

CURRICULUM VITAE

DONALD L. FISHER

OFFICE ADDRESS

Department of Mechanical and Industrial Engineering
Human Performance Laboratory
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EDUCATION

The University of Michigan, Ph.D., Psychology 1983, Major Area: Mathematical Psychology
Harvard University, Ed.M., Education 1973, Major Area: Child Development and Social Policy
Bowdoin College, B.A., Philosophy 1971, Major Areas: Philosophy, Chemistry

HONORS AND AWARDS

Outstanding Senior Faculty Award, College of Engineering, University of Massachusetts, 2000
Minority Engineering Program Recognition Award, Minority Engineering Program, College of Engineering, University of Massachusetts, 1997
Outstanding Advisor Service Award, College of Engineering and Joint Student Engineering Societies, University of Massachusetts, 1996
Outstanding Junior Faculty Award, College of Engineering, University of Massachusetts, 1986
Dow Outstanding Young Faculty Award, American Society for Engineering Education, 1985
General University Fellowship, The University of Michigan, 1976-1977
B.A., magna cum laude, Bowdoin College, 1971

RESEARCH APPOINTMENTS

Institute for the Study of Human Capabilities, Indiana University, Indiana, 1-91 to 7-91. Initiated research in human factors engineering; helped develop human factors program.
Mental Health Research Institute, The University of Michigan, Ann Michigan, 9-79 to 9-82. Helped plan and conduct a study of the medical manpower demands of endogenously depressed patients.
Bell Telephone Laboratories, Murray Hill, New Jersey, 6-75 to 1-76. Conducted studies of the readability of technical documents and service manuals.

National Institute of Education, Washington, D.C., 9-73 to 9-74. Conducted a survey of various measures of functional literacy.

Department of Psychiatry, Hartford Hospital, Hartford, Connecticut, Summer 1971. Helped conduct a study of the effect of lithium on manic-depressive psychosis.

TEACHING APPOINTMENTS

University of Massachusetts Amherst, Visiting Assistant, Assistant, Associate and Full Professor, 1982 - present; Department of Mechanical and Industrial Engineering
Indiana University, Visiting Associate Professor, winter/spring 1991, Department of Psychology

The University of Michigan, Graduate Student Teaching Assistant, fall 1977 to spring 1982 (Psychology as a Natural Science).

Harvard University, Graduate Student Teaching Assistant, fall 1974 (Experimental Design).

Bowdoin College, Tutor, fall 1970 and winter 1971 (Chemistry).

EDITORIAL BOARDS

Human Factors (1989 -)

Journal of Experimental Psychology: Applied (2000 -)

Psychology and Aging (1999 - 2002)

JOURNAL REVIEWS

Acta Psychologica

Cognitive Psychology

Computers & Operations Research

Ergonomics

Human Factors

IEEE: Systems, Man & Cybernetics

International Journal of Industrial Ergonomics

Journal of Applied Ergonomics

Journal of Biomechanics

Journal of Experimental Psychology: Applied

Journal of Experimental Psychology: Human Perception and Performance

Journal of Experimental Psychology: Learning, Memory and Cognition

Journal of Gerontology: Psychological Sciences

Journal of Industrial Ergonomics

Journal of Mathematical Psychology

Operations Research

Perception and Psychophysics

Psychology and Aging

Psychological Bulletin

Psychological Review

Psychonomic Bulletin & Review

Reading Research Quarterly

Spatial Vision
Transportation Research Record

FEDERAL GRANTS PANELS, STUDY SECTIONS, AND WORKSHOPS

National Research Council, Institute of Medicine, Board on Child, Youth and Families, Committee on the Contributions from the Behavioral & Social Sciences in Reducing and Preventing Teen Motor Crashes, member, December 2005 – January 2006.

National Academy of Sciences, Human Factors Committee, March 2001 –
National Research Council, Committee on Future Directions for Aging, Outside Expert, November 1999

National Institutes of Health, Behavioral and Biobehavioral Processes 4 (Cognition and Perception), Member, 1999 - 2000

National Institutes of Health, Human Development and Aging Study Section 2, Member, 1998 - 1999

National Cancer Institute Program Project Review Panel Member, June 1997

NATIONAL AND INTERNATIONAL PANELS

State Farm[®] Mutual Automobile Insurance Company and Childrens Hospital of Philadelphia, Youthful Driver Initiative, Expert Panel Member, September 2005 – February 2007

SOCIETY AND PROFESSIONAL AFFILIATIONS

Transportation Research Board Committee on Simulation and Measurements of Vehicle and Operator Performance (AND30);

Human Factors and Ergonomics Society

Society for Mathematical Psychology

Psychonomic Society

INDUSTRY SHORT COURSES

Columbia House, "Occupational Ergonomics", Terre Haute, Indiana, 1992.

Precision Systems Incorporated, "Voice Recognition and Speech Generation: Human Factors Issues", St. Petersburg, Florida, 1996

PROFESSIONAL SERVICE

Area Coordinator, Industrial Engineering and Operations Research, Department of Mechanical and Industrial Engineering, University of Massachusetts, 2000 -

Graduate Program Director, Department of Mechanical and Industrial Engineering (Industrial Engineering and Operations Research, Manufacturing Engineering, Engineering Management), University of Massachusetts, 1996 -2000

Board Member Massachusetts, 1998 - 1999, ITS

Chair, Education Committee, ITS Massachusetts, 1997 - 1998

Undergraduate Program Director, Department of Industrial Engineering and Operations Research, 1990 - 1995

Steering Committee, Social Sciences Application Group, Operations Research Society of America, 1985

Chair, Visual Performance Technical Group, Human Factors Society, 1984-1985

Technical Program Chair, Visual Performance Technical Group, Human Factors Society, 28th Annual Meetings, San Antonio, October 1984

Technical Program Chair, New England Section of the American Society of Engineering Education, Annual Meetings, Fredericton, New Brunswick, October 1984

Vice Chair, Visual Performance Technical Group, Human Factors Society, 1983-1984

DOCTORAL STUDENTS SUPERVISED AND COMMITTEES CHAIRED

Kichhanagari, Reddy. University of Massachusetts, IEOR, courses in progress.

Pradhan, Anuj. University of Massachusetts, IEOR, courses in progress.

Mehranian, Hasmik. University of Massachusetts, IEOR, comprehensives completed; experiments in progress.

Muttart, Jeffrey. University of Massachusetts, IEOR, courses in progress.

Garay, Lisandra. University of Massachusetts, CEE, comprehensives completed; experiments in progress.

Romoser, Matthew. University of Massachusetts, IEOR, comprehensives completed, experiments in progress.

DeRamus, Rosa., University of Massachusetts, IEOR, comprehensives completed. Experiments completed. Dissertation in progress.

Pabon-Gonzalez, Miriam. *Effects of Worker Anthropometry and Workplace Design Upon Shoulder Discomfort and Task Productivity*. University of Massachusetts, IEOR, February 2001.

Laurie, Nancy. *Development and Demonstration of a Tendon Adaptation Model to Aid in the Evaluation of Repetitive Jobs*. University of Massachusetts, IEOR, February 2001.

Szymkowiak, Andrea. *Selective Attention in Younger and Older Adults*. University of Massachusetts, IEOR, September 2000.

Katsikopoulos, Konstantinos. *Characterizing and Optimizing the Performance of Younger and Older Adults in Paired Associate Tasks: A Markov Modeling Approach*. University of Massachusetts, IEOR, February, 1999.

Ranney, Thomas. *Models of visual scanning for homogeneous displays: A test of two underlying assumptions*. University of Massachusetts, IEOR, September, 1998.

Nusbaum, Eric. *Models of large scale visual search*. University of Massachusetts, IEOR, September, 1997.

Hughes, Stanley. *The perception of risk for nonlethal events and its relation to risk-taking behavior*, University of Massachusetts, IEOR, February 1993.

Young, Christopher B. *Some qualifications of the alphanumeric category effect*. University of Massachusetts, Department of Psychology, September 1988.

MASTERS COMMITTEES CHAIRED

Hammel, Kim. University of Massachusetts, IEOR, courses in progress.

Van Tassel, Gordon. University of Massachusetts, IEOR, courses in progress.

Waraich, Bhupinder. , *Evaluating alternative single destination, two lane exit signs with an option through lane*. Masters thesis being written.

Mehranian, Hasmik. *Optimizing the format of airline terminal signs: Use of eye tracking data*. Experiments completed.

Duse-Anthony, Yawa. *Lexicographic models of traveler's rout choice decisions*. Experiments completed.

Arya, Prinjay. *Mental Rotations Involving Oblique Angles – Imaginary Viewer Rotation Approach*. January, 2006.

Narayanan, Vinod. *Evaluation of a PC-based risk recognition training program for novice drivers using an advanced fixed based driving simulator*. February 2005.

Garay, Lisandra. *Effects of Driving Experience and Lighting Condition on Driving Performance*. June 2004.

Kichhanagari, Reddy. *Airline terminal signs: Comparison of older and younger adults search strategies*. June 2004.

Pradhan, Anuj. *Design, development and testing of a virtual world: The Central/Artery Tunnel (CA/T) project*. June 2004.

Dutta, Arup. *Variable Message Signs: Models of drivers decision making under heavy cognitive load*. University of Massachusetts, January 2004.

Chaparro, Nhora. *Optimizing the format of mile marker signs: Evaluation with an advanced, fixed base driving simulator*. September, 2003.

Carpenter, Rick. *Factors affecting legibility distance in an advanced, fixed base driving simulator*. University of Massachusetts, September 2002.

- (Hester) Holton, Amy. *Advanced parking management systems: Models of driver decision making*. University of Massachusetts, May 1998.
- Zhang, Shuping. *Three dimensional DO NOT ENTER signs: Reducing wrong way entries*. University of Massachusetts, September 1997.
- Glaser, Robert. *Optimizing Remote Control Interface Designs*. University of Massachusetts, May 1996.
- Wallace, John. *Auditory localization response time*. University of Massachusetts, September 1996.
- Kozloski, Mike. *Models of cognitive slowing: The aging driver*. University of Massachusetts, January 1996.
- Pullen, Mike. *An optimal training theory: A paired-associate learning task*. University of Massachusetts, September 1995.
- Zuschlag, Mike. *Predicting computer menu learning with a feature-based cognitive model*. University of Massachusetts, September 1995.
- Wood, David. *Development of a model to predict localized muscle fatigue during maximal and submaximal work*. University of Massachusetts, IEOR, May 1994.
- Goulet, Ruth. *Optimizing the navigation of complex menu hierarchies*. University of Massachusetts, IEOR, September 1993.
- Airth, David. *Context effects in visual search: a connectionist account*. University of Massachusetts, IEOR, September 1991.
- Howard, Mindy. *Predicting fault diagnosis behavior*. University of Massachusetts, IEOR, May 1990.
- Workman, Daniel. *A fuzzy algorithm for computing target-distractor similarity*. University of Massachusetts, IEOR, May 1989.
- Preczewski, Stan. *The selection of alphanumeric code sequences*. University of Massachusetts, IEOR, May 1989.
- Tanner, Nancy S. *Selection of graphic symbols for visual displays: The FI model*. University of Massachusetts, IEOR, September 1988.
- Tan, Kay C. *Highlighting and search strategy considerations in computer-generated displays*. University of Massachusetts, IEOR, September 1987.

Tengs, Tammy O. *The framing effect in medical decision making*. University of Massachusetts, IEOR, September 1987.

GRANTS, FELLOWSHIPS (APPROVED, CURRENT AND COMPLETED)

Knodler, M. and Fisher, D. L. (Co-Principal Investigator). New England University Transportation Center. "An Evaluation of Driver Comprehension Related to Solid Yellow Change Indications and the Potential Impact of the Flashing Yellow Arrow Permissive Indication". \$65,000. Submitted March 2005. Award expected October 2005.

Fisher, D. L. (Principal Investigator) and Collura, J. Massachusetts Highway Department. "Evaluation of the Effect of Alternative Stop Bar Distances and In-Roadway Signs on Vehicle-Pedestrian Conflicts at Marked Mid-block Crosswalks". \$100,000. Submitted June 2005; expected award November 2005.

Dingus, T., et al. National Highway Traffic Safety Administration. "Driver Behavior and Performance Field Test and Evaluation Support proposal (DTNH22-05-R-01019)". Transportation Center at the University of Massachusetts is a subcontractor. Awarded July 2005.

Fisher, D. L. (Principal Investigator), Knodler, M., Noyce, D. and Pollatsek, A. CALSPAN. "Use of a Driving Simulator to Study Left-Turn-Across-Path/Opposite Direction (LTAP/OD) Conflicts". \$121,746. May 1, 2005 – October 31, 2005.

Seymour, C., Fisher, D.L. (Co-Principal Investigator), Petersen, S., and Tyson, J. National Science Foundation (HRD-0450339). "No Longer 'A Dream Deferred:' Greater Minority STEM Participation Through Academic Opportunity and Institutional Change." March 1, 2005 – February 28, 2010. \$8,780,490.

Fisher, D. L. (Principal Investigator), Knodler, M. and Pollatsek, A. New England Transportation Consortium. "Driver-Eye-Movement-Based Investigation for Improving Work-Zone Safety". \$75,000. March 1, 2005 – September 30, 2006.

Fisher, D. L. (Principal Investigator). National Highway Traffic Safety Administration. "Development of novice and older driver training programs". \$300,000. January 31, 2005 – January 30, 2007.

Sizov, K. and Fisher, D. L. (Investigator). National Center for Injury Prevention and Control. "Portable Vehicle Simulator for Training Novice Drivers." \$100,000. September 1, 2004 – August 31, 2005.

Woolf, B., Barto, A., Mahadevan, S., Fisher, D. L. (Co-Principal Investigator). National Science Foundation (ROLE). Learning to Teach: The Next Generation of Intelligent Tutoring Systems. \$1,250,000. August 1, 2004 – July 31, 2007.

- Hancock, K. and Fisher, D. L. (Co-Principal Investigator). Governor's Highway Safety Bureau. "Risk Perception Training Program to Driving Instructors." November 15, 2003 – October 15, 2004. \$37,836.
- Sizov, K. and Fisher, D. L. (Investigator). National Institute of Aging (R43 AG022777-01). A Portable Driving Simulator for Advising Older Adults. October 1, 2003 – November 1, 2004. \$75,000.
- Fisher, D. L. (Principal Investigator), Grosse, I., Krishnamurty, S., Rayner, K., and Woolf, B. National Science Foundation: Knowledge and Distributed Intelligence (9980045). "Visualization and Spatial Reasoning: Cognitive Models, Skill Acquisition and Intelligent Tutors." September 15, 1999 - September 14, 2003. \$998,000.
- Fisher, D. L. (Principal Investigator), Grosse, I., Krishnamurty, S., Rayner, K., and Woolf, B. General Electric Fund. "Elementary Visualization and Spatial Reasoning: Cognitive Models, Skill Acquisition and Intelligent Tutors." September 15, 1999 - September 14, 2003. \$450,000.
- Marrett, C., Seymour, C., St. Mary, D., Fisher, D. (Co-Principal Investigator), Petersen, S. National Science Foundation: Division of Human Resource Development (9978878). "No Longer a Dream Deferred: Greater Minority SME Participation." October 1, 1999 - September 30, 2004. \$2,500,000.
- Gao, R. X., Ritter, J., Fisher, D. L. (Co-Principal Investigator), Krishnamurty, S., and Terpenney, J.. National Science Foundation, Division of Bioengineering and Environmental Systems (BES 0001347). "Senior Design Projects to Aid the Disabled". September 1, 2000 - August 31, 2004. \$124,993.
- Upchurch, J. and Fisher, D. L. (Co-Principle Investigator). National Cooperative Highway Research Program (NCHRP Project 20-7(155)). "Signing for Two-Lane Exit Ramps with an Option Lane". July 1, 2002 – June 30, 2003. \$55,000.
- Fisher, D. L. and Upchurch, J. Massachusetts Highway Department. "Signage for the Boston Central Artery/Tunnel Project: Advance Guidance, Exit Identifier, Gore and Route Diversion Signs." June 30, 2002 – June 3, 2003. \$85,000.
- Fisher, D. L. and Katsikopoulos, K. National Aeronautics and Space Administration. "Plan continuation errors during aircraft approach and landing: Simple heuristics for combining conflicting cues". June 15, 2002 – September 15, 2002. \$32,278.
- Hammel, K. and Fisher, D. L. (Fellowship for K. Hammel). Link Foundation for Simulation and Training, Orlando, Florida. "_The Use of Advanced Driving Simulators to Evaluate the Effect of In-Vehicle Technologies on Driver's Performance." September 2002 - August 2003. \$24,000

- Fisher, D. L (Principal Investigator). Noyce, D., Pollatsek, A. and Duffy, S. A. Link Foundation. "Developing and Testing a Program of Younger Driver Risk-Awareness Training: The Use of an Advanced Fixed-Base Driving Simulator". June 1, 2001 - May 31, 2002. \$50,000
- Fisher, D. L. (Principal Investigator), Duffy, S. A., Hancock, K and Upchurch, J. Massachusetts Highway Department. "Signage for the Boston Central Artery/Tunnel Project: Advance Guidance, Exit Identifier, Gore and Route Diversion Signs." December 1, 1999 – June 30, 2002. \$185,000.
- Noyce, D. A. and Fisher, D. L. (Co-Principal Investigator). Massachusetts Highway Department. "Safety evaluation of centerline rumble strips." October 1, 2001 - September 30, 2002. \$57,832.
- Gao, R. X., Ritter, J., Fisher, D. L. (Co-Principal Investigator), Krishnamurty, S., and Terpenney, J. and Fisher, D. L. (Co-Principal Investigator. Healy Public Service Endowment Grant, University of Massachusetts (1-60886). "Senior Design Project in Assistive Technologies". July 1, 2000 - June 30, 2001. \$15,000.
- Fisher, D. L. (Principal Investigator). National Institutes for Health and Centers for Disease Control (RO3 OH03583): Doctoral Dissertation Fellowship for Nancy A. Laurie.. "A model for predicting CTDs due to repetitive learning". September 30, 1999 - September 29, 1999. \$24,500.
- Fisher, D. L. (Principal Investigator), Duffy, S. A., Hancock, K. and Shuldiner, P. Massachusetts Port Authority. "Evaluation of Signage at Logan International Airport: Increasing drivers' way finding capabilities." September 1, 1998 - December 31, 2000. \$200,000.
- Fisher, D. L. (Principal Investigator). Veterans Administration. "Evaluation of the effect of cataracts on driving performance." December 1, 1999 - August 31, 2000. \$2,500.
- Brock, J. and Fisher, D. L. (Co-Principal Investigator). AAA Foundation for Traffic Safety. "Evaluation on a driving simulator of the Zero Errors Driving Program." December 1, 1997 - May 1, 1998. \$44,000.
- Andres, R. O. and Fisher, D. L. (Co-principal investigator). Motorola, Inc. Schaumburg, IL. "Analysis of the call flows in the Uniport Voice Dialing System: An evaluation in a driving simulator." November, 1996 - February, 1997. \$24,000.
- Fisher, D. L. (Principal Investigator). Liberty Mutual Research Center for Safety and Health, Hopkinton, MA. "Visual scanning of homogeneous displays." November 1, 1996 - December 31, 1996, \$2,500.

- Fisher, D. L. (PI) and Collura, J. Massachusetts Highway Department, Traffic Engineering Division. "Three Dimensional Signing of One Way Ramps". September 1, 1996 - December 31, 1997. \$52,000.
- Fisher, D. L. (PI) and Collura, J. University Transportation Center, New England Region (Year 9). "Electronic variable message signs: Strategic management of intermodal junctions". September 1, 1996 - December 31, 1997. \$77,250.
- Glaser, R. and Fisher, D. L. (Fellowship for R. Glaser). Link Foundation for Simulation and Training, Orlando, Florida. "Detecting motion: Simulator image factors affecting response time." September 1996 - August 1997. \$18,000.
- Shuldiner, P., Hancock, K, Collura, J. and Fisher, D. L. (Co-PI). National Science Foundation. "Research and curriculum development in Intelligent Transportation Systems." January 1, 1996 - January 1, 2000. \$398,000.
- Andres, R. O. and Fisher, D. L. (Co-principal investigator). Precision Systems, Inc., St. Petersburg, Florida. "Setting performance expectancies: The effect on users' satisfaction with a hands free interface to a cellular telephone evaluated on a driving simulator." February 1996. \$2,750.
- Fisher, D. L. (Principal Investigator). Liberty Mutual Research Center for Safety and Health, Hopkinton, MA. "Visual scanning of homogeneous displays." January 29, 1996 - June 9, 1996, \$6,593.
- Fisher, D. L. (Principal Investigator). Millitech Corporation, South Deerfield, MA. Support for Project MIDAS (Massachusetts Integrated Driving & Acoustic Simulator). July 1995 - July 1996. \$50,000.
- Fisher, D. L. (Principal Investigator). National Institute of Aging. "Models of aging: The microstructure of cognition". September 30, 1994 - September 30, 1997. \$205,000.
- Fisher, D. L. (Principal Investigator). Bose Corporation. "The simulation of audio remote control units". September 1, 1995 - March 1, 1996. \$20,982.
- Fisher, D. L. (Principal Investigator). Millitech Corporation, South Deerfield, MA. Support for Project MIDAS (Massachusetts Integrated Driving & Acoustic Simulator). July 1994. \$20,000.
- Fisher, D. L. (Principal Investigator). National Science Foundation Academic Research Infrastructure Instrumentation Program (SBR-9413733). "The development of an integrated eye tracker, driving simulator and virtual acoustic environment". September 15, 1994 - September 15, 1997. \$150,000.

- Fisher, D. L. (Principal Investigator). Healy Endowment Grant, University of Massachusetts. "A model of eye movement scanning patterns: Theory and practice". July 1994. \$5,000.
- Fisher, D. L. (Research Contract). U. S. Army Research Institute. "Mathematical models of collective skills in synthetic training environments". April, 1992. \$14,700.
- Fisher, D. L. (Research Contract). U. S. Army Research Institute. "Modeling Morse Intercept". August, 1991. \$8,648.
- Fisher, D. L. and Howard, M. H. (Fellowship for M. Howard). NASA. "Presentation styles in a fault diagnosis expert system". April, 1989. \$17,800.
- Andres, B. and Fisher, D. L. (Co-Principal Investigator). Federal Paper Board. "Biomechanical analysis and modeling of carpal tunnel syndrome". March 1989. \$2,500.
- Fisher, D. L. (Principal Investigator) and Rayner, K. National Institute of Mental Health. "A single process theory of visual search". May 1985. \$104,488.
- Rayner, K., Fisher, D. L. (Co-Principal Investigator), Frazier, L. and Pollatsek, A. National Science Foundation. "A multiuser eye tracking system". June 1986. \$68,250.
- Coury, B. G. and Fisher, D. L. (Co-Principal Investigator). U. S. Army Human Engineering Laboratory. "Complex decision making in remotely piloted vehicle operation". August, 1985. \$172,000.
- Fisher, D. L. (Principal Investigator). National Institute of Health Biomedical Research Support Grant (RR07048). "Visual information processing in schizophrenics and normals". October 1984. \$5,000.
- Fisher, D. L. (Principal Investigator), Coury, B. G. and Duffy, S. A.. Digital Equipment Corporation, External Research Grant (Agreement 134). "Directed search through visually cluttered displays". August 1984. \$14,850 in equipment money.
- Fisher, D. L. (Principal Investigator) and Colen, S. University of Massachusetts Engineering Alumni Association Work-Study Grant. "Changeable message traffic signs". November, 1983. \$500.
- Fisher, D. L. (Principal Investigator). National Science Foundation, Special Research Initiation Award for New Investigators, Division of Information Science and Technology. "The modeling of finite state, stochastic information systems". 1983-1985. \$36,275.

Fisher, D. L. (Principal Investigator). University of Massachusetts. Faculty Research Grant, "Human information processing systems: A new approach to representation and modeling". 1982-1983. \$2,477.

Fisher, D. L. (Principal Investigator). The University of Michigan, Rackham Dissertation Grant. "Stochastic models of visual search". 1982. \$337.

Fisher, D. L. (Principal Investigator); Michigan Department of Mental Health Grant. "The use of Markov models to determine the manpower requirements for the care and treatment of outpatients in the mental health system: A study of one affective disorder". 1980-82. \$2,000.

REFEREED PUBLICATIONS: PAPERS PUBLISHED, ACCEPTED, SUBMITTED AND IN REVISION

Airth, D. and Fisher, D. L. *A connectionist model of context effects in symbol perception.* In revision.

Glaser, R. and Fisher, D. L. *Effects of age on the usability of control interfaces: Identification and remediation.* In revision.

Ranney, T. and Fisher, D. L. *The effect of global stimulus characteristics on the development of visual scanning strategies: Local catastrophic forgetting.* In revision.

Schweickert, R., Fisher, D. L. and Goldstein, W. M. *General latent network theory: Structural and quantitative analysis of networks of cognitive processes.* In revision.

Katsikopoulos, K., Fisher, D. L. and Duffy, S. A. Spacing effects: Evidence for rehearsal-based accounts and for differential impact of aging across cognitive processes. *Journal of Mathematical Psychology.* In revision.

Duffy, S. A., Niswander, E., Mundoli, R., Hancock, K., Shuldiner, P. and Fisher, D. L. The evaluation of alternative sign formats for airline terminal signs. *Human Factors.* In revision.

Romoser, R. E. and Fisher, D. L. The role of kinematic constraints in three dimensional imaginal rotation tasks. *Human Factors.* In revision.

Dahlstrom-Hakki, I., Pollatsek, A., Fisher, D. L., Miller, B. and Rayner, K. Eye Movements and Individual Differences in Mentally Rotating a Cube. (2006). *British Journal of Psychology.* Submitted.

Katsikopoulos, K., Sathyarayana, D., Fisher, D. L. and Krishnamurty, S. E. (2006). The difficulty of mental rotations tasks involving oblique angles for undergraduate students in technical fields. *IEEE Transactions on Education.* Submitted.

- Pradhan, A. K., Pollatsek, A., Knodler, M. and Fisher, D. L. (2006). Younger Driver Training: Scanning for Risk Relevant Information in the Driving Environment. *Accident Analysis and Prevention*. Submitted.
- Pradhan, A. K., Fisher, D. L. and Pollatsek, A. (2006). Risk Perception Training for Novice Drivers: Evaluating Duration of Effects on a Driving Simulator. *Transportation Research Record*. In press.
- Fisher, D. L., Pollatsek, A. and Pradhan, A. (2006). Can Novice Drivers Be Trained to Recognize Hazards? *Injury Prevention*. In press.
- Pollatsek, A., Narayanaan, V., Pradhan, A., and Fisher, D. L. (2006). The Use of Eye Movements to Evaluate the Effect of PC-Based Risk Awareness Training on an Advanced Driving Simulator. *Human Factors*. In press.
- Upchurch, J., Fisher, D. L., Waraich, B. (2005). Guide Signing for Two-Lane Exits with an Option Lane: A Human Factors Evaluation. *Transportation Research Record: Traffic Control Devices, Visibility, and Rail-Highway Grade Crossings, 1918*, 35-45.
- Pradhan, A. K., Hammel, K. R., DeRamus, R., Pollatsek, A., Noyce, D. A. and Fisher, D. L. (2005). The Use of Eye Movements to Evaluate the Effects of Driver Age on Risk Perception in an Advanced Driving Simulator. *Human Factors*, 47, 840-852.
- Dutta, A., Fisher, D. L., and Noyce, D. A. (2005). Use of a Driving Simulator to Evaluate and Optimize Factors Affecting Understandability of Variable Message Signs. *Transportation Research F*, 7, 209-227.
- Fisher, D. L., Upchurch, J., Pradhan, A., Mehranian, H., Romoser, M. (2004). Signing Two-Lane Freeway Exits with an Option Through Lane in Extreme Conditions: Anatomy of Drivers' Behavior. *Transportation Research Record*, 1899, 35-43.
- Laurie, N. L., Zhang, S., Mundoli, R., Duffy, S. A., Collura, J. and Fisher, D. L. (2004). Evaluation of alternative DO NOT ENTER signs: Failures of attention. *Transportation Research Part F: Psychology and Behaviour*, 7, 151-166.
- Schweickert, R., Fisher, D. L., Proctor, R. (2003). Steps towards building mathematical and computer models from cognitive task analysis. *Human Factors*, 45, 77-103.
- Poli, C., Fisher, D. L., Pollatsek, A., and Woolf, B.P. (2003). Design for Stamping: Isolating Pedagogically Effective Components in Multimedia Tutors and the Classroom. *Journal of Engineering Education*, 92, 227-237.

- Dutta, A., Carpenter, R., Noyce, D. A., Duffy, S. A., Fisher, D. L. (2002). Drivers' Understanding of Overhead Freeway Exit Guide Signs: Evaluation of Alternatives Using an Advanced Fixed Base Driving Simulator. *Transportation Research Record: Human Performance Models, Intelligent Vehicle Initiative, Traveler Advisory and Information Systems (Safety and Human Performance)*, No. 1803, pp. 102-109.
- Fisher, D. L., Laurie, N. E., Glaser, R., Connerney, K., Pollatsek, A., Duffy, S. A. and Brock, J. (2002). The use of an advanced driving simulator to evaluate the effects of training and experience on drivers' behavior in risky traffic scenarios. *Human Factors*, 44, pp. 287-302.
- Holton, A. E., Fisher, D. L. and Collura, J. (2002). Advanced parking management systems: Drivers' parking decision strategies. *Journal of Transportation Engineering*, 128 (1), 49-57.
- Katsikopoulos, K. , Duse-Anthony, Y., Fisher, D. L. and Duffy, S. A. (2002). Risk attitude reversals in drivers' route choice when range of travel time information is provided. *Human Factors*, 44, pp. 466-473.
- Kichhanagari, R., DeRamus Motley, R., Duffy, S. A., Fisher, D. L. (2002). Airport terminal signs: Use of advance guide signs to speed search time. *Transportation Research Record: Aviation, Airport and Air Traffic Economic and Operational Issues (Aviation)*, No. 1788, pp. 26-32.
- Upchurch, J., Fisher, D. L., Carpenter, C., Dutta, A. (2002) Freeway Guide Sign Design with Driving Simulator for Central Artery-Tunnel: Boston, Massachusetts. *Transportation Research Record: Traffic Control Devices, Visibility, and Rail-Highway Grade Crossings (Highway Operations, Capacity, and Traffic Control)*, No. 1801, pp. 9-17.
- Katsikopoulos, K. and Fisher, D. L. (2001). Formal requirements of Markov state models for paired associate learning. *Journal of Mathematical Psychology*, 45, 2, 324 – 333.
- Katsikopoulos, K., Fisher, D. L. and Duffy, S. A. (2001). Experimental evaluation of policies for sequencing the presentation of associations. *IEEE: Systems, Man & Cybernetics: Part A: Systems and Humans*, 31, 55-59.
- Katsikopoulos, K. V., Duse-Anthony, Y., Fisher, D. L. and Duffy, S. A. (2000). The framing of drivers' route choices when travel time information is provided under varying degrees of cognitive load. *Human Factors*, 42, 470-481.
- Gorman, M. and Fisher, D. L (1998). Visual Search: The slowing of strategic and nonstrategic processes. *Journal of Gerontology: Psychological Sciences*, 53B, P189-P200.

- Laurie, N. E., Andres, R. O. and Fisher, D. L. (1998). The role of instruction sets in operator satisfaction while using a voice activated dialing system. *International Journal of Industrial Ergonomics*, 23, 307-312.
- Reichle, E. D., Pollatsek, A., Fisher, D. L. and Rayner, K. (1998). Towards a model of eye movement control in reading. *Psychological Review*, 105, 125-157.
- Wallace, J. S. and Fisher, D. L. (1998). Sound localization: Theory and practice. *Human Factors*, 40, 50-68.
- Wood, D. D., Fisher, D. L., and Andres, R. O. (1997). Minimizing fatigue during repetitive jobs: Optimizing work-rest schedules. *Human Factors*, 39, 83-101.
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PROCEEDINGS (ELECTRONIC AND PRINT):

- Pradhan, A. K., Fisher, D. L., Knodler, M., Pollatsek, A., Langone, M., Field Evaluation of a Risk Awareness and Perception Training Program for Younger Drivers. *Submitted to Human Factors and Ergonomics Society 50th Annual Meeting*, to be held Oct 16-20, '06, San Francisco.
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SYMPOSIA/PANELS ORGANIZED

- Fisher, D. L., Mourant, R., Rizzo, M. (January 2005). *The Development of Standardized Descriptions of Driving Simulator Scenarios: Human Factors Considerations* (TRB Workshop). Transportation Research Board Annual Meetings, Washington, D.C.
- Fisher, D. L. (November 1996). *Collision warning and avoidance*. Six speakers presented at the Annual Meetings of SPIE, the International Society for Optical Engineering, Boston.
- Fisher, D. L. (May 1994). *Productivity gains and mental models: Cognitive engineering*. Three speakers presented at the 3rd Industrial Engineering Research Conference, Atlanta.

Fisher, D. L. (April 1992). *Optimization techniques in human factors*. Five speakers presented at the annual meetings of the Operations Research Society of America, Orlando.

Fisher, D. L. (October 1992). *Application of optimization in biomechanics*. Five speakers presented at the 36th annual meetings of the Human Factors Society, Atlanta.

PRESENTATIONS AT PROFESSIONAL MEETINGS, INVITED PRESENTATIONS, POSTER SESSIONS

Pradhan, A. K., Fisher, D. L., Knodler, M., Pollatsek, A., Langone, M., Field Evaluation of a Risk Awareness and Perception Training Program for Younger Drivers. *Presentation Submitted to Human Factors and Ergonomics Society 50th Annual Meeting, to be held Oct 16-20, '06, San Francisco.*

Pradhan, A. K., Fisher, D. L. and Pollatsek, A. Risk Perception Training for Novice Drivers: (January 2006). Evaluating Duration of Effects on a Driving Simulator. *Presentation given at the 85th Transportation Research Board Annual Meeting, TRB, National Research Council, Washington, D.C..*

Fisher, D. L. (September 2005). Risk Seeking, Attention, and Knowledge: Their Role in Novice and Experienced Driver Crashes. Invited talk presented at the Youthful Driver Initiative (State Farm[®] Mutual Automobile Insurance Company and Childrens Hospital of Philadelphia), Boston, MA.

Johns, J., Jonsson, A., Mehranian, H., Arroyo, I., Woolf, B, Barto, A., Fisher, D, Mahadevan, S. (July 2005). Evaluating the Feasibility of Learning Student Models from Data. *Presentation given at the American Association for Artificial Intelligence Workshop on Educational Data Mining (Technical Report WS-05-02), Pittsburgh, PA.*

Fisher, D. L. and Pollatsek, A. (June 2005). *Risk Seeking, Attention, and Knowledge: Their Role in Novice and Experienced Driver Crashes*. Invited talk presented at a conference in honor of the retirement of Dr. Christopher. D. Wickens, University of Illinois, Champaign-Urbana

Garay-Vega, L. and Fisher, D. L. (June 2005). Can novice drivers recognize foreshadowed risks as easily as experienced drivers. *Paper given at Driving Assessment 2005, Rockport, Maine.*

Pradhan, A. K., Fisher, D. L., and Pollatsek. A. (June 2005). The effects of pc-based training on novice drivers' risk awareness in a driving simulator. *Paper given at Driving Assessment 2005, Rockport, Maine.*

- Romoser, M., Fisher, D. L., Mourant, R., Wachtel, J. and Sizov, K. (June 2005). The Use of a Driving Simulator to Assess Senior Driver Performance: Increasing Situational Awareness through Post-Drive One-on-One Advisement. *Paper given at Driving Assessment 2005*, Rockport, Maine.
- Fisher, D. L. (March 2005). *The Use of Eye and Head Movements to Evaluate Risk Awareness and Perception Among Novice and Older Drivers*. Invited presentation at Schepens Eye Research Institute, Harvard Medical School, Cambridge, MA.
- Romoser, M., Fisher, D. L., Mourant, R., Wachtel, J., Sizov, K., Kennedy, S. I., and Andra, M. (January 2005). Use of a Driving Simulator to Assess Older Adults' Critical Driving Skills. *Paper given at the Transportation Research Board Annual Meeting*, Washington, D.C.
- Upchurch, J., Fisher, D. L., and Waraich, B. (January 2005). *Signing for Two-Lane Exits with an Option Lane: A Human Factors Evaluation*. Paper presented at the Transportation Research Board Annual Meeting, TRB, National Research Council, Washington, D.C.
- DeRamus, R. and Fisher, D. L. (October 2004). *The Effect of Driver Age and Experience on Risk Assessment and Risk Prediction*. Paper presented at the Human Factors and Ergonomics Society's Annual Meeting, New Orleans.
- Romoser, M., Woolf, B. P., Bergeron, D. and Fisher, D. L. (October 2004). *The Mental Rotation Tutors: A Flexible, Computer-based Tutoring Model for Intelligent Problem Selection*. Paper presented at the Human Factors and Ergonomics Society's Annual Meeting, New Orleans
- Fisher, D. L., Narayanaan, V., Pradhan, A. and Pollatsek, A. (October 2004). *The Use of Eye Movements to Evaluate the Effect of PC-Based Risk Awareness Training on an Advanced Driving Simulator*. Paper presented at the Human Factors and Ergonomics Society's Annual Meeting, New Orleans.
- Garay, L., Fisher, D. L. and Hancock, K. (October 2004). *Effects of Driving Experience and Lighting Condition on Driving Performance*. Paper submitted for presentation at Human Factors and Ergonomics Society's Annual Meeting, New Orleans
- Garay, L., Fisher D., and Hancock, K. (May 2004). *Evaluation of Driving Performance Among Young Novice Drivers During Reduced Visibility Conditions*. 2004 District 1 Annual Meeting of the Institute of Transportation Engineers, Burlington, Vermont.

- Dutta, A., Fisher, D. L., and Noyce, D. A. (January 2004). *Use of a Driving Simulator to Evaluate and Optimize Factors Affecting Understandability of Variable Message Signs*. Paper presented at the Annual Meetings of the Transportation Research Board, Washington, D.C.
- Fisher, D. L., Upchurch, J., Pradhan, A., Mehranian, H., and Romoser, M. (January 2004). *Signing Two-Lane Freeway Exits with an Option Through Lane in Extreme Conditions: Anatomy of Drivers' Behavior*. Paper presented at the Annual Meetings of the Transportation Research Board, Washington, D.C.
- Dutta, A., Fisher, D. L., Noyce, D. A., and Deshmukh, A. (October 2003). *Use of driving simulator to evaluate the effect of repetition on variable message signs*. Paper presented at the 2003 Driving Simulator Conference North America, Dearborn, Michigan.
- Woolf, B. P., Romoser, M., Bergeron, D., & Fisher, D. L. (July 2003). *Tutoring 3-Dimensional Visual Skills: Dynamic Adaptation to Cognitive Level*, *International Conference on Artificial Intelligence and Education, Sidney Australia*.
- Pradhan, A.K., Hammel, K.R., DeRamus, R., Noyce, D.A., Pollatsek, A. and Fisher, D.L. (January 2003). *The Use of Eye Movements to Evaluate the Effects of Driver Age on Risk Perception in an Advanced Driving Simulator*. Paper presented at the Annual Meetings of the Transportation Research Board, Washington, D.C.
- Hammel, K. and Fisher, D. L. (2002). *The use of advanced driving simulators to evaluate the effects of in-vehicle technologies (telematics) on drivers' performance*. Paper presented at the Human Factors and Ergonomics Society's 46th Annual Meeting, Baltimore.
- Hammel, K. R. and Fisher, D. L. (May 2002). *Evaluating the Effects of In-Vehicle Technologies (Telematics) on Driver's Performance*. Paper presented at the Eyes Tea meeting, Northeastern University, Boston, MA.
- Fisher, D. L. and Upchurch, J. (August 2002). *A New Tool for Traffic Safety: Use of a Driving Simulator*. Paper submitted for presentation to the Institute of Transportation Engineers 2002 International Annual Meeting, Philadelphia, PA.
- Upchurch, J., Fisher, D., Carpenter, R., and Dutta, A. (January 2002). *Freeway guide sign design for the central artery tunnel using a driving simulator*. Paper presented at the Annual Meetings of the Transportation Research Board, Washington, DC.
- Kichhanagari, R., DeRamus Motley, R., Duffy, S. A. and Fisher, D. L. (January 2002). *Airport terminal signs: Use of advance guide signs to speed search*. Paper presented at the Annual Meetings of the Transportation Research Board, Washington, DC.

- Dutta, A., Carpenter, R., Noyce, D. A., Duffy, S. A., and Fisher, D. L. (January 2002). *Drivers' Understanding of Overhead Freeway Exit Guide Signs: Evaluation of Alternatives Using an Advanced Fixed Base Driving Simulator*. Paper presented at the Annual Meetings of the Transportation Research Board, Washington, DC.
- Mehranian, H., Duffy, S., Fisher, D., Niswander, E. (October 2001) *Alternative terminal sign format evaluation: Generating efficient information dense displays*. Paper presented at the Annual Meetings of the Human Factors and Ergonomics Society, Minneapolis, Minnesota.
- Romoser, M. and Fisher, D. L. (October 2001). *Maintaining Kinematic Constraints when Performing Mental Rotations About a Fixed Axis: Implications for Instruction and Displays*. Paper presented at the Annual Meetings of the Human Factors and Ergonomics Society, Minneapolis, Minnesota.
- Hakki, I., Pollatsek, A., Rayner, K., Fisher, D., Miller, B., Goertz, B. (August 2001). *Cube Rotation: An investigation in Mental Rotation and Manipulation*. Talk presented at the 11th European Conference on Eye Movements, Turku, Finland.
- Carpenter, R., Fisher, D., Duffy, S., Hancock, K., Noyce, D., Upchurch, J. and Dutta, A. (August 2001). *Overcoming Sign Design Challenges in the Central Artery Tunnel Project*. Talk presented at the Institute of Transportation Engineers Annual Meeting, Chicago, Illinois.
- Valdes, D., Fisher, D. L., Baucage, Y. M. (August 2001). *Use of reference location markers for incident management*. Talk presented at the Institute of Transportation Engineers Annual Meeting, Chicago, Illinois
- Katsikopoulos, K. V., Romoser, M. E., Sathyarayana, D. and Fisher, D. L. (August 2001). *Mental Rotation Accuracy as a Function of Kinematic Constraints*. Talk presented at the Annual Meetings of the Society for Mathematical Psychology, Providence, Rhode Island.
- Katsikopoulos, K. V. and Fisher, D. L. (August 2001). *Risk Attitude Reversals for Random Reference Points: Rank-Dependent- or Random-Utility Models?* Talk presented at the Annual Meetings of the Society for Mathematical Psychology, Providence, Rhode Island.
- Valdes-Diaz, D. M., Fisher, D. L., Baucage-Bou, Y. M. (August 2001). *Use of reference location markers in incident management*. Talk presented at the Institute of Transportation Engineers 2001 Annual Meeting, Chicago, IL

- Upchurch, J., Fisher, D., Carpenter, R. and Dutta, A. (July, 2001.) *Use of a Driving Simulator for Freeway Guide Sign Design: the Central Artery Tunnel Project.* Paper presented at the Institute of Transportation Engineers District 6 Annual Meeting, Albuquerque, New Mexico.
- Pabón-Figueroa, M. and Fisher, D. L. (June 2001). *Predicting Shoulder Musculoskeletal Discomfort from Worker Anthropometry and Workplace Design in a Repetitive Task.* Talk presented at the International Society for Occupational Ergonomics and Safety, Fairfax, Virginia.
- Terpenney, J., Gao, R., Ritter, J., Fisher, D. and Krishnamurty, S. (June 2001). *Senior design projects to aid the disabled.* Talk to be presented to the 2001 American Society for Engineering Education Annual Conference & Exposition, Albuquerque, New Mexico.
- Miller, B., Fisher, D. L., Hakki, I., Pollatsek, A., and Rayner, K. (November 2000). *An examination of mental box folding.* Poster presented at the annual meetings of the Psychonomic Society.
- Pabón-González, M. and Fisher, D. L. (March 2000). *Prediction of Shoulder Musculoskeletal Discomfort.* Talk presented at the Group Technology/Cellular Manufacturing World Symposium - 2000, Mayaguez, Puerto Rico.
- Duffy, S. A., Niswander, E., Mundoli, R., Hancock, K., Shuldiner, P. and Fisher, D. L. (January 2000). *The evaluation of alternative terminal sign formats.* Talk presented at the annual meetings of the Transportation Research Board, Washington, D. C.
- Katsikopoulos, K. V., Duse-Anthony, Y., Fisher, D. L. and Duffy, S. A. (October 1999). *Advanced travel information and drivers' route choice: Stated preference data.* Talk presented at the Human Factors and Ergonomics Society Annual Meetings, Houston, TX.
- Laurie, N. E., Fisher, D. L., Glaser, R., Brock, J. F., Pollatsek, A. and Duffy, S. (June 1999). *Training risk perception with a PC based trainer: Does training generalize to an advanced driving simulator?* Talk presented at the Annual Meetings of the International Society for Occupational Ergonomics and Safety, Orlando.
- Fisher, D. L., Brock, J. F., Glaser, R., Connerny, K., Duffy, S. A., Laurie, N. L., and Pollatsek, A. (October 1998). *Evaluation of PC-based younger driver training program: Use of a driving simulator.* Talk presented at the Annual Meetings of the Human Factors Society, Chicago.

- Holton, A. and Fisher, D. L. (October 1998). *Advanced Parking Management Systems: Models of drivers' parking decision strategies*. Talk presented at the Annual Meetings of the Human Factors Society, Chicago.
- Fisher, D. L., Collura, J., Laurie, N., Mundoli, R. and Zhang, S. (April 1998). *A virtual reality evaluation of 3D "Do Not Enter" signs*. MassHighway Department Research Showcase, Boston.
- Fisher, D. L. (April 1998). *Age and skill acquisition: A review*. Invited address presented at the 1998 Cognitive Aging Conference, Atlanta.
- Fisher, D. L., Duffy, S. A. and Katsikopoulos, K. (April 1998). *Cognitive slowing among older adults: What kind and how much?* Poster session presented at the 1998 Cognitive Aging Conference, Atlanta.
- Szymkowiak, A., Fisher, D. L., Connerny, K. A. and Duffy, S. A. (April 1998). *False yield and false go decisions at signalized left-turn intersections: A driving simulation study*. Poster session presented at the 1998 Cognitive Aging Conference, Atlanta.
- Duse-Anthony, Y. and Fisher, D. L. (March 1998). *Development of descriptive models of motorist decision strategies*. Paper presented at the 3rd Annual ITS Massachusetts, Newton, MA.
- Szymkowiak, A. Fisher, D. L., and Connerney, K. A. (November 1997). *False yield and false go decisions at signalized left-turn intersections: A driving simulator study*. Paper presented at the Europe Chapter of the Human Factors and Ergonomics Society Annual Conference, Bochum, Germany.
- Collura, J., Fisher, D. and Shuldiner, P. W. (September 1997). *ITS engineering education: Developing ITS laboratory exercises*. Paper presented at the Intelligent Transportation Systems Congress, Rome.
- Fisher, D., Collura, J. and Holton, A. (September 1997). *Advanced parking management systems: Strategic management of intermodal junctions*. Paper presented at the UTC Transportation Research Results Conference, Cambridge.
- Glaser, R. and Fisher, D. L. (September 1997). *Technology and the older adults: Designing a usable interface*. Paper presented at the Human Factors and Ergonomics Society Annual Meetings.
- Glaser, M. F. and Fisher, D. L. (September 1997). *Driving simulators: Are they valid test environments for ITS development?* Paper presented at the Human Factors and Ergonomics Society Annual Meetings.

- Gorman, M. and Fisher, D. L. (September 1997). *Visual Search: The slowing of strategic and nonstrategic processes*. Paper presented at the Human Factors and Ergonomics Society Annual Meetings.
- Katsikopoulos, K. V. and Fisher, D. L. (September 1997). *Lag effects in paired associate learning: Age differences*. Poster presented at the Human Factors and Ergonomics Society Annual Meetings.
- Laurie, N. E., Kulatilaka, I. Arent, D. Andres, R. O., Fisher, D. L. (September 1997). *Voice Activated Dialing Systems: A summary*. Paper presented at the Human Factors and Ergonomics Society Annual Meetings.
- Collura, J., Kaufman, D. and Fisher, D. (August 1997). *Integrating ITS research results into Engineering Curricula*. Paper presented at the International Conference on Engineering Education, Chicago.
- Fisher, D. L. (August 1997). *Molar and latent models of cognition: Discriminating between general and specific influences on the speed of processing in studies of aging, dementia, depression, development and intelligence*. Invited address presented at the Annual Meetings of the Society for Mathematical Psychology, Bloomington.
- Laurie, N., Andres, R. and Fisher, D. (June 1997). *Increasing usability of voice activated dialing systems*. Paper presented at the 12th Annual Meeting of the International Society for Occupational Ergonomics and Safety, Washington, D.C.
- Fisher, D. L. (March 1997). *Driving simulators: A testbed for Massachusetts' ITS Technologies*. Paper presented at the 2nd Annual ITS MA Conference, Newton.
- Fisher, D. L., Collura, J. and Holton, A. (February 1997). *Advanced Parking Management Systems: Effects of variable message signboards on driver decision behavior*. Paper presented at New England Region 1 UTC Research Meeting, Cambridge.
- Wallace, J. S. and Fisher, D. L. (October 1996). *The interface between the driver and collision warning systems: Lessons in complexity*. Paper presented at SPIE Photonics East '96 (Traffic Sensors and Controls: Collision Avoidance, Traffic Management and ITS), Boston.
- Gorman, M. F. and Fisher, D. L. (September 1996). *Cognitive aging: General versus process-specific slowing in a visual search task*. Paper presented at the Annual Meetings of the Human Factors and Ergonomics Society, Philadelphia.
- Katsikopoulos, K. V., Fisher, D. L. and Pullen, M. T. (September 1996). *Paired associate learning: Age Differences*. Paper presented at the Annual Meetings of the Human Factors and Ergonomics Society, Philadelphia.

- Wallace, J. S., Fisher, D. L. and Collura, J. (September 1996). *Sound localization: Information theory analysis*. Paper presented at the Annual Meetings of the Human Factors and Ergonomics Society, Philadelphia.
- Reichle, E. D., Pollatsek, A., and Fisher, D. L. (August 1996). *A model of eye movements in reading*. Paper presented at the 29th Annual Meetings of the Society for Mathematical Psychology, Chapel Hill.
- Fisher, D. L., Gorman, M. F. and Kozloski, J. L. (April 1996). *Biological structure, cognitive function, and the generality of Aging (A_G): Evidence for process-specific slowing from memory and visual search tasks*. Poster presented at the 1996 Cognitive Aging Conference, Atlanta.
- Fisher, D. L. and Katsikopoulos, K. (April 1996). *The general acquisition, decrement, and training hypotheses: Can the effects of aging on the learning of paired associates be mitigated by optimizing the training schedule?* Poster presented at the 1996 Cognitive Aging Conference, Atlanta.
- Reichle, E. D., Pollatsek, A., Fisher, D. L., and Rayner, K. (November 1995). *Toward a model of eye movements in reading*. Paper presented at the 36th Annual Meeting of the Psychonomic Society, Los Angeles, CA.
- Wood, D. D., Andres, R. O. and Fisher, D. L. (June 1995). *Perceived discomfort ratings during repeated isometric grip force exertions*. Paper presented at the Annual International Industrial Ergonomics and Safety Conference, Seattle, Washington.
- Fisher, D. L. (February 1995). *State models of paired associate learning: The general acquisition, decrement and training hypotheses*. Invited address given to the Southeastern Conference on Aging, Destin, Florida.
- Collura, J., Goldstein, H., Fisher, D. L. and Szymkowiak, A. (December 1994). *Experience with an advanced traveler information system trial test in the metropolitan New York city area*. Paper given to the First World Congress on applications of transport telematics and intelligent vehicle-highway systems, Paris, France.
- Wood, D. D., Fisher, D. L. and Andres, R. O. (October 1994). *Optimal grip force work/rest patterns developed from a model to predict localized muscle fatigue during maximal and submaximal work*. Paper presented at the 38th Annual Meeting of the Human Factors and Ergonomics Society, Nashville, Tennessee.
- Fisher, D. L. (May 1994). *The design of optimal menu hierarchies: Novices and experts*. Paper presented to the third annual Industrial Engineering Research Conference Meetings, Atlanta.

- Fisher, D. L. (August 1993). *Cognitive Engineering: Engineering and Psychology in the 21st century*. Invited address delivered to the Division 21 (Applied Experimental and Engineering Psychology) of the American Psychological Association, Toronto.
- Fisher, D. L. (May 1993). *Optimal Static and Dynamic Training Strategies*. Invited paper delivered to the Second Annual Industrial Engineering Research Conference, Los Angeles.
- Fisher, D. L. (May 1993). *Optimal Static and Dynamic Training Strategies*. Invited paper delivered to the annual meetings of the Operations Research Society of America.
- Wood, D. D., Hilliard, T. S., Fisher, D. L., Andres, R. O. and Kroll, W. P. (October 1993). *A pilot study: Development of a model to predict localized muscle fatigue during hand intensive work*. Poster presented at the 1993 Annual Meeting of the International Society of Biomechanics in Sport, Amherst, MA.
- Wood, D. D., Hilliard, T. S., Fisher, D. L., Andres, R. O. and Kroll, W. P. (October 1993). *A pilot study: Development of a model to predict localized muscle fatigue during hand intensive work*. Poster presented at the 37th Annual Meeting of the Human Factors and Ergonomics Society, Seattle, WA.
- Wisher, R., Fisher, D. L., Sabol, M., Townsend, J. T., and Sabol, M. A. (October 1992). *Simulation and analysis of perceptual-motor skill training*. Paper delivered to the 36th annual meetings of the Human Factors Society, Atlanta.
- Fisher, D. L. (October 1992). *Repetitive Motion Disorders: Optimizing the Rate-Rest Schedule*. Paper delivered to the 36th annual meetings of the Human Factors Society, Atlanta.
- Fisher, D. L. (June 1992). *Models of visual search: Theory and applications*. Invited presentation to the Cognitive Science Group, Georgia Institute of Technology, Atlanta.
- Fisher, D. L. (May 1992). *Minimizing the time it takes users to navigate a hierarchy of menus*. Invited paper presented at the third annual meetings of the Journées de l'Optimisation, Montreal.
- Fisher, D. L. and Fisk, A. D. (April 1992). *Markov models for training: Optimizing the Number of Trials to Criterion*. Paper presented at the annual meetings of the Operations Research Society of America, Orlando.
- Fisher, D. L. (April 1992). *Models of general, task-specific and process-specific models slowing*. Invited paper presented at the fourth annual Cognitive Aging Conference, Atlanta.

- Townsend, J. T. and Fisher, D. L. (March 1992). *Models of Morse code copy*. Invited paper presented at the third annual Human Error Conference, Bloomington.
- Fisher, D. L. (May 1991). *Order-of-Processing Diagrams: A new modeling methodology*. Paper presented at the annual Hoosier Mental Life Conference, Bloomington.
- Fisher, D. L. (March 1991). *Optimal performance engineering*. Invited paper presented at the second annual Human Error Conference, Bloomington.
- Bishu, R. R., Rouse, W. B., Gordon, S., Fisher, D.L. (October 1990). *Cognitive Engineering: Directions for future research*. Paper presented at the annual meetings of the Human Factors Society, Orlando.
- Fisher, D. L., Andres, A. O., Airth, D. and Smith, S. (October 1990). *Carpal tunnel syndrome: The design of optimal rate-rest profiles*. Paper presented at the annual meetings of the Human Factors Society, Orlando.
- Preczewski, S. and Fisher, D.L. (October 1990). *Recall of military security codes*. Paper presented to the annual meetings of the Human Factors Society, Orlando.
- Ranney, T. and Fisher, D. L. (October 1990). *Visual search: Pattern learning*. Poster session presented at the annual meetings of the Human Factors Society, Orlando.
- Fisher, D. L. (August 1990). *Visual search and integration*. Paper presented at the Conference on Eye Movements and Visual Cognition, Amherst.
- Mahling, D. E. and Fisher, D. L. (August 1990). *The cognitive engineering of visual languages*. Paper presented at the IEEE Workshop on Visual Programming Languages, Skokie.
- Fisher, D. L., Moss, S. and Yungkurth, E. (October 1989). *Menu navigation: Minimizing the time to find a terminal option*. Paper presented at the annual meetings Instrument Society of America, Philadelphia.
- Yungkurth, E. and Fisher, D. L. (October 1989). *Optimal menu hierarchy design: Syntax and Semantics*. Paper presented at the annual meetings of the Human Factors Society, Denver.
- Howard, M. H. and Fisher, D. L. (October 1989). *Predicting fault diagnosis behavior*. Paper presented at the annual meetings of the Human Factors Society, Denver.
- Workman, D. and Fisher, D. L. (October 1988). *A threshold model of visual search*. Paper presented at the annual meetings of the Human Factors Society, Los Angeles.

- Tanner, N. and Fisher, D. L. (October 1988). *A visual search model for selection of graphic symbols*. Paper presented at the annual meetings of the Human Factors Society, Los Angeles.
- Schweickert, R., Townsend, J. T. and Fisher, D. L. (November 1987). *Simple tests distinguishing sequential and concurrent processes in task networks*. Paper presented at the annual meetings of the Psychonomic Society, Seattle.
- Fisher, D. L. and Smith, J. M. (October 1987). *Transient and equilibrium behavior of finite, tandem queues*. Paper presented at the annual meetings of the Operations Research Society of America, St. Louis.
- Tengs, T. O. and Fisher, D. L. (October 1987). *The framing effect in medical treatment decisions*. Paper presented at the ninth annual meetings of the Society for Medical Decision Making, Philadelphia.
- Tan, K. and Fisher, D. L. (October 1987). *Types of highlighting and search strategy considerations in computer-generated displays*. Paper presented at the annual meetings of the Human Factors Society, New York City.
- Workman, D. and Fisher, D. L. (October 1987). *Selection of visual display symbology: A new metric of similarity*. Paper presented at the annual meetings of the Human Factors Society, New York City.
- Fisher, D. L. and Young, C. (October 1987). *Perceptual Learning: Theory and Applications*. Paper presented at the annual meetings of the Human Factors Society, New York City.
- Coury, B. G., Boulette, M. D., Zubritzky, M. C., and Fisher, D. L. (October 1986). *Classification of multidimensional data: Evaluating displays to aid identification of system state*. Paper presented at the IEEE Conference on Systems, Man and Cybernetics, Atlanta.
- Fisher, D. L. (August 1986). *Programmable perceptrons: Serial and parallel visual search*. Paper presented at the annual meetings of the Society for Mathematical Psychology, Boston.
- Rayner, K. and Fisher, D. L. (September 1985). *Eye movements and the perceptual span in visual search*. Paper presented at the European Eye Movement Conference, Paris.
- Fisher, D. L., Coury, B. G., and Tengs, T. O. (October 1985). *Optimizing the number of highlighted words on video display terminal menus*. Paper presented at the meetings of the Human Factors Society, Baltimore.

- Tengs, T. O. and Fisher, D. L. (October 1985). *Rapid serial visual presentation (RSVP) of traffic signs*. Paper presented at the meetings of the Human Factors Society, Baltimore.
- Fisher, D. L. and Goldstein, W. M. (April 1985). *The addition of timing information to Petri nets*. Paper presented at the meetings of the Operations Research Society of America, Boston.
- Goldstein, W. M. and Fisher, D. L. (April 1985). *Portfolios: The distribution of the maximum of a set of dependent sums of random variables*. Paper presented at the meetings of the Operations Research Society of America, Boston.
- Fisher, D. L. (September 1984). *Network models of reaction time: The generalized OP diagram*. Invited paper presented at the 23rd International Congress of Psychology, Acapulco.
- Goldstein, W. M. and Fisher, D. L. (August 1984). *Order-of-Processing diagrams as models of response time*. Invited paper presented at the meetings of the Society for Mathematical Psychology, Chicago.
- Fisher, D. L. (November 1983). *Is attention MIRVed?* Invited paper presented at the meetings of the Psychonomic Society, San Diego.
- Fisher, D. L. and Goldstein, W. M. (November 1983). *Critical paths in stochastic PERT networks*. Paper presented at the meetings of the Operations Research Society of America, Orlando.
- Fisher, D. L. and Goldstein, W. M. (November 1983). *Closed form expressions for path optimality indices in stochastic shortest route problems*. Paper presented at the meetings of the Operations Research Society of America, Orlando.
- Fisher, D. L., Moroze, M. and Morrison, R. (October 1983). *Dynamic visual inspection: Queuing models*. Paper presented at the meetings of the Human Factors Society, Norfolk.
- Fisher, D. L. and Papazian, B. (October 1983). *Response times and safety research: Application of the critical path method*. Paper presented at the meetings of the Human Factors Society, Norfolk.
- Fisher, D. L. (April 1983). *Visual search: Capacity limits and automatic detection*. Paper presented at the meetings of the Eastern Psychological Association, Philadelphia.
- Fisher, D. L. and Goldstein, W. M. (April 1983). *The sojourn time distribution of a three queue Jackson network*. Paper presented at the meetings of the Operations Research Society, Chicago.

- Goldstein, W. M. and Fisher, D. L. (April 1983). *The completion time distribution of stochastic PERT networks*. Paper presented at the meetings of the Operations Research Society, Chicago.
- Fisher, D. L. and Goldstein, W. M. (April 1982). *Probabilistic PERT: A continuous time Markov process*. Paper presented at the meetings of the Operations Research Society, Detroit.
- Fisher, D. L. and Goldstein, W. M. (August 1981). *Complex cognitive tasks: Probabilistic PERT and models of reaction time*. Paper presented at the fourteenth annual meetings of the Society of Mathematical Psychology, Santa Barbara.
- Fisher, D. L. (August 1980). *Queuing theoretic models of automatic detection processes*. Paper presented at the thirteenth annual meetings of the Society of Mathematical Psychology, Madison.
- Duffy, S. A. and Fisher, D. L. (May 1980). *The organization and processing of multiplication facts*. Paper presented at the annual meetings of the Midwest Psychological Association, St. Louis.
- Fisher, D. L. (August 1979). *A computer simulation of syllogistic reasoning*. Paper presented at the twelfth annual meetings of the Society of Mathematical Psychology, Providence.
- Fisher, D. L. (June 1979). *Information processing dysfunction and metacognition*. Invited address, Functional Literacy Conference, University of Indiana, Bloomington.
- Fisher, D. L. (May 1978). *Test validity and measures of functional literacy*. Invited address, National Right to Read Conference, Washington, D. C..
- Schwartz, B. J., Fisher, D. L. and Frase, L. T. (1977). *Psychological processes and document design*. Paper presented at the annual meetings of the American Educational Research Association, New York City.
- Smith, M. S. and Fisher, D. L. (May 1974). *A prolegomenon to future studies of reading comprehension*. Paper presented at the annual meetings of the International Reading Association, New Orleans.