal and extrapersonal space. *Cortex*, *36*, 715-732.
- McCourt, M.E., Garlinghouse, M. & Slater, J. (2000). Centripetal versus centrifugal bias in visual line bisection: Focusing attention on two hypotheses. *Frontiers in Bioscience: (Special Issue on Selective Attention Mechanisms in the Primate)*, *5*, d58-71. (<http://www.bioscience.org/2000/v5/d/mccourt/fulltext.htm>)
- McCourt, M.E. & Garlinghouse, M. (2000). Stimulus modulation of pseudoneglect: Effect of line geometry. *Neuropsychologia*, *38*, 520-524.
- Jewell, G. & McCourt, M.E. (2000). Pseudoneglect: A review and meta-analysis of performance factors in line bisection tasks. *Neuropsychologia*, *38*, 93-110.
- Blakeslee, B. & McCourt, M.E. (1999). A multiscale spatial filtering account of the White effect, simultaneous brightness contrast and grating induction. *Vision Research* *39*, 4361-4377 (Cover Article).
- McCourt, M.E. & Jewell, G. (1999). Visuospatial attention in line bisection: Stimulus modulation of pseudoneglect. *Neuropsychologia*, *37*, 843-855.
- Blakeslee, B. & McCourt, M.E. (1997). Similar mechanisms underlie simultaneous brightness

- contrast and grating induction. *Vision Research*, *37*, 2849-2869.
- McCourt, M.E., Blakeslee, B. & Kingdom, F.A.A. (1997). The effect of perceived transparency on brightness judgments. *Optics and Imaging in the Information Age*, 42-50.
- Sackmann, C. & McCourt, M.E. (1997). Suprathreshold measures of the mechanisms mediating Kanizsa-type illusory contours. *Optics and Imaging in the Information Age*, 249-259.
- Kingdom, F.A.A., Blakeslee, B. & McCourt, M.E. (1997). Brightness with and without perceived transparency: When does it make a difference? *Perception*, *26*, 493-506.
- McCourt, M.E. & Olafson, C.L. (1997). Cognitive and perceptual influences on visual line bisection: Psychophysical and chronometric analyses of pseudoneglect. *Neuropsychologia*, *35*, 369-380.
- McCourt, M.E., Mark, V.W., Radonovich, K.J., Willison, S. & Freeman, P. (1997). The effects of gender, practice and menstrual phase on the perceived location of the midsagittal plane. *Neuropsychologia*, *35*, 717-724.
- Kingdom, F.A.A., McCourt, M.E. & Blakeslee, B. (1997). In defense of lateral inhibition as the underlying cause of induced brightness phenomena: A reply to Spehar, Gilchrist and Arend. *Vision Research*, *37*, 1039-1044.
- McCourt, M.E. & Kingdom, F.A.A. (1996). Facilitation of luminance grating detection by induced gratings. *Vision Research*, *36*, 2563-2574.
- McCourt, M.E. & Paulson, K. (1994). The influence of illusory contours on the detection of luminance increments and decrements. *Vision Research*, *34*, 2469-2476.
- McCourt, M.E. (1994). Grating induction: A new explanation for stationary visual phantoms. *Vision Research*, *34*, 1609-1618.
- McCourt, M.E. & Blakeslee, B. (1994). A contrast matching analysis of grating induction and suprathreshold contrast perception. *Journal of the Optical Society of America A*, *11*, 14-24.
- McCourt, M.E. & Blakeslee, B. (1993). The effect of edge blur on grating induction magnitude. *Vision Research*, *33*, 2499-2508.
- McCourt, M.E., Thalluri, J. & Henry, G.H. (1990). Properties of area 17/18 border neurons contributing to the visual transcallosal pathway in the cat. *Visual Neuroscience*, *5*, 83-98.
- McCourt, M.E. (1990). Disappearance of grating induction at scotopic luminances. *Vision Research*, *30*, 431-438.
- Maddess, T., McCourt, M.E., Blakeslee, B. & Cunningham, T. (1988). Factors governing the adaptation of cells in area 17 of cat visual cortex. *Biological Cybernetics*, *59*, 229-236.
- Bullier, J., McCourt, M.E. & Henry, G.H. (1988). Physiological studies on the feedback connection to striate cortex from cortical areas 18 and 19 of the cat. *Experimental Brain Research*, *70*, 90-98.
- McCourt, M.E., Boyapati, J. & Henry, G.H. (1986). Layering in lamina 6 of cat striate cortex. *Brain Research*, *364*, 181-185.
- McCourt, M.E. & Foley, J.M. (1985). Spatial frequency interference on grating-induction. *Vision Research*, *25*, 1507-1518.
- Foley, J.M. & McCourt, M.E. (1985). Visual grating induction. *Journal of the Optical Society of America*, *A2*, 1220-1230.

- Blakeslee, B., Jacobs, G.H. & McCourt, M.E. (1985). Anisotropy in the preferred directions and visual field location of directionally selective optic nerve fibers in the gray squirrel. Vision Research, *25*, 615-618.
- McCourt, M.E. & Jacobs, G.H. (1984). Spatial filter characteristics of single-units in the optic nerve of California ground squirrel (*Spermophilus beecheyi*). Journal of Neurophysiology, *52*, 1181-1199.
- McCourt, M.E. & Jacobs, G.H. (1984). Directional filter characteristics of single-units in the optic nerve of California ground squirrel (*Spermophilus beecheyi*). Journal of Neurophysiology, *52*, 1200-1212.
- McCourt, M.E. & Jacobs, G.H. (1984). Refractive state, depth of focus and accommodation of the eye of the California ground squirrel (*Spermophilus beecheyi*). Vision Research, *24*, 1261-1266.
- McCourt, M.E. & Jacobs, G.H. (1983). Effects of photic environment on the development of spectral response properties of optic nerve fibers in the ground squirrel. Experimental Brain Research, *49*, 443-452.
- Jacobs, G.H., McCourt, M.E. & Neitz, J. (1983). Development of color vision mechanisms in the ground squirrel. In Colour Vision: Physiology and Psychophysics (Edited by Mollon J.D. and Sharpe L.T.), pp. 253-260, Academic Press, London.
- McCourt, M.E. (1983). Brightness induction and the Cafe Wall illusion. Perception, *12*, 131-142.
- McCourt, M.E. (1982). A spatial frequency dependent grating-induction effect. Vision Research, *22*, 119-134.
- Jacobs, G.H., Blakeslee, B., McCourt, M.E. & Tootell, R.B.H. (1980). Sensitivity of ground squirrels to spatial and temporal luminance modulations. Journal of Comparative Physiology, *136*, 291-299.

### **Published Abstracts/Presentations at Professional Meetings:**

#### National and International Meetings:

- McCourt, M.E., Blakeslee, B. & Cope, D. (2009). Simple cell response properties imply receptive field structure: Balanced Gabor and/or bandlimited field functions [Invited Presentation]. Geoff Henry International Festschrift, Australian National University, Canberra, A.C.T., Australia, 11/09.
- McCourt, M.E., Sosa, Y. & Clarke, A. (2009). Hemifield asymmetry in the integration of exogenous auditory and visual cues in the capture of visuospatial attention in visual line bisection. Annual Meeting of International Multisensory Research Forum, New York, NY, 6/09.
- McCourt, M.E., Sosa, Y. & Clarke, A. (2009). Hemifield asymmetry in the integration of exogenous auditory and visual cues in the capture of visuospatial attention in visual line bisection. [Invited Presentation]. Annual Meeting of Theoretical and Experimental Neuropsychology (TENNET), Montreal, Quebec, CA, 6/09.
- McCourt, M.E., Sosa, Y. & Clarke, A. (2009). The perturbation of global spatial attention by exogenous auditory and visual cues: Multisensory cue combination in visual line bisection. 2009 IDeA Central Regional Conference, Oklahoma City, OK, 5/09.

- Sosa, Y., Clarke, A., & McCourt, M. E. (2009). Multisensory cue integration in audiovisual spatial localization. Journal of Vision, *9(8)*, 722a, <http://journalofvision.org/9/8/722/>, doi: 10.1167/9.8.722.
- McCourt, M.E. & Blakeslee, B. (2008). Brightening prospects for understanding the neural coding of perceived luminance [Invited Presentation]. Ritsumeikan University, Kyoto, Japan, 12/6/08.
- McCourt, M.E. & Blakeslee, B. (2008). Brightening prospects for understanding the neural coding of perceived luminance [Keynote Presentation]. 27<sup>th</sup> Annual Meeting of the Japanese Psychonomic Society, Sendai, Japan, 12/6/08.
- McCourt, M.E. & Leone, L. (2008). Audiovisual multisensory facilitation: A fresh look at neural coactivation and inverse effectiveness [Invited Presentation]. 27<sup>th</sup> Annual Meeting of the Japanese Psychonomic Society, Sendai, Japan, 12/7/08.
- Sosa, Y., Simon-Dack, S., Teder-Sälejärvi, W. & McCourt, M.E. (2008). A comparison of spatial attention and representation in vision and audition. 2<sup>nd</sup> Biennial National IDeA Symposium of Biomedical Research Excellence, Washington, D.C., 8/9/08.
- Blakeslee, B., Reetz, D. & McCourt, M. (2008). Spatial filtering versus anchoring accounts of brightness in staircase and simultaneous brightness contrast stimuli. Journal of Vision, *8(6)*, 285a, <http://journalofvision.org/8/6/285/>, doi: 10.1167/8.6.285.
- Cope, D., Blakeslee, B. & McCourt, M. (2008). Structural theorems for simple cell receptive fields. Journal of Vision, *8(6)*, 802a, <http://journalofvision.org/8/6/802/>, doi: 10.1167/8.6.802.
- McCourt, M. & Blakeslee, B. (2008). Coming to terms with lightness and brightness: effects of stimulus configuration and instructions on brightness and lightness judgments. Journal of Vision, *8(6)*, 291a, <http://journalofvision.org/8/6/291/>, doi: 10.1167/8.6.291.
- Sosa, Y., Simon-Dack, S., Teder-Salejarvi, W. & McCourt, M. (2008). A comparison of spatial attention and representation in vision and audition. Journal of Vision, *8(6)*, 766a, <http://journalofvision.org/8/6/766/>, doi: 10.1167/8.6.766.
- Leone, L. & McCourt, M. (2008) Audiovisual multisensory facilitation: A fresh look at neural coactivation and inverse effectiveness. Journal of Vision, *8(6)*, 170a, <http://journalofvision.org/8/6/170/>, doi: 10.1167/8.6.170.
- Leone, L. & McCourt, M.E. (2007). Unisensory processing time and neural coactivation: The redundant signals effect revisited. Annual Meeting of the International Multisensory Research Forum, Sydney, Australia, 7/07.
- Sosa-Machado, Y. & McCourt, M.E. (2007) Exaggerated leftward bias for faces in mirror view. Annual Meeting of the Psychonomic Society, Long Beach, CA, 11/07.
- McCourt, M.E. & Leone, L. (2006). Auditory capture of visual motion. Annual Meeting of the International Multisensory Research Forum, Dublin, Ireland, 6/06.
- McCourt, M. E. & Blakeslee, B. (2006). Spatiotemporal dependencies of brightness induction. Journal of Vision, *6(6)*, 705a, <http://journalofvision.org/6/6/705/>, doi: 10.1167/6.6.705.
- McCourt, M. E., Blakeslee, B. & Pasiaka, W. (2005). Temporal properties of brightness induction. Journal of Vision, *5(8)*, 242a, <http://journalofvision.org/5/8/242/>, doi: 10.1167/5.8.242.
- McCourt, M.E. (2005). Personality does not modulate spatial attention in a tachistoscopic visual line bisection task. Annual Meeting of the Cognitive Neurosciences Society, New York, NY, 4/05.

- Strugstad, E.C., McCourt, M.E., Pasiaka, W., Sehatpour, P., Shpaner, M., Zemon, V., Javitt, D.C. & Foxe, J.J. (2005). Parvocellular and magnocellular contributions to visuo-spatial attention: Line-bisection judgements evaluated with high-density electrical mapping. Annual Meeting of the Cognitive Neuroscience Society, New York, NY, 4/05.
- McCourt, M.E., Blakeslee, B. & Pasiaka, W. (2004). Temporal properties of brightness induction. Perception, *33*, 15.
- Blakeslee, B., Pasiaka, W. & McCourt, M. E. (2004). Oriented multiscale spatial filtering and contrast normalization accounts for Howe's variation of White's effect. Journal of Vision, *4(8)*, 350a, <http://journalofvision.org/4/8/350/>, doi: 10.1167/4.8.350.
- Strugstad, E.C., Pasiaka, B., Shpaner, M., Zemon, V., Javitt, D.C., McCourt, M.E. & Foxe, J.J. (2004). Parvocellular inputs and visuospatial attention: Line bisection judgments evaluated with high-density electrical mapping. Annual Meeting of the Cognitive Neurosciences Society, San Francisco, CA, 4/04.
- McCourt, M.E. & Pasiaka, W. (2004). The effect of acute alcohol intoxication on visuospatial attention: Exaggeration of leftward bias in line bisection. Annual Meeting of the International Neuropsychological Society, Baltimore, MD, 2/04.
- McCourt, M.E., Kingdom, F.A.A. & Kasrai, R. (2003). Seeing beneath the veil: Using transparency to disclose the accuracy and precision of brightness and lightness judgments. Workshop on the perception of object color and material properties in complex scenes. New York University, NY, 10/03.
- McCourt, M.E. & Pasiaka, W. (2003). Auditory capture of visual motion. Abstracts of the Psychonomic Society, *8*, 27.
- McCourt, M.E. & Pasiaka, W. (2003). Auditory capture of visual motion. Perception, *32*, 95.
- McCourt, M.E. & Pasiaka, W. (2003). Auditory capture of visual motion. Annual Meeting of the International Multisensory Research Forum, Hamilton, Ontario, Canada, 6/03.
- Blakeslee, B. & McCourt, M.E. (2003). The effect of spatial frequency on the White, shifted White and checkerboard illusions: Data and modeling. Journal of Vision, *3(9)*, 422a, <http://journalofvision.org/3/9/422/>, doi: 10.1167/3.9.422.
- McCourt, M.E. & Foxe, J.J. (2003). Brightening prospects for "early" cortical coding of perceived luminance. Journal of Vision, *3(9)*, 424a, <http://journalofvision.org/3/9/424/>, doi: 10.1167/3.9.424.
- Kim, H., Pasiaka, B. & McCourt, M.E (2003). Auditory "capture" of visual motion. Journal of Vision, *3(9)*, 777a, <http://journalofvision.org/3/9/777/>, doi: 10.1167/3.9.777.
- McCourt, M.E. & Foxe, J.J. (2003). Brightening prospects for "early" cortical coding of perceived luminance. Annual Meeting of the Cognitive Neurosciences Society, New York, NY, 4/03.
- McCourt, M.E. & Blakeslee, B. (2002). Spatial frequency influences on brightness in White's effect and the checkerboard illusion. Journal of Vision, *2(10)*, 105a, <http://journalofvision.org/2/10/105/>, doi: 10.1167/2.10.105.
- McCourt, M.E., Foxe, J.J. & Javitt, D.C. (2002). Parietal control of spatial attention in line bisection: A high-density ERP study. Annual Meeting of the Cognitive Neuroscience Society, San Francisco, CA, 4/02.
- McCourt, M.E., Foxe, J.J. & Javitt, D.C. (2002). Parietal control of spatial attention: A high-density ERP study of line bisection. Journal of the International Neuropsychological Society, *8*, 319.
- McCourt, M.E. & Blakeslee, B. (2001). The perception of brightness, lightness and

- illumination: Lessons from art and science. *The Art of Seeing and the Seeing of Art*, The Australian National University, 12/01 [Invited presentation].
- McCourt, M.E. & Blakeslee, B. (2001). A multiscale account of human brightness perception. The York Conference on Levels of Perception, 6/01.
- McCourt, M.E., Garlinghouse, M. & Reuter-Lorenz, P.A. (2001). Attentional modulation of pseudoneglect: The effects of line geometry and visual cueing. Annual Meeting of the Cognitive Neuroscience Society, New York, 4/01.
- McCourt, M.E. (2001). Cueing effects on spatial attention in visual line bisection. Journal of the International Neuropsychological Society, *7*, 255.
- McCourt, M.E., Tahmahkera-Stevens, C., Nodes, J. & Hammes, J. (2001). Performance consistency in forced-choice tachistoscopic visual line bisection. Journal of the International Neuropsychological Society, *7*, 255-256.
- McCourt, M.E. & Blakeslee, B. (2000). A multiscale spatial filtering account of the White effect, simultaneous brightness contrast and grating induction. Vision 2000, Archidosso, Tuscany, Italy, 7/00, [Invited presentation].
- McCourt, M.E., Garlinghouse, M. & Slater, J. (2000). Centripetal versus centrifugal bias in visual line bisection: Focusing attention on two hypotheses. Investigative Ophthalmology and Visual Science (Suppl.), *41*, S40.
- Tahmahkera-Stevens, C., McCourt, M.E., Garlinghouse, M., Chaussee, M., Smith, C. & Nodes, J. (2000). Cueing effects on spatial attention in visual line bisection. Investigative Ophthalmology and Visual Science (Suppl.), *41*, S40.
- Blakeslee, B. & McCourt, M.E. (2000). A multiscale spatial filtering account of the Wertheimer-Benary effect and the corrugated Mondrian. Investigative Ophthalmology and Visual Science (Suppl.), *41*, S237.
- McCourt, M.E., Garlinghouse, M. & Butler, J. (2000). The Influence of viewing eye on pseudoneglect magnitude. Journal of the International Neuropsychological Society, *6*, 115.
- McCourt, M.E. & Garlinghouse, M. (2000). Pseudoneglect in peripersonal and extrapersonal space. Journal of the International Neuropsychological Society, *6*, 114.
- McCourt, M.E. & Blakeslee, B. (1999) Render unto Hering: A nonlinear multiscale filtering account of brightness phenomena. Annual Meeting of the Optical Society of America, Santa Clara, CA, 9/99, [Invited presentation].
- Blakeslee, B. & McCourt, M.E. (1999). A multiscale spatial filtering account of the White effect, simultaneous brightness contrast and grating induction. Investigative Ophthalmology and Visual Science (Suppl.), *40*, S748.
- McCourt, M.E. & Jewell, G. (1999). Stimulus modulation of pseudoneglect in visual line bisection. Journal of the International Neuropsychological Society, *5*, 107.
- McCourt, M.E., Jewell, G., Hoistad, H. & Gunderson, P. (1998). Visuospatial attention is modulated by line geometry and visual hemifield. Investigative Ophthalmology and Visual Science (Suppl.), *39*, S633.
- Maddess, T., Ibbotson, M.R., Dubious, R.A., Blakeslee, B. & McCourt, M.E. (1998). Adaptive processing of image motion by various brains. Workshop on Brain Function, Australian National University, Canberra, A.C.T., Australia.
- Blakeslee, B. & McCourt, M.E. (1998). A multiscale spatial filtering account of the White effect. Investigative Ophthalmology and Visual Science (Suppl.), *39*, S159.
- McCourt, M.E., Blakeslee, B., Kingdom, F.A.A. & Hagel, R. (1997). Brightness with and

- without perceived transparency. Investigative Ophthalmology and Visual Science (Suppl.), 38, S897.
- Blakeslee, B. & McCourt, M.E. (1997). A multiscale filtering account of grating induction and simultaneous brightness contrast. Investigative Ophthalmology and Visual Science (Suppl.), 38, S896.
- McCourt, M.E., Blakeslee, B. & Kingdom, F.A.A. (1996). The effect of perceived transparency on brightness judgments. OSA Annual Meeting Technical Digest. (Optical Society of America, Washington, DC, 1996).
- McCourt, M.E. & Sackmann, C. (1996). Suprathreshold measures of the mechanisms mediating Kanizsa-type illusory contours. OSA Annual Meeting Technical Digest. (Optical Society of America, Washington, DC, 1996).
- McCourt, M.E., Olafson, C. & Sackmann, C. (1996). Cognitive and perceptual influences on visual line bisection in normal observers: Psychophysical and chronometric analyses of pseudoneglect. Investigative Ophthalmology and Visual Science (Suppl.), 37, S174.
- Blakeslee, B. & McCourt, M.E. (1996). Does a single mechanism underlie simultaneous brightness contrast and grating induction? Investigative Ophthalmology and Visual Science (Suppl.), 37, S1066.
- Sackmann, C. & McCourt, M.E. (1996). The differential effects of type 1 and type 2 illusory contours on spatial pattern detection and discrimination. Investigative Ophthalmology and Visual Science (Suppl.), 37, S520.
- McCourt, M.E., Martinez-Uriegas, E. & Blakeslee, B. (1995). Temporal properties of grating induction. Investigative Ophthalmology and Visual Science (Suppl.), 36, S469.
- McCourt, M.E. & Kingdom, F.A.A. (1994). Facilitation of luminance grating detection by induced gratings. Investigative Ophthalmology and Visual Science (Suppl.), 35, S1901.
- McCourt, M.E. (1993). Spatial frequency tuning, contrast tuning, and spatial summation of suprathreshold lateral spatial interactions: Grating induction and contrast-contrast. OSA Annual Meeting Technical Digest (Optical Society of America, Washington, DC, 1993), 16, 155.
- Kingdom, F.A.A. & McCourt, M.E. (1993). Do illusory gratings behave like real ones? Perception, 22, A5.
- McCourt, M.E. & Blakeslee, B. (1993). A contrast matching analysis of grating induction and suprathreshold contrast perception. Investigative Ophthalmology and Visual Science (Suppl.), 34, S586.
- McCourt, M.E. & Blakeslee, B. (1992). The effect of edge blur on grating induction magnitude. OSA Annual Meeting Technical Digest (Optical Society of America, Washington, DC, 1992), 23, 119.
- McCourt, M.E. (1991). Comparison of brightness and contrast induction. OSA Annual Meeting Technical Digest (Optical Society of America, Washington, DC, 1991), 17, 165.
- McCourt, M.E. & Blakeslee, B. (1991). Growth of contrast in grating induction. Investigative Ophthalmology and Visual Science (Suppl.), 32.
- McCourt, M.E. & Blakeslee, B. (1989). Grating induction and photoreceptor function. Investigative Ophthalmology and Visual Science (Suppl.), 29.
- McCourt, M.E., Boyapati, J. & Henry, G.H. (1987). Properties of area 17/18 border neurons contributing to the visual transcallosal pathway in the cat. Society for Neuroscience

Abstracts, 13, 633.

- McCourt, M.E., Boyapati, J. & Henry, G.H. (1985). The transcallosal pathway of areas 17 and 18 of the cat. Proceedings of the Australian Physiological and Pharmacological Society, 16, 1, 29P.
- Boyapati, J., McCourt, M.E. & Henry, G.H. (1985). The cortical connections of the claustrum and ectosylvian visual area of the cat. Proceedings of the Australian Physiological and Pharmacological Society, 16, 1, 30P.
- McCourt, M.E., Bullier, J. & Henry, G.H. (1984). Extrastriate inputs to primary visual cortex in the cat. Proceedings of the Australian Physiological and Pharmacological Society, 15, 1, 34P.
- Foley, J.M. & McCourt, M.E. (1984). Two theories of grating-induction. Investigative Ophthalmology and Visual Science (Suppl.), 24, S237.
- McCourt, M.E. & Foley, J.M. (1982). Evidence for spatial frequency inhibition in spatial pattern-induction with complex gratings. Investigative Ophthalmology and Visual Science (Suppl.), 22, S206.
- Jacobs, G.H., McCourt, M.E. & Neitz, J. (1982). Effects of photic environment on the development of color vision mechanisms in the ground squirrel. NATO Color Vision Conference, Cambridge, U.K.
- Jacobs, G.H. & McCourt, M.E. (1981). Spatial contrast sensitivity of units in the optic nerve of the ground squirrel. Investigative Ophthalmology and Visual Science (Suppl.), 21, S184.
- McCourt, M.E. (1980). A spatial frequency dependent brightness induction effect. Journal of the Optical Society of America, 70, 1599.
- McCourt, M.E. & Jacobs, G.H. (1980). Rearing ground squirrels under spectrally-restricted conditions reduces the proportion of spectrally-opponent units in the optic nerve. Investigative Ophthalmology and Visual Science (Suppl.), 20, S7.

#### State and Regional Meetings:

- Sosa, Y., Simon-Dack, S., Teder-Sälejärvi, W. & McCourt, M.E. (2008). A comparison of spatial attention and representation in vision and audition. North Dakota EPSCoR State Conference, Grand Forks, ND, 9/08.
- Pavek, L., Pasiaka, B., Dingmann, D., Schied, D., Neiman, S. & McCourt, M.E. (2003). Auditory "capture" of visual motion. 2003 Red River Undergraduate Psychology Conference, North Dakota State University.
- Tahmahkera-Stevens, C. & McCourt, M.E. (2000). Upper-lower visual field asymmetry in line bisection: A magnocellular/parvocellular pathway distinction? 2000 Red River Undergraduate Psychology Conference, North Dakota State University.
- McCourt, M.E., Blakeslee, B., Kingdom, F.A.A. & Hagel, R. (1997). Brightness with and without perceived transparency. Joint North Dakota/South Dakota State EPSCoR Conference, South Dakota State University, Brookings, SD.
- Hagel, R., McCourt, M.E. & Blakeslee, B. (1996). The effect of stereoscopic depth on brightness judgments: Simultaneous brightness contrast, grating induction and White's effect. 1996 North Dakota Science, Engineering and Mathematics Undergraduate Poster Session (ND EPSCoR) North Dakota State University.
- McCourt, M.E., Mark, V.W., Willison, S., Radonovich, K.J. & Freeman, P. (1996). The influence of gender and menstrual phase on the perceived location of the midsagittal

plane. Annual Meeting of the Midwest Psychological Association, Chicago, IL.

McCourt, M.E., Mark, V.W., Willison, S., Radonovich, K.J. & Freeman, P. (1996). The influence of gender and menstrual phase on the perceived location of the midsagittal plane. 1996 Red River Undergraduate Psychology Conference, North Dakota State University.

McCourt, M.E. (1995). Cognitive and perceptual influences on line bisection: Psychophysical and chronometric analyses. Invited Presentation at NRI (Fargo, ND) Third Annual Symposium on Alzheimer Disease.

Sackmann, C. & McCourt, M.E. (1995). Type 1 and type 2 illusory contours differentially affect contrast discrimination thresholds for Gabor targets. North Dakota Science, Engineering and Mathematics Undergraduate Poster Session (ND EPSCoR) North Dakota State University.

Paulson, K. & McCourt, M.E. (1993). The effect of illusory contours on luminance increment and decrement detection. North Dakota Science, Engineering and Mathematics Undergraduate Poster Session (ND EPSCoR) North Dakota State University.

Paulson, K., Spangler, D. & McCourt, M.E. (1992). The effect of illusory contours on luminance increment and decrement detection. Red River Undergraduate Psychology Conference, North Dakota State University.

#### **Book Reviews:**

McCourt, M.E. (2003). Review of: D. Andrewes, *Neuropsychology: From Theory to Practice*. Journal of the International Neuropsychological Society, *9*, 965.

McCourt, M.E. (2001). Review of: I.H Robertson & P.W. Halligan, *Spatial Neglect: A Clinical Handbook for Diagnosis and Treatment*. Journal of the International Neuropsychological Society, *7*, 532.

McCourt, M.E. (1996). Review of: T.V. Papathomas, C. Chubb, A. Gorea & E. Kowler, *Early Vision and Beyond*. Contemporary Psychology, *41*, 617.

McCourt, M.E. (1993). Review of: N.J. Wade & M. Swanston, *Visual Perception: An Introduction*. Contemporary Psychology, *38*, 498.

#### **Other:**

McCourt, M.E. (2006). Test bank for: *Basic Vision* (R. Snowden, P. Thompson & T. Troscianko), Oxford University Press.

#### **University/College/Departmental Service:**

- Presiding Officer, NDSU University Senate (1999-2000)
- Member, NDSU University Senate Executive Committee (1997-2001)
- Member, NDSU University Senate (1994-2000)
- Chair, NDSU University Senate Library Committee (1997)
- Member, NDSU Policy Coordinating Committee (1998-1999)
- Member, NDSU Program Review Committee (1999-2000)
- Member, NDSU University Senate ByLaws Committee (2000-2002)
- Member, NDSU Information Technology Roundtable (1996-2002)
- Member, NDSU Research Information Technology Advisory Group (2006-)
- Member, NDSU Space and Facilities Committee (2008-)
- Member and Chair, NDSU College of Science and Mathematics PTE Committee (2003-

- 2004; 2006-2007)
- Chaired 10 Departmental search committees to fill positions in visual and cognitive neuroscience
  - Member, NDSU Department of Psychology Chair's Advisory Group (2008-)
  - Chair, NDSU Department of Psychology Resources and Equipment Committee (1995-2002)

**Instruction:**

- *Courses Taught*

PSY 111 "Introduction to Psychology"  
PSY 460/660 "Sensation & Perception"  
PSY 486/686 "Neuropsychology"  
PSY 351 "Research Methods II"  
PSY 727 "Advanced Topics in Visual Perception"  
PSY 718 "Visual Neuroscience"  
PSY 720 "Advanced Topics in Cognitive Neuroscience"  
HUM 491H University Honors Course "The Challenge of Change" (2002; co-taught with Ganapathy Mahalingham)

- *Mentoring*

Supervised Ph.D. thesis (Lynnette Leone, 2009)  
Supervised five M.S. theses (Krestin Olson, 1994; George Jewell, 1998; Matthew Garlinghouse, 1999; Joy Fairbanks, 2001; Yamaya Sosa, 2009)  
Supervising two Ph.D. students (Yamaya Sosa, Dan Reetz)  
Research mentor to approximately 35 undergraduate students at NDSU  
Laboratory mentor for seven Governor's School (HS) students