

DON CROSBIE DONDERI

Professional Résumé

Principal Consultant
Human Factors North Inc.
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Birthdate: February 21, 1937
Birthplace: New York, NY

Citizenship: U.S., Canadian
Languages: English, French

Professional Competence: Analysis, expert testimony and research in the field of general experimental psychology including learning, perception, cognition, and motivation. Industrial processes and other tasks involving visual search and visually-guided behaviour. Design of workstations and workplaces; computer interfaces, visual displays and marine ergonomics (wheelhouses, accommodations, engine spaces). Cognitive and perceptual aspects of systems design, operation and maintenance including task analysis, shift schedules and control room layout.

Education: PhD, Experimental Psychology, Cornell University, 1958-1963; BSc, Biopsychology, University of Chicago, 1955-58; BA (Liberal Arts) University of Chicago, 1952-1955. Ford Foundation Early Entrance Scholar, 1952-1956, University Scholar, 1956-57

Positions: McGill University Psychology Department: lecturer 1962-63, Assistant Professor 1963-1967, Associate Professor 1968-2009. McGill University Faculty of Graduate Studies and Research, Associate Dean 1975-1978. Pulp and Paper Research Institute of Canada, Faculty Associate, 1993-2004. Human Factors North: Co-founder and Principal Consultant, 1982-present.

Associations: Sigma Xi, The Scientific Research Society (McGill Chapter President, 1983), American Psychological Society, Canadian Society for Brain, Behaviour and Cognitive Science, Association of Canadian Ergonomists, Human Factors and Ergonomics Society (US).

Experience: Co-founder (1982) and principal consultant of Human Factors North Inc., a Toronto-based human factors/ergonomics consulting firm. Analytical and research consulting experience has included Arctic marine environments, marine ocean and coastal environments, nuclear power plants worldwide, emergency response control rooms, food processing plants and general manufacturing plants. Over forty years' experience as a university professor and researcher, with more than one hundred published scientific papers and reports, co-author of a psychology textbook, and author of many technical reports and publications. Thesis director for 17 successful PhD and 5 successful MSc students in experimental psychology. Basic research interests: visual perception, memory, and human judgment.

Accomplishments: The following pages include a partial list of professional accomplishments, including design patents and copyrights, computer programs, analytical and research reports, textbooks, and scientific papers and legal reports.

Mechanical and Human Factors/Ergonomic Design

Donderi, D. C., Smith, S., Kawaka, K., Smahel, T. & Lallani, R. HFE summary report: Light water detritiation facility, building 215. Report to Barrie M. Wallace, Project Manager, LWDF, Tyne Engineering, Oakville, ON. April 2012

Donderi, D.C. & Dunk, W. Ergonomic design including suggested modifications for the train operator display. Report to Alan Atad, Alcatel Canada Inc., Toronto, ON, August 2002.

Donderi, D.C. Device for Pushing Broken Ice Ahead of a Ship or the Like. Canadian Patent No. 1,275,202, October, 1990.

Donderi, D.C. Design for a marine integrated piloting display. Canadian copyright No. 278348, December 1987.

Ergonomic design for a paratransit taxi. GSM Production, Inc. 1989.

Rescue coordination centres and marine rescue sub-centres in St. John's, Halifax, Quebec, Trenton, Edmonton and Victoria. Canadian Coast Guard, 1989.

Wheelhouse and accommodation for a fisheries patrol vessel. Peter S. Hatfield Ltd., Vancouver, 1989.

Wheelhouses for Coast Guard Type 500 and Type 600 Search and Rescue Cutters. Canadian Coast Guard, 1988.

Donderi, D.C. *Design of an ideal telecommunications device for the deaf (TDD)*. Report to Bell-Northern Research Ltd, Kanata, Ontario, 1987.

Expo '67 (1967 Montreal World's Fair), Design Consultant to J. Guillon Inc. for the Man and Life Pavilion (with D.O. Hebb and R. Melzack), 1964-1967.

Computer Programming

PROSCALE 5.1a: A research method and Windows computer program for sample quality evaluation and multidimensional similarity scaling. Pulp and Paper Research Institute of Canada, September 2002.

Establishment roster and simulation system (ERASMUS). Canadian Navy, DNASE 5, February 1994.

Manning Impact Analysis Calculator (MANIAC), with S. Rochford, for the Canadian Navy, DNASE 5, November 1991

Technical Reports

Donderi, D. C., Smith, S., Kawaja, K., Smahel, T. & Lallani, R (2012) *Preliminary HFE summary report: AECL Chalk River Laboratories light water detritiation facility, Building 216*. Report to Barrie M. Wallace, Project Manager, LWDF. Tyne Engineering, Oakville, ON.

Donderi, D. C. (2009). *RFID technology to improve track-level worker safety on the Toronto Transit Commission (TTC) subway system*. Report to Mark Willer, Bombardier Transportation, Mississauga, ON.

Donderi, D.C. (2009) *A train-approach warning to improve track-level safety on the TTC subway system*. Report to Mark Willer, Bombardier Transportation, Mississauga, ON.

Donderi, D.C. & Smahel, T. (2007) *The Yonge-University subway ATC speed control display should look just like the AWS speed control display until routine AWS operation is ended*. Report to the Toronto Transit Commission, November 29.

Donderi, D.C. (2007) *Wayside signals should show an illuminated sign or a flashing green when a Yonge-University subway train is operating under automatic train control*. Report to the Toronto Transit Commission, October 16.

Smiley, A., Smahel, T. & Donderi, D.C. (2006) *The effects of cellular phone use on novice and experienced driver performance Part 2: On-road study*. Prepared for the Insurance Bureau of Canada.

Donderi, D.C. (2004) *An analysis of customer service representative screens at 407ETR*. Report to Beth Carver, 407ETR.

Smiley, A., Donderi, D.C. & Davis, D. (2004) *Definition of monitoring on a G2 road test*. Report to the Ministry of Transportation, Ontario.

Donderi, D.C. *Video exception processing at 407 ETR*. Report to Karen Campbell, 407 ETR. May 2002.

Lindberg, Siv, Donderi, D.C. & Pauler, Nils (2001) *Perceived print quality in digital and offset processes revisited*. 28th International IARIGAI Research conference, Montreal, September 2001.

Donderi, D.C. (2000) *Human-machine interface considerations for inclusion of an electronic map in a mission system*. NATO Research and Technology Organization symposium on advanced mission management and system integration technologies for improved tactical operations. RTO-MP-46, pps. 17.1-17.8, Brussels, Belgium.

Donderi, D.C., Jordan, B., Aspler, J. & O'Neill, M. (1999) *The subjective print quality of commercial heatset offset prints on lightweight coated paper*. Pulp and Paper Research Institute of Canada, Pulp and Paper Report.

- Donderi, D.C. (2006). *The effects of cellular phone use on novice and experienced driver performance Part 2: On-road study*. Prepared for the Insurance Bureau of Canada.
- Donderi, D.C. (1999) *Sorting and shelving in the Webster Library*. Report to Concordia University, Montreal.
- Donderi, D.C., Plant, D. (2004). *Definition of monitoring on a G2 road test*. Report to the Ministry of Transportation, Ontario.
- Donderi, D.C. *Video exception processing at 407 ETR*. Report to Beth Carver, 407ETR, August 1997.
- Donderi, D.C. & Pauler, Nils (2001). Perceived print quality in digital and offset processes revisited. 28th International IARIGAI Research conference, Montreal, September 2001.
- Smiley, A., Donderi, D., Duffy, A., Kawaja, K. & Dunk, W. (1996) *Ergobreak usability study*. Report to Vanity Software Publishing Corporation, Toronto.
- Donderi, D.C., Duffy, A. & Dunk, W. (1996) *Poultry ergonomics study*. Report to Agriculture and Agri Foods Canada.
- Donderi, D.C. (1996) *"Hands off" inspection at a poultry plant in Quebec*. Report to Agriculture and Agri Foods Canada.
- Donderi, D.C., Ostry, D. J., Smiley, A. & Moray, N. (1996) *Assessment of Psychological Capacity Requirements*. Report to Atomic Energy Control Board, Ottawa.
- Donderi, D.C., Plant, D. & Ayliffe, M. (1998) *Human factors analysis of the proximity detector in the Nortel Model 922 portable telephone*. Report to Northern Telecom.
- Donderi, D.C., Smiley, A., Ostry, D. J. & Moray, N. P. (1995) *Independent verification in operations at nuclear power plants-summaries of site visits*. INFO-0592-2, Atomic Energy Control Board, Ottawa, Canada.
- Donderi, D.C. (1995) *Ergonomic evaluation of the slitting and doctoring areas*. Report to Tetra Pak, Aurora, Ontario.
- Smiley, A. & Kawaja, K. & Dunk, W. (1996) *Ergobreak usability study*. Report to Kay Richards, UNITEL Inc., Toronto.
- Donderi, D.C., Duffy, A. & Dunk, W. (1996) *Poultry ergonomics study*. Report to Agriculture and Agri Foods Canada.
- Donderi, D.C., Ostry, D. J., Smiley, A. & Moray, N. (1996) *Assessment of Psychological Capacity Requirements*. Report to Atomic Energy Control Board, Ottawa.
- Donderi, D.C. (1993) *Constant wear life jackets: pilot comfort and mobility*. Report to Transportation Development Centre, Transport Canada, Montreal.

- Donderi, D.C., Smiley, A., Ostry, D. J & Moray, N. P. (1995) *Independent verification in operations at nuclear power plants-summaries of site visits*. INFO-0592-2, Atomic Energy Control Board, Ottawa, Canada.
- Donderi, D.C. (1995) *Ergonomic evaluation of the slitting and doctoring areas*. Report to Tetra Pak, Aurora, Ontario.
- Donderi, D.C., Munhall, K. (1995) *Shift schedule comparison for the Canadian Coast Guard*. Montreal: Transportation Development Centre, Report TP12438E.
- Donderi, D.C. & Kawaja, K. M. (1995) *Human factors/ergonomics analysis of the UNITEL customer care system: screen designs and screen sequences*. Report to Kay Richards, UNITEL Inc., Toronto, Ontario.
- Donderi, D.C. & Rochford, S. L. (1991) *Shiftwork and watchkeeping*. Report to the Department of National Defence, Ottawa.
- Donderi, D.C. & Deveaux, T. (1994) *ERASMUS: Establishment roster and simulation system*. Report, Department of Naval Architecture and Specialty Engineering, Canadian Navy.
- Donderi, D.C. (1990) *Graphics user interface design*. Report to Sypher:Muller International, Ottawa.
- Donderi, D.C. (1990) *Individual differences in visual search performance during the October, 1990 Canso Bank search and rescue exercise*. Report to NORDCO Ltd., St. John's, Nfld.

Textbooks and technical book chapters:

- Donderi, D. C., Niall, K. K., Fish, K. & Goldstein, B. (2010). Effects of screen resolution and training variation on a simulated flight control task. Chapter 14 in Niall, K. K. (ed). *Vision and displays for military and security applications*. New York: Springer
- Donderi, D.C., ed. (2005) *Psychology: The science of mind and behavior, 2nd edition*.. Dubuque, Iowa: Kendall Hunt
- Hebb, D. J., Donderi, D.C. (1994) *Textbook of psychology, 4th ed*. Dubuque, Iowa: Kendall Hunt.

Scientific Papers:

- Donderi, D. C., Niall, K. K., Fish, K. & Goldstein, B. (2012) Above-real-time training (ARTT) improves transfer to a simulated flight control task. *Human Factors*, 54(3), 469 – 479. [DOI 10.1177/0018720812439711](https://doi.org/10.1177/0018720812439711)
- Solomonova, E., Nielsen, T., Stenstrom, P., Simard, V., Frantova, E. & Donderi, D.C. (2007) Sensed presence as a correlate of sleep paralysis distress, social anxiety and waking state social imagery. *Consciousness and Cognition*, 17(1), 49 – 63.
- Donderi, D.C. (2006) The simple arithmetic of tenure. *Behavioral and Brain Sciences*, 2006, 29(6), 573-574.

- Donderi, D.C. (2006) Variety and intensity of emotion in nightmares and bad dreams. *Journal of Nervous and Mental Disease*, 194(4), 249 – 254.
- Donderi, D.C. (2006) Visual complexity: A review. *Psychological Bulletin*, 132, 1, 73 - 97
- Donderi, D.C. & McFadden, S. (2005) Compressed file length predicts search time and errors on visual displays. *Displays*, 26(2), 71-78.
- Donderi, D.C. & McFadden, S. (2004) A single marine overlay is more efficient than separate chart and radar displays. *Displays*, 24(4-5), 147-155.
- Donderi, D.C., Mercer, R., Hong, M. B. & Skinner, D. (2004) Simulated navigation performance with marine electronic chart and information display systems (ECDIS). *Journal of Navigation*, 57 (2), 189 – 202.
- Donderi, D.C., Jordan, B., Aspler, J. A. & O'Neill, M. (2003) The subjective print quality of commercial heatset offset prints on lightweight coated paper. *Pulp and Paper Canada*, 104(9), 35 – 38.
- Lambert, B. L., Donderi, D. & Senders, J. W. (2002) Similarity of drug names: Comparison of objective and subjective measures. *Psychology and Marketing*, 19 (7-8): 641-661
- Turner, P., Boudewijnse, G-J & Donderi, D.C. (2001) Process control problems in the pulp and paper industry. *Pulp and Paper Canada*, 102(6), T147-148
- Donderi, D.C. & Aspler, J. (2000) Proscale: A fast new way to measure subjective print quality. *Pulp and Paper Canada*, 101(5), T136-138.
- Donderi, D.C. (2000) Nightmares and bad dreams: their prevalence and relationship to well-being. *Journal of Abnormal Psychology*, 109(2), 273-281.
- Zadra, A. L. & Donderi, D.C. (2000) Threat perceptions and avoidance in recurrent dreams. *Behavioral and Brain Science*, 23, 1017-1018.
- Donderi, D.C. (1998) The nature and prevalence of pain in dreams. *Pain Research and Management*, 3(3), 155-161.
- Donderi, D.C. (2006) Visual complexity: A review. *Psychological Bulletin*, 132, 1, 73 - 97
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- Donderi, D.C. (1994) Visual acuity, color vision, and search performance at sea. *Human Factors*, 36(1), 129-144.

- Donderi, D.C. & Aspler, J.A. (1994) Correlates of preference and similarity in 45 printed samples from nine newsprint machines. *Nordic Pulp and Paper Journal*, 2, 88-93.
- Zadra, A., Donderi, D.C. & Pihl, R.O. (1992) Efficacy of lucid dream induction for lucid and non-lucid dreamers. *Dreaming*, 2, 85-97.
- Donderi, D.C. (1990) Response-contingent variation in visual recall: evidence of a dynamic memory trace. *Canadian Journal of Psychology*, 44(4), 423-434.
- Donderi, D.C. (1988) Information measurement of distinctiveness and similarity. *Perception and Psychophysics*, 40, 76-584.
- Zadra, A. & Donderi, D.C. (1988) The effect of experimentally induced anxiety on the experience of pressure pain. *Pain*, 35, 105-113.
- Donderi, D.C. (1987) Orthodoxy and excommunication in science. *Behavioral and Brain Science*, 23, 1017-1018.
- Cann, D. R. and Donderi, D.C. (1998). The nature and prevalence of pain in dreams. *Pain Research and Management*, 3(3), 155-161.
- Brown, R.J. and Donderi, D.C. (1998) Prevalence of auditory, gustatory and olfactory experiences in home dreams. *Perceptual and Motor Skills*, 87, 819-826
- Donderi, D.C., Jolicoeur, P., Berg, I., and Grimes, R. (1985) A color contingent prism displacement aftereffect. *Perception*, 14, 691-709.
- Donderi, D.C. (1985) Acquisition and decision during target search of visual letter displays. *Perception and Psychophysics*, 37, 345-354.
- Donderi, D.C. (1983) The effect of sound on visual apparent movement. *American Journal of Psychology*, 96, 95-105.
- Donderi, D.C. and Murphy, S. B. (1983) Predicting activity and satisfaction following cataract surgery. *Journal of Behavioral Medicine*, 6, 313-328.
- Zadra, A.L. and Donderi, D.C. (1980) Predicting the success of cataract surgery. *Journal of Behavioral Medicine*, 3, 1-14.
- Donderi, D.C. (2007) On-road and laboratory evaluation of bilingual variable message signs. International conference on road safety and simulation, Rome, Italy, November 7, 2007.
- Donderi, D.C. & Katz, D. (2007) Semantic and structural information independently influence search efficiency on alphabetic displays. Association of Canadian Ergonomists, Toronto, Ontario, October 17, 2007.
- Donderi, D.C. & McFadden, S. (2001) The use of electronic charts and radar in marine navigation. *Joint Conference of the Association of Canadian Ergonomists and the*

- Société d'ergonomie de langue française*, Montreal (CD-ROM publication), October 2001.
- Lindberg, Siv, Donderi, D.C. & Pauler, Nils (2001) Perceived print quality in digital and offset processes revisited. *28th International IARIGAI Research conference*, Montreal, September 2001.
- Cann, D.R. and Donderi, D.C. (2000) Human-machine interface considerations for inclusion of an electronic map in a mission system. NATO Research and Technology Organization symposium on advanced mission management and system integration technologies for improved tactical operations. RTO-MP-46, pps. 17.1-17.8, Brussels, Belgium.
- Donderi, D.C. (1986) Dream content and self-reported well-being among recurrent dreamers, past recurrent dreamers and non-recurrent dreamers. *Journal of Personality and Social Psychology*, 50, 612-623.
- Donderi, D.C., Jolicoeur, P., Berg, I., and Grimes, R. (1985) A color contingent prism displacement aftereffect. *Perception*, 14, 691-709.
- Donderi, D.C. (1985) Acquisition and decision during target search of visual letter displays. *Perception and Psychophysics*, 37, 345-354.
- Ostry, D. J. & Donderi, D.C. (1983) The effect of sound on visual apparent movement. *American Journal of Psychology*, 96, 95-105.
- Donderi, D.C. (1991) Secondary task information transmission: a performance operating characteristic measure of primary task difficulty. *Proceedings, Human Factors Association of Canada 24th Annual Meeting*, 127-133
- Donderi, D.C. (1980) Predicting the success of cataract surgery. *Journal of Behavioral Medicine*, 3, 1-14.
- Donderi, D.C., Ostry, D. J., Smiley, A., Munhall, K. and Flanagan, J. R. (1990) Task analysis and redesign of the Canadian Rescue Coordination Centres. *Human Factors Association of Canada, Proceedings*, 93-98.
- Raby, M., Donderi, D.C. & Svoboda, J. (1989) A visual display improves simulated instrument flight rules (IFR) procedures training. *Human Factors Association of Canada, Proceedings*, 267-270.
- Raby, M. & Donderi, D.C. (1987) The relationship between risk-taking and flight judgement in private pilot trainees. *Human Factors Association of Canada, Proceedings*, 35-37.
- Donderi, D.C., Katz, D. J. and Heron, R. (1986) The task structure of piloting a ship in ice. *Proceedings of the 19th Annual Convention of the Human Factors Association of Canada*, 71-74.

Legal Reports (partial list):

- Donderi, D. C. (2012). *There was no effective warning about the diving hazard at the Taboo Resort north dock on Lake Muskoka*. Report to Troy R. Lehman, Oatley, Vigmond, Barrie, Ontario
- Donderi, D. C. (2010). *Analysis of David Lucibello's decision to cross Derry Road ahead of an oncoming bus*. Report to David A. Zuber, Zuber & Company LLP, Toronto, Ontario.
- Donderi, D. C. (2010). *Slow dark adaptation kept Bert Osborne from seeing the step and landing where he tripped and fell*. Report to Nicole M. Vaillancourt, Rastin & Associates, Midland, ON.
- Donderi, D. C. (2009). *Warning signs at the Toronto City Archery Range*. Report to Robin Squires, Borden Ladner Gervais LLP, Toronto, Ontario
- Donderi, D. C. (2009). *A warning sign could have kept Joanne Dougherty away from the edge of the ravine*. Report to Melvin J. Crowson, Braithwaite Boyle, Calgary, Alberta
- Donderi, D. C. (2009) *An audible backup light might have prevented Zachary Barker's accident*. Report to Nigel G. Gilby, Lerner LLP, London, ON.
- Donderi, D. C. (2009). *There was no danger warning at the trials area of the Bruce Peninsula Mountain Bike Trail*. Report to Andrew C. Murray, Lerner LLP, London, ON.
- Donderi, D.C. (2007) *Visual perception aspects of Marco Thibodeau's motorcycle accident near Grand Falls, New Brunswick*. Report to Tracy Murphy, Chubb Insurance Company of Canada.
- Donderi, D. C. (2006) *Analysis of a two-car collision in Oxford County, Ontario*. Report to Sean R. Macintosh, Legate & Associates, London, ON
- Donderi, D.C. (2004) *Report on a swimming-pool accident to Kaitlin Colantino*. Report to Michael J. Winward, Mackesy Smye LLP, Hamilton, ON.
- Donderi, D.C. (2004) *Report on an accident to Janet Ravivo*. Report to Michael Smitiuch, Smitiuch & Young, Toronto, ON.
- Donderi, D.C. (2003) *Night illumination on Yonge Street, Burk's Falls*. Report to C. Kirk Boggs, Lerner LLP, Toronto, ON
- Donderi, D.C. (2001) *The Lego trademark indicia: Critique of a report by Michael J. Tarr*. Report to Christine M. Pallotta, Bereskin & Parr, Toronto, ON
- Donderi, D.C. (2001) *Analysis of a fall at the Stratford Festival Theatre*. Report to Michelle Gill, Thomson Rogers, Toronto, ON
- Donderi, D.C. (2001) *Analysis of a Parking Garage Fall at the Galleria in London, Ontario*. Report to Robert B. Ledgley, Lerner Associates, London, ON

- Donderi, D.C. (2000) *Comments on forensic engineering reports about Mostyn ats Dallas*. Report to Kirk Boggs, Lerner & Associates, Toronto, ON.
- Donderi, D.C. (2000) *Report on the accident of Robert I. Woods*. Report to Marinus Lamers, Lerner & Associates, Toronto, ON.
- Donderi, D.C. (2000) *Report on a boating accident on Lake Joseph*. Report to Jesse T. Glass, Laxton, Glass & Swartz, Toronto, ON.
- Donderi, D.C. (2000) *Report on a fall sustained by Ms. Bettye Weaver*. Report to Sally Powell, Lerner & Associates, Toronto, ON
- Donderi, D.C. (2000) *Report on an accident to Ricardo Veracruz at the Bar Michaelangelo in Hamilton, Ontario*. Report to Jay W. State, Hamilton, ON
- Donderi, D.C., Ostry, D.C. (1998) *A fall down the steps at the Coffee Time Restaurant in Trenton, Ontario*. Report to L. Michael Shannon, Cassels Brock & Blackwell, Toronto, ON
- Donderi, D.C. (1998) *A fall in the parking garage at 150 Adelaide Street*. Report to Nadine Zeldovich, Lerner & Associates, Toronto, ON
- Donderi, D.C. (1998) *Visual perception report: Allen vs. the City of Toronto*. Report to Kirk Boggs, Lerner & Associates, Toronto, ON
- Donderi, D.C. (2001). *The Lego trademark indicia: Critique of a report by Michael J. Tarr*. Report to Christine M. Pallotta, Bereskin & Parr, Toronto, ON
- Donderi, D.C. (1986) *Report on a shooting incident in Marysville, Ontario*. Report to Anthony Peter Girard, B.A., LL.B.
- Donderi, D.C. (1996) *Human factors aspects of the accidental injury to Mr. Bruno Hockmann*. Report to L. Michael Shannon, Cassels Brock & Blackwell.
- Donderi, D.C. (2001) *Report on an accident in the Festival Theatre, Stratford*. Report to Michelle Gille, Thompson Rogers, Toronto, ON

Research and consulting grants and contracts:

Research, analysis and design contracts from federal and provincial agencies and private industry include: Tyne Engineering Inc., 407 ETR (Electronic Toll Road), Alcatel Canada Inc, Atomic Energy Control Board, Agriculture Canada, Department of Transport, Department of National Defence (Defence Research and Development - Toronto, Canadian Navy), Nortel Networks, Canadian Coast Guard, Allied-Signal, NRC, NSERC, DRB, and FCAR. Total funding over \$2.4 million.