

CURRICULUM VITAE

2009

Catherine Melody Carswell

Contact Information

Offices: Department of Psychology Vis Center
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Education

B.A., Psychology, 1981, University of Florida
M.A., Engineering Psychology, 1984, University of Illinois at Urbana-Champaign
Ph.D., Engineering Psychology, 1988, University of Illinois at Urbana-Champaign

Professional Experience

1987-1988 Instructor, Dept. of Psychology
 University of Kentucky
 Lexington, Kentucky

1988-1991 Assistant Professor, Dept. of Psychology
 Department of Psychology
 University of Louisville
 Louisville, KY

1991-1995 Assistant Professor, Dept. of Psychology
 University of Kentucky
 Lexington, KY

1995 - Associate Professor, Dept. of Psychology
 University of Kentucky
 Lexington, KY

Research Interests

The effects of design practices on human interaction with products, machines, and environments, especially issues concerning (1) the processing of information from multiple channels, (2) the implications of perceptual organization and attention for display design, (3) the nature of the cognitive limitations/capabilities that describe our use of graphical displays, and (4) the validity and reliability of usability metrics.

Courses Taught

Laboratory in Experimental Psychology (undergraduate)
Psychology in Business and Industry (undergraduate)
Cognitive Processes (undergraduate)
Cognitive Processes Laboratory (undergraduate)
Human Senses and Perception (undergraduate)
Human Senses and Perception Laboratory (undergraduate)
Human Factors Engineering (undergraduate)
Engineering Psychology (graduate)
Proseminar in Cognitive Processes (graduate)
Practicum in Teaching Psychology (graduate)
Proseminar in Sensation and Perception (graduate)

Thesis Supervision

Ph.D. Theses: Gary Biel, 1993
Cathy Emery, 1995
Elliot Inman, 1997
Eric Stephens, 2001

M.A. Theses: William Krebs, 1990
Gary Biel, 1991
Scott Kinslow, 1996
Kyle Bailey, 2007
Russell Grant, in progress

Senior Honors These: Donald Bernhard,, 1990
Sylvia Frankenberger, 1990
Beth Stacy, 1993
Michelle Slone, 1994
Kim Martin, 1995
Mildred Dodson, 1995
John Yozwiak, 1995
Jennifer Urban, 1996
Mike Collins, 1996
Justin Bates, 1997

Nick Pregliasco, 1997
James Dallaire, 1998
Michelle Roberts, 1998
Lois Gregory, 2001
Adam Craig, 2004
Andi Bush, 2005
Lauren Miller, 2005
Rusty Grant, 2007
Isaac Kors, 2007
Jessica DeCuir, 2007

Editorial Service

Editor, *Ergonomics in Design* (2004 - current)

Editor, *Review of Human Factors and Ergonomics, Vol. 4* (2008)

Editorial Boards, *Human Factors* (1994 - 2004), *Journal of Experimental Psychology: Applied* (1999 - 2001)

Occasional reviewer, *Ergonomics*, *Journal of Experimental Psychology: Human Learning and Memory*, and *Behaviour and Information Technology, Surgical Innovations*

Interdisciplinary Panels, Centers, and Research Initiatives

Associate Director, Center for visualization and Virtual Environments, College of Engineering, University of Kentucky, 2003-current.

Faculty Member, Center for Visualization and Virtual Environments, College of Engineering, University of Kentucky, 2003 - current.

Member, REVEAL Project (Reconstruction, Enhancement, Visualization, and Ergonomics Assessment of Laparoscopic Surgery), Department of Computer Science, College of Engineering, University of Kentucky, 2003 - current

Coordinator, Graduate Certificate in Human-Technology Interaction Studies, Graduate School, University of Kentucky, 2003 - current.

Member, National Academy of Sciences Panel on National Assessment of Educational Progress (NAEP) reporting practices. 1999-2000.

Member, UK Center for Robotics and Manufacturing Systems Industrial Human Factors Steering Committee, 1992 - 1995.

Grants, Awards, and Contract

University of Louisville Graduate Research Grant, "The Effect of Homogeneity and Spatial Proximity on Graphical Efficacy," 1988-1989, \$3,610.

Summer Faculty Research Award, University of Louisville Commission on Academic Excellence, "Basic Perceptual Judgments of Common Graphical Elements," Summer 1989, \$4,000.

University of Louisville Graduate Research Grant, "Synthetic Speech Displays and Dual Task Performance," 1989-1990, \$1,060.

University of Kentucky Research Committee Grant, "Effects of Speed and Precision Demands on Performance with Basic Graphical Elements," 1991-1992, \$4,621.

University of Kentucky Summer Faculty Research Fellowship, "The Flexibility of Attention in Virtual Space," Summer 1992, \$2,400.

Sanders-Brown Center on Aging Research Assistantship. Spring, 1992, \$2,700.

Howard Hughes Medical Institute Undergraduate Initiative, "Aging and Attentional Flexibility," 1992 - 1993, \$700. (role: supervisor of undergraduate recipient, Beth Stacy).

National Center for Health Statistics, "Color and Magnitude in Statistical Maps," Fall 1993 - Spring 1994, \$10,100.

University of Kentucky Summer Faculty Research Fellowship, "Age and Attentional Flexibility: Implications for the Design of Graphical Displays," Summer 1994, \$6,000.

National Center for Health Statistics, "Investigation of Clustering in the Reading of Statistical Maps," Fall 1994, \$3,000.

Sanders-Brown Center on Aging "Mini-grant," "Interface Design Preferences of Older Consumers," Summer 1998, \$400.

Naval Postgraduate School Professional Services Contract, "Improving Detection of Multispectral Images," Summer 1999, \$10,700.

Naval Postgraduate School Professional Services Contract, "Integrating Information in Geospatial Displays," Spring - Summer 2000, \$9,800.

GE – Appliance Park, "Hedonic Attributes of Appliances," 2001-2002, \$15,000.

Dept. of Homeland Security, "User-Directed Organization of Displays under Time Stress," \$95,751, 4/1/05 - 3/31/07.

U.S. Army TATRC, STITCH: "Surgical Technology for Integration, Training, and Cognitive Human Factors." Co-PI with Brent Seales (PI) UK Dept. of Computer Science, \$1,260,000, 10/15/06 – 10/14/08.

Maryland Advanced Simulation, Training, Research and Innovation (MASTRI) Center, University of Maryland Medical Center, "The Smart Image Pipeline," \$348,947, 9/26/06 – 9/25/09.

Journal Articles and Book Chapters

Carswell, C.M. and Webb, W.B. (1985). Real and artificial dream episodes: Comparison of report structure. Journal of Abnormal Psychology, 94, 653 - 655.

Carswell, C.M. and Wickens, C.D. (1985). Lateral task segregation and the task-hemispheric integrity effect. Human Factors, 27, 695 - 700.

Carswell, C.M. and Wickens, C.D. (1987). Information integration and the object display: An interaction of task demands and display superiority. Ergonomics, 30, 511 - 528.

Carswell, C.M. and Wickens, C.D. (1987). Objections to objects: Limitations of human performance in the use of iconic graphics. In L.S. Marks, J.S. Warm, & R.L. Huston, (eds.): Ergonomics and Human Factors Recent Research, pp. 253 - 260. New York: Springer-Verlag.

Berry, D.T.R., McConnell, J.W., Phillips, B.A., Carswell, C.M., Lamb, D.G., and Prine, B.C. (1989). Isocapnic hypoxemia and neuropsychological functioning. Journal of Clinical and Experimental Neuropsychology, 11, 241 - 251.

Carswell, C.M. and Wickens, C.D. (1990). The perceptual interaction of graphical attributes: Configurality, stimulus homogeneity, and object integration. Perception and Psychophysics, 47, 157 - 168.

Carswell, C.M., Frankenberger, S., and Bernhard, D. (1991). Graphing in depth: Perspectives on the use of three-dimensional graphs to represent lower dimensional data. Behaviour and Information Technology, 10, 459 - 474.

Carswell, C.M. (1992). Reading graphs: Interactions of processing requirements and stimulus structure. In B. Burns ed.), Percepts, Concepts, and Categories: The Representation and Processing of Information (pp. 605 - 645), Amsterdam: Elsevier Science Publishers.

Carswell, C.M. (1992). On identifying things: A case for context (commentary on a paper by G.R. Lockhead). In B. Burns (ed), Percepts, Concepts, and Categories: The Representation and Processing of Information (pp. 144 - 145), Amsterdam: Elsevier Science Publishers.

Carswell, C.M. (1992). Choosing specifiers: An evaluation of the basic tasks model of graphical perception. Human Factors, 34, 535 - 554.

Carswell, C.M., Emery, C. and Lonon, A.M. (1993). Stimulus complexity and information integration in the spontaneous interpretations of line graphs. Applied Cognitive Psychology, 7, 341 - 357.

Biel, G.A. and Carswell, C.M. (1993). Musical notation for the keyboard: An examination of stimulus-response compatibility. Applied Cognitive Psychology, 7, 433 - 452.

Wickens, C.D. and Carswell, C.M. (1995). The proximity compatibility principle: Its psychological foundations and its relevance to display design. Human Factors, 37, 473-494.

Carswell, C.M. and Wickens, C.D. (1996). Mixing and matching lower-level codes for object displays: Evidence for two sources of proximity compatibility, Human Factors, 38, 1 - 22..

Carswell, C.M., and Ramzy, C. (1997). Graphing small data sets: Should we bother? Behaviour and Information Technology. 16, 61 - 71.

Wickens, C.D., & Carswell, C.M. (1997). Information processing. In G. Salvendy (ed.), Handbook of Human Factors and Ergonomics, 2nd ed. (pp. 130 - 149), New York: Wiley.

Gillan, D. G., Wickens, C.D., Hollands, J.G., and Carswell, C.M. (1998). Guidelines for presenting quantitative data in HFES publications. Human Factors, 40, 28 - 41.

Carswell, C.M., Bates, J.R., Pregliasco, N.R., Lonon, A., and Urban, J. (1998). Finding graphs useful: Linking preference to performance for one cognitive tool. Cognitive Technology, 3, 4 - 18.

Carswell, C.M., and Waters, S.E. (2000). Multivariate visual displays. In W. Karwowski (Ed.), International Encyclopedia of Ergonomics and Human Factors. London: Taylor and Francis, Ltd.

Carswell, C.M., and Stephens, E. (2000). Information processing. In W. Karwowski

(Ed.), International Encyclopedia of Ergonomics and Human Factors. London: Taylor and Francis, Ltd.

Stephens, E.C., and Carswell, C.M. (2000). The use of older adults on preference panels: Evidence from the Kentucky Interface Preference Inventory. Cognitive Ergonomics, 4, 179-190.

Waters, S.E., Carswell, C.M., Stephens, E.C., and Selwitz, A.S. (2001). Research ethics meet usability testing. Ergonomics in Design, 9, 14-20.

Carswell, C.M., Rinaldo, S., and Stephens, E. (2005). Representative sampling of users? To the contrary. Ergonomics in Design, 13, 25-27.

Carswell, C.M., Clarke, Duncan, and Seales, W. B. (2005). Assessing mental workload during laparoscopic surgery, Surgical Innovations, 12, 80-90.

Wickens, C.D., and Carswell, C.M. (2006). Information Processing. In G. Salvendy (ed.), Handbook of Human Factors and Ergonomics, 3rd ed.

Stephens, E.C., Carswell, C.M., and Johnson, M. (2006). Evidence for an elders' advantage in the naive product usability judgments of older and younger adults. Human Factors, 48, 422-433.

Carswell, C. Melody. (2008), *Reviews of Human Factors and Ergonomics, Vol. 4*, Santa Monica, CA: Human Factors and Ergonomics Society.

Li, Pengtao, Santhanam, Radhika, and Carswell, Catherine M. (2009). Effects of Animations in Learning – A Cognitive Fit Perspective, *Decision Sciences Journal of Innovative Education*, 7, 377-410.

Xianwang Wang, Xianwang, Zhang, Qing, Han, Qiong, Yang, Ruigang, Carswell, Melody, Seales, Brent, and Sutton, Erica. (2009). Endoscopic video texture mapping on pre-built 3D anatomical objects without camera tracking. *IEEE Transactions on Medical Imaging*, 7(7), 1-12.

Yang, Ruigang, Carswell, Melody, Wang, Xianwang, Zhang, Qing, Han, Qiong, Seales, Brent, and Lio, Cindy. (in press). A dual display framework for laparoscopy: Mapping the way. *Surgical Innovations*.

Shen, Milton, Carswell, Melody, Santhanam, Radhika, and Bailey, Kyle. (in submission). Can Decision Makers Be Advised to Choose Appropriate Display Formats?

Carswell, C.M., Lio, C.H., Grant, R., Klein, M., Seales, W. B., Strup, S., and Clarke, D.

(in submission). Adaptation of subjective workload measures for a surgical environment.

Peer-Reviewed Proceedings Chapters

Carswell, C.M. and Wickens, C.D. (1984). Stimulus integrality in displays of system input-output relations: A failure detection study. Proceedings of the 26th Annual Meeting of the Human Factors Society, pp. 534 - 537, Santa Monica, CA: Human Factors Society.

Carswell, C.M. (1988). Integral, separable, and unitary graphs. Proceedings of the 32nd Annual Meeting of the Human Factors Society, pp. 1345 - 1349, Santa Monica, CA: The Human Factors Society.

Carswell, C.M. (1990). Graphical information processing: The effects of proximity compatibility. Proceedings of the 34th Annual Meeting of the Human Factors Society, pp. 1494 - 1498, Santa Monica, CA: The Human Factors Society.

Carswell, C.M. (1991). Boutique data graphics: Perspectives on using depth to embellish data displays. Proceedings of the 35th Annual Meeting of the Human Factors Society, Santa Monica, CA: The Human Factors Society..

Biel, G.A., Carswell, C.M., Salmon, P., and Kee, B. (1991). Musical notation for the keyboard: An examination of stimulus-response compatibility. Proceedings of the 35th Annual Meeting of the Human Factors Society. Santa Monica, CA: The Human Factors Society.

Carswell, C.M., and Emery, C. (1992). Effects of stimulus complexity and cognitive style on spontaneous interpretations of line graphs. Proceedings of the 36th Annual Meeting of the Human Factors Society, 1498 - 1502, Santa Monica, CA: The Human Factors Society.

Gregory, L., Carswell, M., Stephens, E., Waters, S., and Stevens, C. (2001). Enhancing the accuracy of customers' product usability judgments: Lessons from Blind evaluators. Proceedings of the 45th Annual Meeting of the Human Factors Society, 702 -706, Santa Monica, CA: The Human Factors and Ergonomics Society.

Carswell, C.M., Lio, C., and McNally, J. (2004). How knowledgeable are salespeople about the usability of their merchandise? Proceedings of the 48th Annual Meeting of the Human Factors and Ergonomics Society, 990-996. Santa Monica, CA: The Human Factors and Ergonomics Society.

Lio, C.H., Bailey, K.M., Carswell, C.M., Seales, W.B., and Payton, M. (2006). Time estimation as a measure of mental workload in the training of simulated laparoscopic surgical skills. Proceedings of the 50th Annual Meeting of the Human Factors and

Ergonomics Society. Santa Monica, CA: The Human Factors and Ergonomics Society.

Payton, G.M., Carswell, C.M., and Webb, S. (2006). How tidy is your desktop? A field study of user customization of software. *Proceedings of the 50th Annual Meeting of the Human Factors and Ergonomics Society (1821-1824)*. Santa Monica, CA: The Human Factors and Ergonomics Society.

Bush, A., Carswell, C.M., Corman, M., Briscoe, M., and Lio, C.H. (2006). Talk is cheap: On the advice salespeople offer to older consumers. *Proceedings of the 50th Annual Meeting of the Human Factors and Ergonomics Society (1914-1918)*. Santa Monica, CA: The Human Factors and Ergonomics Society.

Carswell, C.M., Clarke, D., Lio, C., Kurs, Y., and Seales, W.B. (2007). Measuring subjective stress profiles during MIS skills training. Poster presented at Medicine Meets Virtual Reality, Long Beach, CA.

Bailey, Kyle, Carswell, C. Melody, Grant, Rusty, and Basham, Luke. (2007). Geospatial Perspective-Taking: How Well Do Decision Makers Choose Their Views? *Proceedings of the 51st Annual Meeting of the Human Factors and Ergonomics Society (1246-1248)*, Santa Monica, CA: The Human Factors and Ergonomics Society.

Lio, C., Carswell, C.M., Seales, B., Kurs, Y., and DeCuir, J. (2007). Using a global implicit measure of situation awareness during performance of laparoscopic training tasks. *Proceedings of the 51st Annual Meeting of the Human Factors and Ergonomics Society (1280-1282)*. Santa Monica, CA: The Human Factors and Ergonomics Society.

Wang, Xianwang, Zhang, Qing., Yang, Ruigang, Seales, Brent, and Carswell, Melody. (2008). Univ. of Kentucky Feature-based texture mapping from video sequence *Proceedings of the 2008 symposium on Interactive 3D graphics and games, ACM SIGGRAPH.*,

Carswell, C.M., Lio, C., Grant, R., Seales, B., and Clarke, D. (2008). Equivalent-forms reliability of printed and spoken versions of the NASA-TLX. *Proceedings of the 52nd Annual Meeting of the Human Factors and Ergonomics Society*. Santa Monica, CA: The Human Factors and Ergonomics Society.

Sublette, M., Carswell, C.M., Grant, R., Clarke, D., and Seales, W.B. (2009). Anticipated vs. Experienced Task Workload: How Accurately Can People Predict Task Difficulty? *Proceedings of the Human Factors and Ergonomics Society 53rd Annual Meeting*. Santa Monica, CA: The Human Factors and Ergonomics Society.

Grant, R., Lio, C.H., Carswell, C.M., Clarke, D., and Seales, W.B. (2009). Verbal Time Production as a Secondary Task: Which Metrics and Target Interval are Most Sensitive to Workload for Fine Motor Laparoscopic Training Tasks? *Proceedings of the Human Factors*

and Ergonomics Society 53rd Annual Meeting. Santa Monica, CA: The Human Factors and Ergonomics Society.

Klein, Martina, I., Lio, Cindy H., Grant, Russell, Carswell, C.Melody, and Strup, S. (2009). A Mental Workload Study on the 2d and 3d Viewing Conditions of the da Vinci Surgical Robot. *Proceedings of the Human Factors and Ergonomics Society 53rd Annual Meeting.* Santa Monica, CA: The Human Factors and Ergonomics Society.

C. H. Lio, C.H., Carswell, C. M., Han, Q., Park, A., Strup, S., Seales, W.B., Clarke, D., Lee, G., and Hoskins, J. Using Formal Qualitative Methods to Guide Early Development of an Augmented Reality Display System for Surgery. *Proceedings of the Human Factors and Ergonomics Society 53rd Annual Meeting.* Santa Monica, CA: The Human Factors and Ergonomics Society.

Invited Presentations

Carswell, C.M. (1991). Basic judgments of graphical specifiers Invited colloquium at Wright State University, Dayton, OH (Nov. 11).

Carswell, C.M. (1992). Proximity compatibility and graphical information processing. Invited colloquium at the University of Toronto (March 23).

Carswell, C.M. (1993). Proximity compatibility and the perception of graphs. Invited colloquium at the National Center for Health Statistics, Hyattsville, MD (July 16).

Carswell, C.M. (1994). The art and psychological science of graphical communication. Keynote invited address for Academic Mini-Conference at the annual meeting of the Kentucky Psychological Association, Louisville, KY (Oct. 21).

Carswell, C.M. (1995). Color coding in statistical maps. Invited colloquium at the National Center for Health Statistics, Hyattsville, MD (May 8).

Carswell, C.M. (1997). Preference and performance with graphical displays. First Cognitive Technology Conference, April 4 - 6, Indiana State University, Terre Haute, IN.

Carswell, C.M. (1999). Using spontaneous interpretations to evaluate graphical efficacy. NSF/ONR Workshop on Information Visualization, June 16- 17, Memphis State University, Memphis, TN.

Carswell, C.M. (2004). Attention and perceptual organization in multidimensional visual displays. Visualization and Virtual Environments Faculty Colloquium, College of Engineering, University of Kentucky, March 30.

Carswell, C.M. (2006). Cognitive Ergonomics in the Operating Room of the Future. 2006 OR of the Future Conference, Columbia, MD, June 16.

Carswell, C.M. (2007). Distress, Disengagement, and Worry: Dealing with stress in the OR. 2007 OR of the Future Conference, Columbia, MD, July 6.

Carswell, C.M. (2008). Surgical Navoids. Innovations in the Surgical Environment Conference, Baltimore, MD June.

Carswell, C.M. (2008). Invited Panelist on "The State of Applied Experimental Psychology" at Festschrift in honor of Joel Warm. University of Cincinnati, Cincinnati, OH.

Abstract, Posters, and Technical Reports

Bonnet, M.H. and Carswell, C.M. (1977). The effect of an environmental shift on sleep. Sleep Research, 6, 109.

Carswell, C.M., Webb, W.B., and Berry, D.T.R. (1983). Formal comparisons of artificial and real dream reports. Sleep Research, 12, 173.

Wickens, C.D., Boles, D.B., Tsang, P., and Carswell, C.M. (1984). The limits of multiple resource theory to display formatting: Effects of task integration. Paper presented at the 9th Symposium on Psychology in the Department of Defense, USAF Academy, Colorado Springs, CO.

Carswell, C.M. and Wickens, C.D. (1984). Stimulus integrality in displays of system input-output relations: A failure detection study. Paper presented at the 26th Annual Meeting of the Human Factors Society (San Antonio, Texas).

Carswell, C.M. and Wickens, C.D. (1984). The integration of information from an analog-visual display: The role of dimensional integrality. University of Illinois Engineering-Psychology Research Laboratory Technical Report # EPL-84-4/ONR-84-3.

Wickens, C.D., Kramer, A. Barnett, B., Carswell, M., Fracker, L., Goettl, B. and Harwood, K. (1985). Task integration and the cognitive-display interface. University of Illinois Engineering-Psychology Laboratory Technical Report EPL-85-2/RADC-85-1.

Wickens, C.D., Carswell, M., Fracker, L., Barnett, B., and Kramer, A. (1986). Display/cognitive interface: The role of display proximity in information integration tasks relevant to C3 display. Paper presented at the 10th symposium on Psychology in the DOD, USAF Academy. Colorado Springs, CO.

Carswell, C.M. and Wickens, C.D. (1986). Why not an object display? Paper presented at the Third Annual Mid-Central Human Factors/Ergonomics Conference, June 18-20, Oxford, OH

Berry, D.T.R., and Carswell, C.M. (1987). Mental models in clinical neuropsychology. Paper presented at Fifth Annual Midsouth Conference on Neuropsychology, May 15, Memphis TN.

Lamb, D., Headley, A., Phillips, B., McConnell, J., Berry, D. and Carswell, C. (1987). Cognitive performance under several levels of hypoxemia. Presented at Kentucky Thoracic Society Scientific Conference on Pulmonary Disease, October 9, Lexington, KY.

Carswell, C.M. and Wickens, C.D. (1988). Comparative graphics: Applications of perceptual integrality theory and the proximity compatibility hypothesis. University of Illinois Engineering-Psychology Lab Technical Report, EPL-88-2/AHEL-88-1.

Berry, D., McConnell, J., Phillips, B., Carswell, C., Lamb, D., and Prine, B. (1988). Isocapnic hypoxia and neuropsychological performance. Paper presented to the International Neuropsychological society.

Carswell, C.M. (1988). Integral, separable, and unitary graphs. Paper presented at the 32nd Annual Meeting of the Human Factors Society, Anaheim, CA.

Carswell, C.M. and Wickens, C.D. (1989). The perceptual interaction of graphical attributes in thirteen bivariate displays. Aviation Psychology Research Lab Technical Report, ARL-89-5/ AHEL-89-2.

Carswell, C.M. (1990). Integrating information from graphical displays: The effects of display homogeneity and unity. Paper presented at the annual meeting of the Southern Society of Philosophy and Psychology, April 12-15, Louisville, KY

Winsch, B., Carswell, M., and Seay, D. (1990). Processing concurrent tasks with graphical displays: The effect of display homogeneity. Paper presented at the annual meeting of the Southern Society of Philosophy and Psychology, April 12-15, Louisville, KY.

Carswell, C.M. (1990). Graphical information processing: The effects of proximity compatibility. Paper presented at the 34th Annual Meeting of the Human Factors Society, Orlando, FL.

Carswell, C.M. and Wickens, C.D. (1990). Independent and integrative processing of visual information channels: The effects of proximity compatibility. University of Illinois Engineering Psychology Research Lab Technical Report EPRL-90-15.

Krebs, W.K. and Carswell, C.M. (1991). Dual task performance with intra-modal and cross-modal displays: The effects of attentional strategy. Paper presented at the

annual meeting of the Southern Society for Philosophy and Psychology, April 28 - 30, Atlanta, GA.

Carswell, C.M. (1991). Chair of symposium on "The human factors of functional impairment" at the annual meeting of the Southern Society for Philosophy and Psychology, March 28 - 30, Atlanta, GA.

Carswell, C.M. (1991). Boutique data graphics: Perspectives on using depth to embellish data displays. Paper presented at the 35th Annual Meeting of the Human Factors Society, San Francisco, CA.

Biel, G.A., Carswell, C.M., Salmon, P., and Kee, B. (1991). Musical notation for the keyboard: An examination of stimulus-response compatibility. Paper presented at the 35th Annual Meeting of the Human Factors Society, San Francisco, CA.

Krebs, W.K., Carswell, C.M., and Winsch, B. (1991). Homogeneity between and within graphical codes: Effects on concurrent monitoring. Poster presented at the 35th Annual Meeting of the Human Factors Society, San Francisco, CA.

Carswell, C.M., and Emery, C. (1992). Effects of stimulus complexity and cognitive style on spontaneous interpretations of line graphs. Paper presented at the 36th Annual Meeting of the Human Factors Society, Atlanta, GA.

Carswell, C.M and Stacy, B. (1993). Age and attentional flexibility in the perception of graphical stimuli. Poster presented at the 37th Annual Meeting of the Human Factors and Ergonomics Society, Seattle, WA.

Kinslow, H.S., Lonon, A.M., and Carswell, C.M. (1994). Distortions in memory for line graphs. Poster to be presented at the 38th Annual Meeting of the Human Factors and Ergonomics Society, Nashville, TN.

Lonon, A.M., Kinslow, H.S., and Carswell, C.M. (1994). Individual differences in graphs appreciation: Are preference and performance related? Poster to be presented at the 38th Annual Meeting of the Human Factors and Ergonomics Society, Nashville, TN.

Dodson, M., and Carswell, C.M. (1996). Use of double-ended scales on statistical maps as decision aids. Poster presented at the 40th Annual Meeting of the Human Factors and Ergonomics Society, Philadelphia, PA.

Roberts, M., Stephens, E., and Carswell, C.M. (1998). Text identifiers in line graphs: Legends versus labels revisited. Poster presented at the 42nd Annual Meeting of the Human Factors and Ergonomics Society, Chicago, IL.

Dallaire, J., Stephens, E., and Carswell, C.M. (1998). Intuitive ergonomics and user preference: Evidence from the Kentucky Interface Preference Inventory. Poster

presented at the 42nd Annual Meeting of the Human Factors and Ergonomics Society, Chicago, IL.

Lio, C., Carswell, C.M., and McNally, J. (2004). How knowledgeable are salespeople about the usability of their merchandise? 48th Annual Meeting of the Human Factors and Ergonomics Society, New Orleans, LA.

Santhanam, R., and Carswell, C.M. (2006). Could Guidance to Choose Appropriate Display Formats Improve Decision Making Performance in Crisis Situations? International Conference on Decision Support Systems. Calcutta, December 2006.

Carswell, C.M., Clarke, D., Lio, C., Kurs, Y., and Seales, W.B. (2007). Measuring subjective stress profiles during MIS skills training. Poster presented at Medicine Meets Virtual Reality, Long Beach, CA.

Han, Qiong, Carswell, Melody, Wang, Xianwang, Shekhar, Raj, Yang, Ruigang, and Seales, Brent. (2008) Principled Display Environment for Computer Augmented Laparoscopic Surgery. Poster presented at CARS 2008: Computer-Aided Radiology and Surgery. April 2008, Barcelona, Spain.

Carswell, Melody, Han, Qiong, and Lio, Cindy (2008). Cognitive Ergonomics and Display Development for Minimally Invasive Surgery. Poster presented at SAGES 2008: Society of Gastrointestinal and Endoscopic Surgeons. April 2008, Philadelphia, PA.