

CURRICULUM VITAE

Name: David Leigh Martell

Prepared: July 12, 2009

ACADEMIC HISTORY

Degrees Conferred

Ph.D. 1975 Industrial Engineering, University of Toronto
Thesis Title: Contributions to decision-making in forest fire management
Supervisor : A.A. Cunningham

M.A.Sc. 1972 Industrial Engineering, University of Toronto
Thesis Title: An application of statistical decision theory to forest fire control planning
Supervisor : A.A. Cunningham

B.A.Sc. 1971 Industrial Engineering, University of Toronto

Academic Appointments

Lecturer, Assistant Professor, Associate Professor, Professor
Faculty of Forestry, University of Toronto, 1974 to present

Research leave 1981-82, 1988-89, 1996, 2003-04, 2009-2010

Appointed to the School of Graduate Studies, June 27, 1978

Coordinator of Graduate Studies, 1993 to 1995

Cross-appointed to the University of Toronto Institute of Environmental Studies, 1994 to 2005

Cross-appointed to the University of Toronto Centre for Environment, 2005 to present

Research Associate (status only), Institute for Land Information Management,
Erindale College, University of Toronto, 1989 to 1994

Teaching Assistant
Department of Industrial Engineering, University of Toronto, 1970-73

AWARDS and HONOURS

Canadian Operational Research Society Award of Merit, June 16, 2009

Faculty of Forestry Graduate Students Association "Excellence in Teaching Award", April 24, 2008

Canadian Operational Research Society, Service Award, June 2004

NSERC 25 Year Continuous Grant Recipient Certificate, March 9, 2004

Invited by the Canadian Operational Research Society, to present one of two Canadian National Contribution papers at the International Federation of Operational Research Societies (IFORS) Triennial Conference in Vancouver, British Columbia, July 8-12, 1996

Canadian Operational Research Society Practice Competition (1993) Finalist
(with J.I. MacLellan) for the paper entitled
"Basing airtankers for forest fire control in Ontario"

Canadian Operational Research Society Gold Medal Plaque (1979)
(with J.H. Bookbinder) for the paper entitled
"Time-dependent queuing approach to helicopter allocation for forest fire initial attack"

Annual Student Paper Competition (1973)
Toronto Section, Canadian Operational Research Society
for the paper entitled
"An application of decision theory in forest fire management"

National Research Council Postgraduate Scholarship (1972-74)

University of Toronto Open Fellowship (1971-72)

PROFESSIONAL EXPERIENCE

2004

Consultant to the Ontario Ministry of Natural Resources
Spatial forest management planning

2000

Consultant to the Ontario Ministry of Natural Resources
Forest fire suppression equipment inventory management

1999

Consultant to the Canadian Department of National Defence
Forest fire management at Canadian Forces bases

1998

Consultant to the Saskatchewan Environment and Resource Management.
Sustainable forest management.

1993

Consultant to the Forest Protection Branch of the British Columbia Ministry of Forests.
Evaluation of initial attack airtanker operations.

1990

Consultant to the Aviation & Fire Management Centre of the Ontario Ministry of Natural Resources.
Assess fire detection system effectiveness.

1987

Consultant to the Aviation & Fire Management Centre of the Ontario Ministry of Natural Resources.
Assist the A&FMC in evaluating alternative detection system strategies and planning procedures.

1981 - 82

Consultant to the Aviation & Fire Management Centre of the Ontario Ministry of Natural Resources.
Assist the A&FMC in developing and using a system for evaluating alternative initial attack strategies.

1978

Consultant to Thompson, Tooze & McLean, Barristers and Solicitors.
Assessment of a court transcript.

1975 (summer)

Thunder Bay District, Ontario Ministry of Natural Resources
Fire Fighter (6 weeks)

1970-72 (summers)

Forest Fire Control Branch, Ontario Ministry of Natural Resources
Summer student (last classification, Engineer I)

SCHOLARLY AND PROFESSIONAL WORK

Refereed Journals

- Podur, J.J., D. L. Martell and D. Stanford. 2009. A compound Poisson model for the annual area burned by forest fires in the province of Ontario. *Environmetrics*. Early View Published Online: Jun 25 2009 5:39AM.
- Podur, J.J., D. L. Martell. 2009. The influence of weather and fuel type on the fuel composition of the area burned by forest fires in Ontario, 1996-2006. *Ecological Applications*. 19(5): 1246-1252.
- Martell, D.L. and H. Sun. 2008. The impact of forest fire suppression, vegetation and weather on burned area in Ontario. *Can. J. Forest Res.* 38(6): 1547-1563.
- Martell, D.L. 2007. Fifty Years of OR in Forestry - Preface to the Special Forestry Issue of *INFOR*. *INFOR* 45(1):5-7.
- Palma, C.D., W. Cui, D. L. Martell, D. Robak and A. Weintraub. 2007. Assessing the impact of stand-level harvests and fuel treatments on the flammability of forest landscapes. *International Journal of Wildland Fire*. 16(5): 584-592.
- Podur, J.J. and D. L. Martell. 2007. A simulation model of the growth and suppression of large fires in Ontario. *International Journal of Wildland Fire*. 16(3): 285-294.
- Beverly, J.L. and D.L. Martell. 2005. Characterizing extreme dry-spell and forest fire weather events in the Boreal Shield ecozone of Ontario, Canada. *Agricultural and Forest Meteorology*. 133 (1-4): 5-16.
- B.M. Wotton, B.M. and D.L. Martell, 2005. A lightning fire occurrence model for Ontario. *Canadian Journal of Forest Research*. 35(6): 1389-1401.
- Wotton, B.M., B.J. Stocks and D.L. Martell. 2005. An index for tracking sheltered forest floor moisture within the Canadian Forest Fire Weather Index System. *International Journal of Wildland Fire*. 14(2): 169-182.
- Amiro, B.D., K.A. Logan, B.M. Wotton, M.D. Flannigan, J.B. Todd, B.J. Stocks and D.L. Martell. 2004. Fire weather index system components of large fires in the Canadian boreal forest. *International Journal of Wildland Fire*. 13(4): 391- 400.

- Beverly, J.L. and D.L. Martell. 2004. Modeling prescribed surface-fire regimes for *Pinus strobus* conservation. *Conservation Biology*. 18(6) 1541-1552.
- Hirsch, K.G., J.A. Podur, R.D. Jansen, R.D. McAlpine and D.L. Martell. 2004. Productivity of Ontario initial attack fire crews. *Can. J. Forest Res.* **34**: 705-715.
- Wotton, B. M., D.L. Martell and K.A. Logan. 2003. Climate Change and People-Caused Forest Fire Occurrence in Ontario. *Climatic Change* **60**: 275-295.
- Beverly, J.L. and D. L. Martell. 2003. Modeling "Pinus strobus" mortality following prescribed fire in Quetico Provincial Park, northwestern Ontario. *Can. J. Forest Res.* 33(4): 740-751.
- Podur, J. and D.L. Martell. 2003. Spatial patterns of lightning-caused forest fires in Ontario, 1976-1998. *Ecological Modelling*. 164: 1-20.
- Martell, D.L. 2002. Comment on "Wildfire Regime in the Boreal Forest and the Idea of Suppression and Fuel Buildup". *Conservation. Biology*. 16 (5): 1177-1177.
- Podur, J., D.L. Martell, and K. Knight. 2002. Statistical quality control analysis of forest fire activity in Canada. *Can. J. Forest Res.* 32(2): 195-205.
- Skinner, W.R., M.D. Flannigan, B.J. Stocks, D.L. Martell, B.M. Wotton, J.B. Todd, J.A. Mason, K.A. Logan, and E.M. Bosch. 2002. A 500 hPa synoptic wildland fire climatology for large Canadian forest fires, 1959-1996. *Theoretical and Applied Climatology*. 71: 157-169.
- Stocks BJ, Mason JA, Todd JB, Bosch EM, Wotton BM, Amiro BD, Flannigan MD, Hirsch KG, Logan KA, Martell DL, Skinner WR. 2002. Large forest fires in Canada, 1959-1997. *Journal of Geophysical Research-Atmospheres* 108 (D1)
- B.D. Amiro, J.B. Todd, B.M. Wotton, K.A. Logan, M.D. Flannigan, B.J. Stocks, J.A. Mason, D.L. Martell, and K.G. Hirsch. 2001. Direct carbon emissions from Canadian forest fires 1959-1999. *Can. J. For. Res.* 31: 512-525.
- Martell, D.L. 1999. A Markov chain model of day to day changes in the Canadian forest fire weather index. *International Journal of Wildland Fire* 9(4):265-273.

- Skinner, W.R., B.J. Stocks, D.L. Martell, B. Bonsal and A. Shabbar. 1999. The association between circulation anomalies in the mid-troposphere and area burned by wildland fire in Canada. *Theoretical and Applied Climatology*. 63:89-105.
- Islam, K.M.S and D.L. Martell. 1998. Performance of initial attack airtanker systems with interacting bases and variable initial attack ranges. *Can. J. Forest Res.* 28(10):1448-1455.
- Hirsch, K.G., P.N. Corey and D.L. Martell. 1998. Using expert judgement to model initial attack fire crew effectiveness. *Forest Science*. 44(4):539-549.
- Martell, D.L., E.A. Gunn and A. Weintraub. 1998. Forest management challenges for operational researchers. *European Journal of Operational Research (Invited Review)* 104:1-17.
- Boychuk, D., A. H. Perera, M.T. Ter-Mikaelian, D. L. Martell and C. Li. 1997. Modelling the effect of spatial scale and correlated fire disturbances on forest age distribution. *Ecological Modelling*. 95:145-164.
- Hirsch, K. G. and D. L. Martell. 1996. A review of initial attack fire crew productivity and effectiveness. *International Journal of Wildland Fire*, 6(4): 199-215.
- MacLellan, J.I. and D.L. Martell. 1996. Basing airtankers for forest fire control in Ontario. *Operations Research*. 44(5): 677-686.
- Martell, D.L. 1996. Old-growth, disturbance, and ecosystem management: Commentary. *Can. J. Bot* 74: 509-510. (Reviewed by the Editor).
- Boychuk, D.B. and D.L. Martell. 1996. A multistage stochastic programming model for sustainable forest-level timber supply under risk of fire. *Forest Science*, Vol. 42, No.1, February 1996.
- Martell, D.L. 1994. The impact of fire on timber supply in Ontario. *The Forestry Chronicle*. 70(2): 164-173.
- Davis, R.G. and D.L. Martell. 1993. A decision support system that links short term silvicultural operating plans with long term forest-level strategic plans. *Can. J. Forest Res.* 23:1078-1095.

- Martell, D.L., E. Bevilacqua and B.J. Stocks. 1989. Modelling seasonal variation in daily people-caused forest fire occurrence. *Can. J. Forest Res.* 19(12):1555-1563.
- Boychuk, D., and D.L. Martell. 1988. A Markov chain model for evaluating seasonal forest fire fighter requirements. *Forest Science.* 34(3):647-661.
- Martell, D.L., and J.M. Fullerton. 1988. Decision analysis for jack pine management. *Can. J. Forest Res.* 18(4):444-452.
- Martell, D.L., S. Otukol and B.J. Stocks. 1987. A logistic model for predicting daily people-caused forest fire occurrence in Ontario. *Can. J. Forest Res.* 17(5):394-401.
- Martell, D.L., R.J. Drysdale, G.E. Doan and D. Boychuk. 1984. An evaluation of forest fire initial attack resources. *Interfaces* 14(5):20-32.
- Martell, D.L. 1982. A review of operational research studies in forest fire management. *Can. J. Forest Res.* 12(2):119-140.
- Martell, D.L. 1980. The optimal rotation of a flammable forest stand. *Can. J. Forest Res.* 10(1):30-34.
- Bookbinder, J.H. and D.L. Martell. 1979. Time-dependent queuing approach to helicopter allocation for forest fire initial attack. *INFOR* 17(1):58-70.
- Martell, D.L. 1978. A subjective measure of forest fire management effectiveness. *Forest. Chron.* 54(3):159-162.
- Martell, D.L. 1978. The use of historical fire weather data for prescribed burn planning. *Forest. Chron.* 54(2):96-98.
- Cunningham, A.A. and D.L. Martell. 1976. The use of subjective probability assessments concerning forest fire occurrence. *Can. J. Forest Res.* 6(3):348-356.
- Doan, G.E. and D.L. Martell. 1973. The computer based fire weather information system in Ontario. *Forest. Chron.* 50(4):149-150.
- Cunningham, A.A. and D.L. Martell 1973. A stochastic model for the occurrence of man-caused

forest fires. *Can. J. Forest Res.* 3(2):282-287.

Refereed Conference Proceedings

Myers, J. A. and D.L. Martell. 2007. Modeling Adjacency in Forest Harvest Scheduling *in* Proceedings of the CP 2007 Doctoral Programme of the Thirteenth International Conference on Principles and Practice of Constraint Programming, CP 2007, Providence RI, September 23–27, 2007. B. Hnich and K. Stergiou (Eds.). pp. 109-114.

Skinner, W.R., B.J. Stocks, D.L. Martell, B. Bonsal and A. Shabbar. 2000. The relationship between area burned by wildland fire in Canada and circulation anomalies in the mid-troposphere. *In* Biomass burning and its inter-relationship with the climate system. J.L. Innes, M. Beniston, and M.M. Verstraete, eds. *Advances in Global Change Research: Volume 3.* Kluwer Academic Publishers, Dordrecht, The Netherlands. pp 101-125.

Stocks, B.J., B.S. Lee, and D.L. Martell. 1996. Some potential carbon budget implications of fire management in the boreal forest. *in* Forest ecosystems, forest management and the global carbon cycle. Edited by M. J. Apps and D. T. Price. NATO ASI Series, Subseries 1 Vol. 40. “Global Environmental Change”, Springer-Verlag, Berlin, Germany. pp. 89-96.

Martell, D.L. 1990. Operational research and forest fire management resource deployment. *Operational Research '90.* Selected papers from the Twelfth IFORS International Conference on Operational Research, International Federation of Operational Research Societies, Athens, Greece, June 25-29, 1990. Hugh E. Bradley, Editor. Pergamon Press PLC, Oxford. pp. 229-238.

Martell, D.L. 1984. Fire impact management in the Boreal forest region of Canada. *In* Resources and Dynamics of the Boreal Zone. Proceedings of a conference held at Thunder Bay, Ontario, August 1982. Ross W. Wein, Roderick R. Riewe and Ian R. Methven (Editors). Association of Canadian Universities for Northern Studies, Ottawa, Ontario, Canada. pp. 526-533.

Chapters in Books

Martell, D.L. 2009. Fire. Chapter 14 of *Natural Disasters, Canadian Edition.* Patrick L. Abbott and Claire Samson, pp. 405-433. McGraw-Hill Ryerson Limited, Toronto. Major

revision of Chapter 15 of Natural Disasters, Sixth edition by Patrick L. Abbott, pp 413-440.

Martell, D.L. 2007. Forest Fire Management: current practices and new challenges for operational researchers. *in Handbook of Operations Research in Natural Resources*. Edited by Andres Weintraub, Carlos Romero Trond Bjørndal, and Rafael Epstein with the collaboration of Jaime Miranda. Springer Science+Business Media, New York, NY. Pp 489-509.

Grissom, P., M.E. Alexander, B. Cella, F. Cole, J.T. Kurth, N.P. Malotte, D.L. Martell, W. Mawdsley, J. Roessler, R. Quillin, and P.C. Ward. 2000. Effects of climate change on management and policy: mitigation options in the North American boreal forest. Chapter 6 in *Fire, Climate Change, and Carbon Cycling in the Boreal Forest*. E.S. Kasischke and B.J. Stocks, Editors. Springer-Verlag, New York, pp. 85-101.

Anderson, K., D.L. Martell, M.D. Flannigan, and D. Wang. 2000. Modeling of fire occurrence in the boreal forest region of Canada. Chapter 19 in *Fire, Climate Change, and Carbon Cycling in the Boreal Forest*. E.S. Kasischke and B.J. Stocks, Editors. Springer-Verlag, New York, pp. 357-367.

French, N.H.F., E.S. Kasischke, B.J. Stocks, J.P. Mudd, D.L. Martell, and B.S. Lee. 2000. Carbon release from fires in the North American boreal forest. Chapter 21 in *Fire, Climate Change, and Carbon Cycling in the Boreal Forest*. E.S. Kasischke and B.J. Stocks, Editors. Springer-Verlag, New York, pp. 377-388.

The regional impacts of climate change: an assessment of vulnerability. Edited by R.T. Watson, M.C. Zinyowera, and R.H. Moss. A Special Report of IPCC Working Group II. *Published for the Intergovernmental Panel on Climate Change*. Cambridge University Press. 1998. *Contributor* to Chapter 8. North America. pp. 253-330.

Saporta, R., J.R. Malcolm and D.L. Martell. 1998. The impact of climate change on Canadian forests. Chapter Six of the Canada Country Study: Climate Impacts and Adaptation *in* Volume VII: National Sectoral Volume. G. Koshida and W. Avis, Eds. Environment Canada. pp. 319-382.

Book Reviews in Refereed Journals

Martell, D.L. 2009. Review of “Awful Splendour: A Fire History of Canada” by Stephen J. Pyne. UBC Press. University of Toronto Quarterly. 78(1): 198-200.

Martell, D.L. 2006. Review of “Emulating Natural Forest Landscape Disturbances - Concepts and Applications” Edited by Ajith H. Perera, Lisa J. Buse and Michael G. Weber, 2004. ISBN 0231129165. Columbia University Press, New York. The Forestry Chronicle. 82(6): 877-878

Technical Reports and Conference Proceedings (not refereed)

Mariam Sánchez-Guisández, Wenbin Cui, and David L. Martell. 2007. A decision support system for evaluating fuel management strategies for wildland urban interface areas. Proceedings, Wildfire 2007. Sevilla, Spain. May 13-17, 2007.

Martell, D.L. 2006. Addressing Uncertain Fire Impacts in Spatial Forest Management Planning – a Literature Review. Report Prepared for the Forest Management Planning Section of the Ontario Ministry of Natural Resources. December 4, 2006. 50 pp.

Beverly, J.L. and D.L. Martell. 2003. Characterizing extreme dry-spell and forest fire events in the province of Ontario, Canada. Proceedings of the Fifth Symposium on Fire and Forest Meteorology, November 16-20, 2003, Orlando, Florida. American Meteorological Society, Boston. J9.5.

Amiro, B.D., K. A. Logan, B. M. Wotton, M. D. Flannigan, J. B. Todd, B. J. Stocks, and D. L. Martell. 2003. The weather of large fires in the Canadian boreal forest. Proceedings of the Fifth Symposium on Fire and Forest Meteorology, November 16-20, 2003, Orlando, Florida. American Meteorological Society, Boston. P1.5.

Podur, J, D.L. Martell and F. Csillag. 2003. Spatial point pattern analysis of lightning-caused forest fires in the boreal forest region of Ontario. *In* Systems Analysis in Forest Resources – Proceedings of the Eighth Symposium, September 27- 30, 2000. Snowmass Village, Colorado, U.S.A. Edited by G.J. Arthaud and T.M. Barrett. Kluwer Academic Publishers, Boston, pp. 61-68.

Beverly, J.L. and D.L. Martell. 2003. Characterizing historical variability in boreal fire frequencies: Implications for fire and forest management. *In* Systems Analysis in Forest Resources – Proceedings of the Eighth Symposium, September 27- 30, Snowmass Village, Colorado, U.S.A. Edited by G.J. Arthaud and T.M. Barrett. Kluwer Academic Publishers, Boston, pp. 3-14.

- Hirsch, K.G.; Martell, D.L.; Corey, P.N. 2000. Probability of containment by medium initial attack crews in the Boreal Spruce fuel type. NRCan, CFS, Northern Forestry Centre, Edmonton, Alta. Poster with text.
- Hirsch, K.G.; Martell, D.L.; Corey, P.N. 2000. Probabilité de confinement d'un feu de forêt de type pessière boréale par une équipe d'attaque initiale de taille moyenne. RNCan, SCF, Centre de foresterie du Nord, Edmonton (Alberta). Affiche avec texte. (translation of Hirsch et al. 2000)
- Martell, D.L., P. H. Kourtz, A. Tithecott and P. C. Ward. 1999. The development and implementation of forest fire management decision support systems in Ontario, Canada. *In* "Proceedings of the symposium on fire economics, planning and policy: bottom lines"; 1999 April 5-9; San Diego, CA. Gen. Tech. Rep. PSW-GTR-173. Albany, CA. Pacific Southwest Research Station, Forest Service, U.S. Department of Agriculture; pp. 131-142. P. N. Omi and A. Gonzalez-Caban, technical coordinators.
- Islam, K.S and D. L. Martell. 1998. Daily Airtanker Deployment with Interacting Bases. Proceedings, Society of American Foresters, Systems Analysis in Forestry Conference, Traverse City, Michigan.
- Martell, D.L., A. Tithecott and P.C. Ward. 1999. Fighting fire with OR: operations research enhances forest fire management in Ontario, Canada. *ORMS Today*: April 1999, p. 48-51.
- Martell, D.L. 1998. "Systèmes de soutien décisionnel pour la gestion des bombardiers d'eau" Attaque Initiale, Automne. pp 14-16. (Translation of Martell, 1998).
- Martell, D.L. 1998. "Decision support systems for air tanker management" Initial Attack, Fall 1997. pp 14-16.
- Martell, D.L. 1997. Forest fire management challenges operational researchers. Invited. *CORS/SCRO Bulletin*. 31(2). pp. 11-28.
- Martell, D.L. 1997. La gestion des feux de forêt, un défi pour les chercheurs opérationnels. *CORS/SCRO Bulletin*. 31(2). pp. 11-28. Translation of Martell (1977). (Traduit par C. Gendreau)
- Martell, D.L. and D. Boychuk. 1997. Levels of fire protection for sustainable forestry in Ontario: a discussion paper. NODA/NFP Technical Report TR-43. Natural Resources

- Canada, Canadian Forest Service, Great Lakes Forestry Centre, Sault Ste. Marie, Ontario. 34 pp.
- Davis, R.G. and D.L. Martell. 1996. A decision support system to help forest managers evaluate silvicultural strategies and tactics. In Proceedings: Workshop on Hierarchical Approaches to Forest Management in Public and Private Organizations. University of Toronto, Toronto, Ontario, Canada. May 25-29, 1992. Edited by David L. Martell, L.S. Davis and Andrés Weintraub. Petawawa National Forestry Institute. Information Report PI-X-124. Canadian Forest Service. pp. 148-154.
- Mandelbaum, M. and D.L. Martell. 1996. Flexibility in forest management planning. In Proceedings: Workshop on Hierarchical Approaches to Forest Management in Public and Private Organizations. University of Toronto, Toronto, Ontario, Canada. May 25-29, 1992. Edited by David L. Martell, L.S. Davis and Andrés Weintraub. Petawawa National Forestry Institute. Information Report PI-X-124. Canadian Forest Service. pp. 98-106.
- Martell, D.L. 1996. Evaluating foam: a systems level perspective. In Proceedings: International Wildland Fire Foam Symposium and Workshop. Thunder Bay, Ontario. May 3, 1994. Compiled by G.S. Ramsey. Petawawa National Forestry Institute. Information Report PI-X-123. Canadian Forest Service. pp. 87-90. (Invited).
- Boychuk, D., A. H. Perera, M.T. Ter-Mikaelian, D. L. Martell and C. Li. 1996. Modeling the effect of scale and fire disturbance patterns on forest age distribution. Forest Fragmentation and Diversity Project Technical Report Series No. 19. Ontario Forest Research Institute, Ministry of Natural Resources.
- Boychuk, D., A.H. Perera, M.T. Ter-Mikaelian, C. Li and D.L. Martell. 1995. Animating forest fire regimes and dynamic landscape age structure. Proceedings, 7th International Conference on Geomatics. Ottawa, Ontario, June 11-15.
- Martell, D.L., D. Boychuk, J.I. MacLellan, B.M. Sakowicz and R. Saporta. 1995. Decision analysis of the level of forest fire protection in Ontario. In proceedings: Symposium on Systems Analysis in Forest Resources: Management Systems for a Global Economy with Global Resource Concerns. Pacific Grove, California. September 6-9, 1994. Edited by John Sessions and J. Douglas Brodie. pp. 138-149.
- Martell, D.L. and D. Boychuk. 1994. Levels of fire protection for sustainable forestry in Ontario: final report. Report prepared for the Canada-Ontario Northern Ontario Development Agreement, Sustainable Forestry Development/Decision Support Project:

- Developing Analytical Procedures for Establishing the Level of Protection for Forest Fire Management to Support Sustainable Forestry in Ontario. 46 pp.
- Martell, D.L. 1994. Potential applications of mathematical programming to forest management planning in Ontario. In Proceedings, Forest Planning: The Leading Edge, Ontario Forestry Research Advisory Committee Symposium. North Bay, Ontario. October 30-31, 1991. A.J. Kayll, Editor. pp. 60-66. (Invited)
- Boychuk, D. and D.L. Martell. 1994. Modelling the impact of forest fire losses on timber supply. Proceedings, International Symposium on Systems Analysis and Management Decisions in Forestry. Valdivia, Chile, March 9, 1993. G.L. Paredes V., Editor. pp. 95-104.
- Boychuk, D. and D. L. Martell. 1993. Forest management under uncertainty: a fire management perspective. Proceedings, Ontario Ministry of Natural Resources Symposium on Analytical Approaches to Resource Management. Sault Ste. Marie, Ontario, November 25, 1992. R.G. Davis Editor. pp. 72-86
- Martell, D.L. 1992. Forestry research implementation. *The Forestry Chronicle*. 68(3): 355-356.
- Martell, D.L. 1991. Potential applications of mathematical programming to forest management planning in Ontario. Proceedings, Ontario Forestry Research Committee Symposium. North Bay, Ontario. October 30, 1991. (Invited)
- Martell, D.L. and A. Tithcott. 1991. Development of daily airtanker deployment models. Proceedings of the 1991 Symposium on Systems Analysis in Forest Resources. Charleston, S.C. March 3-6, 1991. Compiled by M.A. Buford.
- Martell, D.L. 1990. Airtanker deployment analysis. Proceedings, National Research Council Associate Committee on Agricultural and Forestry Aviation Symposium, Winnipeg, Manitoba, October 10. (Invited)
- Martell, D.L. 1990. A Markov chain model of a forest fire danger rating index. Proceedings of the 10th Conference on Fire and Forest Meteorology, April 17-21, 1989, Ottawa, Ontario. D.C. MacIver, H. Auld, and R. Whitewood, Editors. pp. 225-231.
- Martell, D.L. 1989. Timber management in Ontario's flammable forests. Proceedings of the First Interdisciplinary Conference on Natural Resource Modelling and Analysis. Saint Mary's University, Halifax, Nova Scotia. September 29, 1988. A.T. Charles and G.N. White, Editors. Published by the Centre for Resource Systems Analysis.

- Martell, D.L., and M. Doyle. 1987. Acquisition of a computer graphics work station. Final Report, Canadian Forestry Service Human Resources Development Fund Block Grant to the Faculty of Forestry, University of Toronto. 24 pp.
- Martell, D.L., and E. Bevilacqua. 1987. Seasonal variation in daily people-caused forest fire occurrence in Ontario's Northern region. Final Report, Canadian Forestry Service Program for Research in Forestry (PRUF). DSS Contract No. 01K35-6-006/01-SE. Faculty of Forestry, University of Toronto. 53 pp.
- Martell, D.L. 1986. Forest fire occurrence prediction models and prevention planning. Paper presented at the Canadian Committee on Forest Fire Management Wildfire Prevention Seminar. Petawawa National Forestry Institute, Chalk River, Ontario. October 21-24, 1985. in A Report to the Canadian Committee on Forest Fire Management. J. M. Skrenek, (Editor). pp. 67-70.
- Lynham, T.J. and D.L. Martell. 1985. An annual people-caused forest fire occurrence model. Proceedings of the Eighth Conference on Fire and Forest Meteorology. Detroit, Michigan. April 29 - May 2, 1985. L.R. Donoghue and R.E. Martin (Editors). Society of American Foresters. Bethesda, MD. pp. 200-207.
- Martell, D.L., S. Otukol, and B.J. Stocks. 1985. A daily people-caused forest fire occurrence prediction model. Proceedings of the Eighth Conference on Fire and Forest Meteorology. Detroit, Michigan. April 29 - May 2, 1985. L.R. Donoghue and R.E. Martin (Editors). Society of American Foresters. Bethesda, MD. pp. 208-215.
- Martell, D.L., S. Otukol, and B.J. Stocks. 1985. Daily people-caused forest fire occurrence. Proceedings of the Second Central Region Fire Weather Committee Scientific and Technical Seminar - April 17, 1985, Winnipeg, Manitoba. M.E. Alexander (Editor). Northern Forest Research Centre, Canadian Forestry Service. pp. 2- 10.
- Martell, D.L. and S. Otukol. 1985. Development of mathematical models for predicting daily people-caused forest fire occurrence in Ontario. Faculty of Forestry, University of Toronto. 83 pp.
- Fullerton, J.M. and D.L. Martell. 1985. Decision analysis for prescribed burn planning. Proceedings, Canada-Ontario Joint Forestry Research Committee Forest Fire Management Symposium. Sault Ste. Marie, Ontario. October 18, 1984. COJFRC Symposium Proceedings O-P-13. Great Lakes Forest Research Centre, Canadian Forestry Service. Sault Ste. Marie, Ontario. pp. 88-91.

- Martell, D.L. 1985. Operational research approaches to forest fire initial attack resource deployment analysis. Proceedings of the Intermountain Fire Council 1983 Fire Management Workshop. Banff, Alberta. October 25-27, 1983. D.E. Dube (Compiler). Inf. Rep. NOR-X-271. Northern Forest Research Centre. Canadian Forestry Service. Edmonton, Alberta. pp. 37-40.
- Martell, D.L., R.J. Drysdale, G.E. Doan and D. Boychuk. 1984. An analysis of the Ontario Ministry of Natural Resources' forest fire initial attack aircraft requirements. A&FMC Pub. No. 140. Aviation & Fire Management Centre, Ontario Ministry of Natural Resources. Sault Ste. Marie, Ontario.
- Martell, D.L. 1981. Implementing computer technology in forest fire management. In Computer Modelling: Its Application in Fire Management. J.E. Lotan (Editor). Proceedings, Intermountain Fire Council Symposium. Salt Lake City, Utah. Oct. 21, 1981. pp. 74- 85.
- Martell, D.L. 1978. The potential application of minicomputer technology in forest fire management. Faculty of Forestry and Landscape Architecture. University of Toronto. 63 pp.
- Martell, D.L. 1976. The use of historical data to predict forest fire occurrence. Inf. Rep. IR-3. Forest Fire Control Branch Ontario Ministry of Natural Resources. 19 pp.
- Cunningham, A.A. and D.L. Martell. 1976. The construction and empirical evaluation of a classification scheme for expressing subjective likelihood assessments. Working Paper 76-19. Department of Industrial Engineering. University of Toronto. 23 pp

Papers Presented

- Savage, D.W. and D.L. Martell. 2009. Managing for Non-timber Forest Values under Uncertainty. Paper presented at 2009 CORS/INFORMS Joint International Meeting, Toronto, June 14-17, 2009. **(Invited)**.
- Martell, D.L. and D.W. Savage. 2009. Dealing with uncertain disruptions to forest value changes. FOR@C Summer School. Montreal. June 3, 2009. **(Invited)**
- Martell, D.L. 2009. The Boreal Forest Region of Canada: An Operational Research Perspective. Paper presented in CIRRELT / MITACS Seminar. Interuniversity Research Centre on Enterprise Networks, Logistics and Transportation (CIRRELT), Montreal, March 20, 2009. **(Invited)**.
- Martell, D.L. 2008. Spatial Forest Management Planning Under Uncertainty Due to Natural

- Disturbance - Project Overview. Spatial Forest Management Planning Under Uncertainty Due to Natural Disturbance. Ontario Ministry of Natural Resources and Sustainable Forest Management Network Project Workshop. Sault Ste. Marie, Ontario. December 8, 2008
- Martell, D.L. 2008. Integrated fire and forest management. Spatial Forest Management Planning Under Uncertainty Due to Natural Disturbance. Ontario Ministry of Natural Resources and Sustainable Forest Management Network Project Workshop. Sault Ste. Marie, Ontario. December 8, 2008
- Martell, D.L. 2008. Spatial Forest Management Planning Under Uncertainty Due to Natural Disturbance - Project Overview. Spatial Forest Management Planning Under Uncertainty Due to Natural Disturbance. Sustainable Forest Management Network Workshop. Edmonton, Alberta. November 27, 2008.
- Martell, D.L. 2008. Integrated fire and forest management. Spatial Forest Management Planning Under Uncertainty Due to Natural Disturbance. Sustainable Forest Management Network Workshop. Edmonton, Alberta. November 27, 2008.
- D.L. Martell, D.L., J. Podur, B.J. Stocks, and B.M. Wotton. 2008. Looking for signs of climate change in the historical forest fire record Banff International Research Station Workshop on Climate Change Impacts on Ecology and the Environment. Banff, Alberta. May 4-9, 2008. **(Invited)**
- Acuna, M., W. Cui, D. L. Martell, C. Palma and A. Weintraub. 2007. Integrating fire and forest management planning. INFORMS Seattle, November 6, 2007. **(Invited)**
- Martell, D.L. 2007. Integrated fuel and timber management on flammable forest landscapes. Hanover Forest Science Seminar Series. Department of Forestry, Michigan State University. October 16, 2007. **(Invited)**
- Podur, J. and D.L. Martell. A compound Poisson model for area burned in Ontario. Canadian Operational Research Society Annual Meeting, London, Ontario. May 15, 2007. **(Invited)**
- Savage, D.W. and D.L. Martell. 2007. An evaluation of re-planning policies for dealing with fire-related uncertainty in forest management. Canadian Operational Research Society Annual Meeting, London, Ontario. May 15, 2007. **(Invited)**
- Martell, D.L. 2007. Modelling the Spatial Variability of Burned Area Across the Boreal Forest Region of Ontario. National Program for Complex Data Structures Workshop, Banff

- International Research Station. Banff, Alberta. April 10, 2007. **(Invited)**
- Martell, D.L. 2007. Assessing the impact of fire suppression on burned area in the boreal forest region of Canada. American Association for the Advancement of Science Annual Meeting. San Francisco. February 18, 2007. **(Invited)**
- Martell, D.L. 2007. Forest fire management in Canada - we have to stop behaving like this. Canadian Interagency Forest Fire Centre National Conversation online seminar. January 24, 2007. **(Invited)**
- Martell, D.L., A. Weintraub, C. Palma and W. Cui. 2006. A spatial fuel management decision support system. 3rd International Fire Ecology & Management Congress. San Diego, California. November 13-17, 2006.
- Martell, D.L. , W. Cui, C. Palma and A. Weintraub. 2006. Deciding where to establish fuel breaks on flammable forest landscapes. IFORMS Annual Meeting. Pittsburgh, Pennsylvania. November 5–8, 2006. (Invited)
- Acuna, M., D. Martell, A. Weintraub, C. Palma and W. Cui. 2006. Integrating timber harvesting and fuel management decision-making. 12th Systems Analysis in Forestry Symposium. Burlington, Vermont. September 5-8, 2006.
- Adamowicz, V., D. L. Martell, G.W. Armstrong and P. Boxall. 2006. Improving fire management using values at risk. Sustainable Forest Management Network Conference. Edmonton, Alberta. June 20-22, 2006.
- Martell, D.L., M. Acuña, W. Cui, C. Palma, D. Robak and A. Weintraub. 2006. Firesmart planning for timber production. Sustainable Forest Management Network Conference. Edmonton, Alberta. June 20-22, 2006.
- Savage, D.W. and D.L. Martell. 2006. Using a dynamic replanning interval strategy to deal with uncertainty in spatial forest management planning. Edmonton, Alberta. June 20-22, 2006.
- Martell, D.L. 2006. Statistical analysis of forest fire activity. Statistical Society of Ottawa SSO 2006 Symposium - New Frontiers in Statistics. Ottawa, Ontario. April 20, 2006 (Invited)
- Martell, D.L. 2005. Dealing with uncertainty in forest management planning. OMNR Forest management planning analyst's meeting. Sault Ste. Marie, Ontario. December 14, 2005.

(Invited)

Martell, D.L. 2005. FireSmart Planning for Timber Production. Department of Rural Economy, University of Alberta. Edmonton, Alberta. December 5, 2005. (Invited)

Martell, D.L. 2005. Adaptive Management of Flammable Forests. Paper presented at INFORMS Meeting, San Francisco, November 13-16, 2005. (Invited)

Acuña, M., Palma, C., Weintraub, A., Martell, D.L., and W. Cui. 2005. Integrated Timber Harvest and Fire Management Planning. Paper presented at INFORMS Meeting, San Francisco, November 13-16, 2005. (Invited)

Martell, D.L. 2005. Incorporating Uncertain Fire Impacts in Timber Supply Analyses. Paper presented at Risky Business: Supplying Forest Values in the Face of Uncertainty. Saskatoon, Saskatchewan, October 17-18, 2005. (Invited)

Martell, D.L. 2005. FireSmart Forest Management in Timber Production and Wildland Urban Interface Areas. Special lecture for visiting delegation from the Forestry Bureau of Hebei Province, China. Faculty of Forestry, University of Toronto. October 12, 2005.

Podur, J.J. and D.L. Martell. 2005. A simulation model for large forest fire management. Paper presented, . 17th Triennial Conference of the International Federation of Operational Research Societies. Honolulu, Hawaii, July 11-15, 2005. (Invited)

Martell, D.L. 2005. Forest Management Planning Under Uncertainty. FOR@C Summer School. Université Laval, Quebec, June 16 – 17, 2005. (Invited)

Martell, D.L. 2005. Operational Research and Forest Fire Management in Canada. Department of Mathematics, Linköpings Universitet. Linköping, Sweden. June 9, 2005. (Invited)

Podur, J.J and D. L. Martell. 2005. Growth and Suppression of Large Forest Fires in Ontario. Poster presented at the Fields Institute Workshop on Forest Fires and Point Processes. Toronto, May 24-28, 2005. (Invited)

Martell, D.L. 2005. Forest Fire Management - A Systems Modelling Perspective. Workshop on Forest Fires and Point Processes. The Fields Institute. Toronto, Ontario. May 24, 2005 (Invited)

Martell, D.L. 2005. Scenario Planning for Flammable Forests. CORS / SCRO National Conference. Halifax, Nova Scotia. May 16 – 18, 2005. (Invited)

- Martell, D.L. 2004. Spatial forest management planning under uncertainty due to natural disturbance. Alberta SFMN Partners Working Group Meeting. Edmonton, Alberta. December 16, 2004. (Invited)
- Martell, D.L. 2004. The impact of planning model structure on the management of flammable forests. INFORMS, Denver. Oct. 25. (Invited).
- Palma, C., Cui, W., Martell, D.L., Robak, D. and Weintraub, A. 2004. Determining prevention values for forest fires. INFORMS, Denver. Oct. 25. (Invited).
- Martell, D.L. 2004. Spatial forest management planning for landscapes influenced by natural disturbance processes. Paper presented, IPFRA Workshop. Toronto, Ontario. October 13, 2004. (Invited).
- Martell, D.L. 2004. Dealing with uncertainty in sustainable forest management. Paper presented, CIF / SAF Conference. Edmonton, Alberta. October 4, 2004. (Invited)
- Martell, D.L. M. M. Sanchez-Guisandez and W. Cui. 2004. What's the probability that wildfire will threaten my home? Joint Statistical Meetings. Toronto, Ontario. August 9, 2004. (Invited).
- Podur, J., and D.L. Martell. 2004. A simulation model of the growth and suppression of large forest fires in Ontario. CORS/INFORMS International Conference, Banff, Alberta. May 16-18, 2004. (Invited)
- Martell, D.L. 2004. Forest management planning side effects. Legacy Forest Symposium: Legacy Forest Symposium: Challenges for Adopting New Knowledge and Models in Forest Management, Thunder Bay, Ontario. May 12-13, 2004. (Invited)
- Martell, D.L., W. Cui, G. Morita, J.J. Podur, D. Savage and B.M. Wotton. 2004. Fire, Climate Change and Intensive Forest Management. Living Legacy Trust Forest Science: Enhanced Productivity - Knowledge Transfer Workshop. Thunder Bay, Ontario, April 28, 2004. (Invited)
- Martell, D.L. 2004. Operational Research and Forest Fire Management. 3T5 - 5T3 Engineering Alumnae Luncheon. Toronto, January 14, 2004. (Invited)

Wenbin Cui, David L. Martell. 2003. Predicting spatially explicit burn probabilities across forest landscapes under extreme weather conditions. November 18-20, 2003, Toronto, Ontario Canada

Espinoza, Ana C., Wenbin Cui and David L. Martell. 2003. Assessing the ecological implications of FireSmart Fire Management. Paper presented at the 2nd International Wildland Fire Ecology and Fire Management Congress. Orlando, Florida November 18, 2003.

Acuña, Mauricio, Cristian Palma, Andrés Weintraub and D.L. Martell. 2003. Integrated timber harvest and fire management planning. Systems Analysis in Forestry Conference. Portland, Oregon. October 6th– 9th 2003. (Invited)

Gruelich, F.E. and D.L. Martell. 2003. Estimating service times for forest fire initial attack airtanker queueing system models. Systems Analysis in Forestry Conference. Portland, Oregon. October 6th– 9th 2003. (Invited)

Beverly, J. L., and D. L. Martell. 2003. Simulation and goal programming models for prescribed surface-fire scheduling in protected white pine stands. Paper presented at the 45th annual Conference of the Canadian Operational Research Society. June 2-4th, 2003, Vancouver. (Invited)

Martell, D.L. 2003. Wildland Fire Management - Challenges and Opportunities for Operational Research and Information Technology. INFORMS Practice Conference. Phoenix, Arizona. May 2 – 5, 2003. (Invited)

Martell, D.L. 2003. Forest Fire Research at the University of Toronto. CIFFC Science & Technology Working Group Meeting. Quebec. September 18-19, 2003. (Invited)

Martell, D.L., B.M. Wotton & K.A. Logan. 2003. People-caused fire occurrence modelling in Ontario. Statistical Society of Canada Conference. Halifax, Nova Scotia. June 10, 2003. (Invited)

Beverly, J.L. and D.L. Martell. 2003. Simulation and goal programming models for prescribed surface-fire scheduling in protected white pine stands. Paper presented at the 45th annual Conference of the Canadian Operational Research Society, June 2-4th, 2003, Vancouver

Beverly, J.L. and D.L. Martell. 2003. Simulation and goal programming models for prescribed surface-fire scheduling in protected white pine stands. Paper presented at the 45th annual Conference of the Canadian Operational Research Society, June 2-4th, 2003, Vancouver

- Martell, D.L. and R.S. McAlpine. 2003. Forest Fire Detection Economics. Fire Detection Workshop. Hinton, Alberta. March 25, 2003
- B.J. Stocks, M.D. Flannigan, B.M. Wotton, J.B. Todd, B.D. Amiro, K.A. Logan, E.M. Bosch, W.R. Skinner, D.L. Martell, and K.G. Hirsch. 2003. Projecting Climate Change-induced Impacts on Future Canadian Forest Fire Regimes. CCAIRN Forest Sector Conference. Prince George, British Columbia. Feb 18, 2003.
- Palma, C., Acuña, M. Weintraub, A, Martell, D., and Cui, W. 2002. Integration of forest and fire management decisions by spatial-strategic models. Paper presented at XI Congreso Latino-iberoamericano De Investigación De Operaciones, Concepcion, Chile.
- Beverly, J.L. and D.L. Martell. 2002. Emulating Natural Disturbance on Flammable Forest Landscapes. Paper presented at Canadian Institute of Forestry Annual Meeting & Conference. North Bay, Ontario. October 2, 2002
- Martell, D.L. and Hua, S. 2002. The Impact of Fuel, Weather and Fire Suppression Effort on the Area Burned by Forest Fires in the Province of Ontario. 4th International Workshop on Disturbance Dynamics in Boreal Forests. Prince George, British Columbia. August 14, 2002.
- Martell, D.L. 2002. Living with uncertainty when managing flammable forest landscapes. IFORS 2002, Edinburgh, Scotland. July 8-12.
- Martell, D.L. 2002. Les Impactes Économiques des Feux sur L'Approvisionnement de Bois. L'Aménagement Forestier et le Feu, Chicoutimi, Quebec, 9,10 et 11 avril, 2002. (Invited)
- Martell, D.L., Wenbin Cui, Kelvin Hirsch and R. McAlpine. 2002. FireSmart Management of Flammable Forest Landscapes. Systems Analysis in Forestry Symposium. Punta de Tralca, Chile. March 2002. (Invited)
- Martell, D.L. 2001. Economic Strategies and Techniques for Fire and Ecosystem Management. Fire in Ecosystem Management. Environmental Training Centre, Hinton, Alberta December 12, 2001. (Invited)
- Martell, D.L. 2001. Some Statistical Aspects of Forest Fire Management. Department of Statistical & Actuarial Sciences, University of Western Ontario. December 6, 2001. (Invited)
- Martell, D.L., B. M. Wotton and Wenbin Cui. 2001 An Investigation of the Effect of Fire

- Suppression on Burned Area in Boreal Forest Landscapes. INFORMS, Miami. Nov 5. (Invited)
- Martell, D.L. 2001. Forest Fire Management: Some Statistical Challenges. Department of Statistics, University of Toronto. October 25, 2001. (Invited)
- Martell, D.L. 2001. Incorporating post burn salvage decision-making into forest management planning systems. Paper presented at CORS 2001, Quebec, Quebec. May 8, 2001. (Invited).
- Martell, D.L. 2001. Using OR to Help Manage Flammable Forests. Paper presented at the Departamento de Ingenieria Industrial, Universidad de Chile, Santiago, Chile, April 18, 2001. (Invited)
- Martell, D.L. 2001. The Impact of Fire on Timber Supply. OMNR Fire Management Symposium Sault Ste. Marie, Ontario. February 27, 2001. To appear in the conference proceedings. R. Janser, Editor. (Invited)
- Martell, D.L. 2001. Forest fire management: why bother? Graduate Seminar, Faculty of Forestry, University of Toronto, February 13, 2001
- Beverly, J.L. and D.L. Martell. 2000. Historical fire cycles in Northwestern Ontario: implications for fire and forest management. Paper presented at the Symposium on Systems Analysis in Forest Resources, Snowmass Village, Colorado September 27-30, 2000. To appear in the conference proceedings. G. Arthaud, Editor.
- Podur, J. D. L. Martell and F. Csillag. 2000. A Preliminary Investigation of the Spatial Pattern of Forest Fires in Ontario. Paper presented at the Symposium on Systems Analysis in Forest Resources, Snowmass Village, Colorado September 27-30, 2000. To appear in the conference proceedings. G. Arthaud, Editor.
- Martell, D.L. 2000. Forest management challenged by fire. Paper presented at CORS 2000. Edmonton, Alberta, May 29, 2000 (Invited Plenary Address and Tutorial).
- Martell, D.L. 2000. The impact of management unit size on forest management planning under uncertainty. Paper presented at INFORMS Spring 2000, Salt Lake City, Utah, May 9, 2000. (Invited).
- Martell, D.L. 1999. Fire impact management planning. Landscape Modelling Workshop. Pacific Forestry Centre, Canadian Forest Service, Victoria, British Columbia. November

- 16, 1999. (Invited keynote address)
- Martell, D.L. and K. S. Islam. 1999. Spatial and temporal analysis of forest fire initial attack systems. INFORMS Philadelphia, November 9, 1999. (Invited)
- Martell, D.L., J. Beverly, T.Griffin, and K.S. Islam. 1999. Forest fire management systems. Poster/Software demonstration. CASCON'99. Toronto, Ontario. November 8 - 11, 1999. (Invited)
- Martell, D.L. 1999. Assessing the Sustainability of Managed Flammable Forests. International Federation of Operational Research Societies 15th Triennial Conference Beijing, China. August 19, 1999 (Invited).
- Martell, D.L. 1999. Operational research and forest fire management policy analysis. Canadian Operational Research Society Annual Conference. Windsor, Ontario. June 8, 1999. (Invited)
- Martell, D.L. 1999. Operational research and forest fire management policy analysis. INFORMS Conference, Cincinnati, Ohio, May 4, 1999. (Invited)
- Martell, D.L. 1998. Sustainable Forest Management: Some Challenges For Operational Researchers. Southwestern Ontario Operations Research Day (SWORD '98), London, Ontario, October 3, 1998. (Invited)
- Rogers, J.S., D. L. Martell, D. Boychuk and R. Saporta. (1998). Simple models of flammable forests. INFORMS Conference, Montreal, Quebec, April 29, 1998. (Invited)
- Martell, D.L. and K. G. Hirsch. (1998) Assessing the impact of fire on timber supply. Alberta Land and Forest Service, Edmonton, Alberta, March 17, 1998. (Invited)
- Martell, D.L. (1998) The impact of fire on sustainable forest management in Alberta. Forest Protection Meeting. Alberta Land and Forest Service, Peace River, Alberta, March 16, 1998. (Invited)
- Martell, D.L. 1997. Fire and forest management systems. Paper presented at the Industrial Mathematics Seminar Series, The Fields Institute, Toronto. November 13, 1997. (Invited)
- Hirsch, K.G., P.N. Corey and D.L. Martell. 1997. Using expert judgement to model initial attack fire crew effectiveness in the boreal forest. The 2nd International Wildland Fire

- Conference, Wildland Fire Management and Sustainable Development, Vancouver, British Columbia, May 25-30. (Poster presentation)
- Islam, K.S. and David L. Martell. 1997. A Daily Airtanker Deployment Model for Forest Fire Control. Paper presented at the INFORMS annual meeting. San Diego, May 6, 1997. (Invited)
- Martell, D.L. 1997. The impact of fire on a managed forest. Paper presented at the INFORMS annual meeting. San Diego, May 6, 1997. (Invited)
- Martell, D.L. 1997. What is sustainable forest management? Invited panel member, Discussion Forum on Sustainable Management of the Boreal Forest. Institute for Environmental Studies & Faculty of Forestry, University of Toronto. April 7, 1997.
- Martell, D.L. 1997. Spatial variation in the area burned by forest fires in Ontario. Ecology Seminar Series. Departments of Botany and Zoology, University of Toronto. March 17, 1997. (Invited)
- Martell, D.L. 1997. Forest fires in Canada. Later Life Learning Lecture Series, "Nature's fury: examining natural disasters". Innis College, University of Toronto. March 13, 1997. (Invited)
- Martell, D.L. 1996. Fire management, timber production and natural processes in the boreal forest region of Canada. Paper presented at the Interior West Fire Council Conference. Saskatoon, Saskatchewan. October 21-24, 1996. (Invited)
- Martell, D.L. 1996. A hierarchical approach to forest fire management in Ontario. Paper presented to Operations Management Seminar Series, Faculty of Management, University of Toronto. September 20, 1996. (Invited)
- Martell, D.L. 1996. Integrated management of airtankers for forest fire control. Paper presented at the IFORS Conference, Vancouver, British Columbia, July 8-12. (Invited National Contribution)
- Islam, K.M.S., and D.L. Martell. 1996. Modelling a daily airtanker deployment problem. Paper presented at the INFORMS annual meeting, Washington, D.C., May 4-8. (Invited)
- Islam, K.M.S., and D.L. Martell. 1996. Finding time-dependant locations for daily deployment of airtankers. Paper presented at Optimization Days, Montreal, May 11-13. (Invited)

- Martell, D. L. 1996. Are people contributing to increased fire activity in Canada? Paper presented at Workshop on Increasing Forest Fire Activity in Canada, Edmonton, April 1-4. (Invited)
- Martell, D.L. 1995. Airtanker decision support systems for forest fire management in Ontario. Paper presented at Ontario Ministry of Natural Resources airtanker management workshop. Sudbury, Ontario, October 24, 1995. (Invited)
- Anderson, K., D.L. Martell and M. Flannigan. 1995. Forest fire occurrence and global warming in the North American boreal forest. Paper presented at the Biomass Burning, Climate Change and the Carbon Cycle in the North American Boreal Forest Workshop. Fairbanks, Alaska, September 11, 1995. (Invited)
- Martell, D.L. and M. Mandelbaum. 1995. Flexible forest management planning. Paper presented at the INFORMS Spring 1995 conference. Los Angeles, California, April 23-26. (Invited)
- Islam, K.M.S., and D.L. Martell. 1995. A daily airtanker deployment model. Paper presented at the Canadian Operational Research Society Annual Conference, Calgary, Alberta, May 16-18.
- Martell, D. L. and D. Boychuk. 1995. Integrated fire and forest management planning. Paper presented at "Northern Exposure", Northern Forestry Program Information Workshop on Practical Results and Technology Development. Timmins, Ontario. March 21, 1995. (Invited)
- Boychuk, D., A.H. Perera, M.T. Ter-Mikaelian, D.L. Martell and C. Li. 1995. Modelling fire disturbance patterns and the dynamics of landscape age distribution. Paper presented at the Impacts of Fire on the Landscape Workshop, Aviation, Flood and Fire Management Branch, Ontario Ministry of Natural Resources, Sault Ste. Marie, Ontario. January 30-31, 1995. (Invited)
- Martell, D.L., D. Boychuk, J.I. MacLellan, B.M. Sakowicz and R. Saporta. 1994. Decision analysis of the level of forest fire protection in Ontario. Paper presented at the Sixth Symposium on Systems Analysis and Management Decisions in Forestry, Pacific Grove, California. September 6-9, 1994.
- Boychuk, D., C. Li, D.L. Martell, A.H. Perera and M.T. Ter-Mikaelian. 1994. Effect of scale and fire disturbance patterns on forest age class distributions. Paper presented at Ontario Forest Research Institute. August 29, 1994. (Invited)

- Martell, D.L. 1994. Evaluating foam: a systems level perspective. Paper presented at the International Wildland Fire Foam Symposium, Thunder Bay, Ontario. May 3, 1994. (Invited)
- Islam, K. and D.L. Martell. 1994. Airtanker home basing under a budget constraint. Paper presented at CORS'94 - Optimization Days. Montreal, Quebec. May 29 - June 1, 1994. (Invited)
- Martell, D.L. 1994. Strategic planning for forest fire management. Paper presented at the Canadian Committee on Forest Fire Management, Economics of Fire Management Workshop, Winnipeg, Manitoba. November 28-30, 1994. (Invited)
- Boychuk, D. and D.L. Martell. 1994. A stochastic programming model of forest management under risk of fire. Paper presented at TIMS/ORSA Joint National Meeting, Boston, Mass. April 27, 1994. (Invited)
- Martell, D.L. 1994. Location and transportation problems in forest fire management. Centre de Recherche sur les Transports. Montreal. March 28. (Invited)
- Boychuk, D. and D.L. Martell. 1994. An evaluation of airtankers for British Columbia using ATM (Airtanker Model). Paper Presented to Forest Protection Branch, British Columbia Ministry of Forests. March 15, 1994. Victoria, British Columbia. (Invited)
- MacLellan, J.I. and D.L. Martell. 1994. Decision support for the home basing of airtankers for forest fire control in Ontario. Mini-Paper Night, Toronto Section, Canadian Operational Research Society. March 9, 1994. (Invited)
- Martell, D.L. 1993. OR applications in forest fire management. Faculty of Administrative Studies, York University. July 14. (Invited)
- Martell, D.L. 1994. Forest fire management systems research. Canadian Committee on Forest Fire Management. Charlottetown, Prince Edward Island. January 21. (Invited)
- Martell, D.L. and D. Boychuk. 1993. Levels of fire protection for sustainable forestry in Ontario. Paper presented at Level of Fire Protection Workshop, Sault Ste. Marie. September 21-22. (Invited)
- MacLellan, J.I. and D. L. Martell. 1993. Basing airtankers for forest fire control in Ontario. Paper presented at the Canadian Operational Research Society Practice Competition, CORS Annual Conference. Halifax, Nova Scotia, May 25 - 27, 1993. Awarded Third Prize. (Invited)

- Boychuk, D. and D.L. Martell. 1993. Timber management with forest fire risk: the effects of policies and forest structure. Paper presented at the Canadian Operational Research Society 35th Annual Conference. Halifax, Nova Scotia, May 25 - 27, 1993. (Invited)
- MacLellan, J.I. and D. L. Martell. 1993. An examination of forest fire airtanker fleet composition over time. Paper presented at the Canadian Operational Research Society 35th Annual Conference. Halifax, Nova Scotia, May 25 - 27, 1993.
- Martell, D.L. 1993. Evaluating forest fire losses and fire management strategies. Paper presented to the Ontario Ministry of Natural Resources, Fire Management Comptrollership Workshop. Sault Ste. Marie, Ontario, March 24, 1993.
- Martell, D.L. 1993. Forest fire management systems workshop. Invited workshop presented at the International Symposium on Systems Analyses and Management Decisions in Forestry. Valdivia, Chile, March 12, 1993.
- Martell, D.L. and A. Tithecott. 1992. The daily deployment of airtankers to fight forest fires in northwestern Ontario. Paper presented at the ORSA/TIMS Joint National Meeting. San Francisco, California, November 2, 1992.
- Martell, D.L. 1992. Operational research supports forest fire management in Ontario. Paper presented at the CORS'92, the Canadian Operational Research Society 34th Annual Conference, Teacher's Workshop. Toronto, Ontario, June 1, 1992.
- Boychuk, D. and D.L. Martell. 1992. A model to assess the effect of a carbon tax on timber management and fire protection decisions in the boreal forest. Paper presented at CORS'92, the Canadian Operational Research Society's 34th Annual Conference, Toronto, Ontario, June 1, 1992.
- Martell, D.L., A. Tithecott and J Caputo. 1991. Airtanker deployment analysis project. Aviation and Fire Management Centre, Ontario Ministry of Natural Resources. Sault Ste. Marie, Ont. March 25, 1991.
- Martell, D.L. 1990. Forest fire management systems. Later Life Learning Lecture Series, "The Earth Sciences Centre: Delight in Research". Department of Public and Community Relations, University of Toronto, December 3, 1990.
- Martell, D.L. 1990. Forest fire management in Ontario. Toronto Board of Education Professional Development Day. Faculty of Forestry, University of Toronto. Nov. 2, 1990.

- Martell, D.L. 1990. The impact of fire on timber supply. 1990 Annual Meeting, Canadian Committee on Forest Fire Management. Sault Ste. Marie, Ontario. January 23-35. (Invited)
- Martell, D.L. and R. G. Davis. 1989. Assessing the impact of a forest fire on timber supply in Ontario. Forestry Research Marketplace. Toronto, Ontario. November 22. (poster)
- Martell, D.L. 1989. Fire and timber supply analysis. Graduate Seminar, Faculty of Forestry, University of Toronto. Toronto, Ontario. November 21. (Invited)
- Martell, D.L. 1989. Assessing the impact of fire on timber supply in Ontario. Forest Resources Group Applied Science and Technology Seminar, Ontario Ministry of Natural Resources, Sault Ste. Marie, Ontario. November 17. (Invited)
- Martell, D.L. 1989. Fire research at the University of Toronto. 7th Annual Meeting, Great Lakes Forest Fire Compact. Toronto, Ontario. August 15. (Invited)
- Martell, D.L. 1989. An evaluation of models used to assess the impact of forest fires on timber supply. 1989 CORS/TIMS/ORSA Joint National Meeting. Vancouver, BC. May 9. (Invited)
- Martell, D.L. 1988. Searching for forest fires with public assistance. 1988 TIMS/ORSA Joint National Meeting. Washington, DC. April 27, 1988.
- Martell, D.L. 1987. Development of a decision-making aid for forest fire detection system managers. Graduate Seminar, Faculty of Forestry, University of Toronto. November 17.
- Martell, D.L. 1986. Decision analysis for forest management in Ontario. Ontario Ministry of Natural Resources Decision Analysis Workshop. Toronto, Ontario. November 3, 1986.
- Martell, D.L. and J. Fortin. 1986. Daily deployment of air tankers for initial attack on forest fires in the province of Quebec. 28th Annual Meeting, Canadian Operational Research Society. Toronto, Ontario. June 2-4, 1986.
- Boychuk, D. and D.L. Martell. 1985. A model to help determine seasonal forest fire fighter requirements in Ontario. 27th Annual Meeting, Canadian Operational Research Society. Halifax, Nova Scotia. May 21 - 23, 1985.
- Booth, D.L. and D.L. Martell. 1984. Daily regional forest fire initial attack crew requirements. TIMS/ORSA Joint National Meeting. San Francisco, California. May 15.

- Martell, D.L. 1983. Computer technology in forest fire management. Northern Ontario Section, Canadian Institute of Forestry. Timmins, Ontario. June 25.
- Drysdale, R.J., D.L. Martell, G.E. Doan and D. Boychuk. 1983. An analysis of a forest fire initial attack system. Annual Meeting, Canadian Operational Research Society. Winnipeg, Manitoba. May 26.
- Martell, D.L. and J.M. Fullerton. 1983. Prescribed burn planning. Great Lakes Forest Research Centre Research Forum. Sault Ste. Marie, Ontario. March 15.
- Martell, D.L. 1982. Operations research in forest fire management. Department of Management Sciences, University of Waterloo. Waterloo, Ontario. November 29.
- Martell, D.L. 1982. Implementing operational research in forest fire management. TIMS/ORSA Joint National Meeting. Detroit, Michigan. April 19.
- Martell, D.L. 1981. Computers and operational research in forest fire management. Parks Canada Fire Management Workshop. Riding Mountain National Park. Wasagaming, Manitoba. May 20.
- Martell, D.L. 1980. Forest management in an uncertain fire environment. Toronto Section, Canadian Operational Research Society. Toronto, Ontario. October 15.
- Martell, D.L. 1980. Operational research studies in forest fire management. Department of Industrial Engineering, University of Toronto. Toronto, Ontario. March 26.
- Martell, D.L. 1979. The optimal rotation of flammable forest stands. 21st Annual Meeting, Canadian Operational Research Society. Montebello, Quebec.
- Martell, D.L. 1978. An operational research approach to planning the use of prescribed fire in forest management. 20th Annual Meeting, Canadian Operational Research Society. Vancouver, British Columbia.
- Bookbinder, J.H. and D.L. Martell. 1977. Time-dependent queueing approach to fighting forest fires. TIMS/ORSA Joint National Meeting. San Francisco, California.
- Cunningham, A.A. and D.L. Martell. 1975. Deciding when to dispatch forest fire detection patrols. 17th Annual Meeting, Canadian Operational Research Society. Waterloo, Ontario.
- Cunningham, A.A. and D.L. Martell. 1974. Eliciting and evaluating subjective probability assessments: an application in forest fire management. 16th Annual Meeting, Canadian

Operational Research Society. Ottawa, Ontario.

THESES SUPERVISED

- Podur, J.J. 2006. Weather, Forest Vegetation, and Fire Suppression Influences on Area Burned by Forest Fires in Ontario. Ph.D. Thesis, Faculty of Forestry, University of Toronto.
- Espinoza, A.C. 2005. Assessing the Effects of FireSmart Forest Management Strategies on the Habitat for Three Wildlife Species Near Whitecourt, Alberta. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Sanchez-Guisandez, M.A. 2004. FireSmart Management of Flammable Wildland Urban Interface Landscapes. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Okalebo, J.A. 2004. Optimizing the Production of a Zea Mays-Grevillea Robusta Alley Cropping System with the Wanulcas Model using a Tabu Search Heuristic. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto. (Co-supervisor)
- Wotton, B.M. 2004. Predicting Forest Fire Occurrence in Ontario. Ph.D. Thesis, Faculty of Forestry, University of Toronto.
- Beverly, J.L. 2003. Modeling Fire Regimes for Fire Management in Protected Areas. Ph.D. Thesis, Faculty of Forestry, University of Toronto.
- Ahmed, G.U. 1999. Decision analysis for Bangladesh coastal afforestation. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Beverly, J.L. 1998. Management and history of fire in Wabakimi provincial park, Northwestern Ontario. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Islam, K.M.S. 1998. Spatial dynamic queueing models for the daily deployment of airtankers for forest fire control. Ph.D. Thesis, Department of Mechanical and Industrial Engineering, University of Toronto. (co-supervised with M.J.M. Posner)
- Hirsch, Kelvin. 1996. Initial attack fire crew effectiveness in the boreal forest region of Western and Central Canada. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Saporta, Rica. 1995. Escaped fire situation analysis - a forest level perspective. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.

- MacLellan, J. 1993. Basing airtankers for forest fire control in Ontario. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Boychuk, D. 1993. Modelling the effects of forest fire risk and insect protection on timber supply. Ph.D. Thesis, Faculty of Forestry, University of Toronto.
- Davis, R.G. 1991. A decision support system to help forest managers design and implement silvicultural strategies. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Fortin, J. 1989. Daily deployment of air tankers for initial attack on forest fires in the province of Quebec. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Lynham, T.J. 1987. An analysis of annual people-caused forest fire occurrence in Ontario. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Sichinga, J.J. 1987. A model for determining an economically optimal cutting and regeneration schedule for a forest management agreement in Ontario. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto. Co-supervisor.
- Boychuk, D. 1985. A model to help determine seasonal forest fire fighter requirements in Ontario. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Fullerton, J.M. 1983. A planning methodology for evaluating site preparation, regeneration and tending strategies for jack pine sand flat cutovers. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.
- Booth, D.L. 1983. A model to help determine daily regional forest fire initial attack crew requirements. M.Sc.F. Thesis, Faculty of Forestry, University of Toronto.

Professional Administrative Activities	Years
Member Timber Supply and Protection Working Group of the Ontario Forestry Research Committee	1989-1991
Member Fire Management Working Group of the Ontario Forestry Research Committee	1989-1991
Member Resource Allocation, Inventory and Growth and Yield Working Group of the Ontario Forestry Research Committee	1988-1991
Member Scientific and Technical Working Group, Plonski Forest Management Decision Support System project	1989-1991
Participated in a scientific review of the fire research program at the Great Lakes Forestry Centre of Forestry Canada	1989-1990
Member Protection Sub-committee of the Ontario Forestry Research Committee	1987-1989
Member Protection Committee of the Ontario Forestry Association	1985-1989
Participated in a scientific review of the fire research program at the Great Lakes Forest Research Centre of the Canadian Forestry Service 1986-1987	
Member AUCC Committee on Electronic Communications	1985-1987
Member Fire Management Sub-committee of COJFRC	1985-1987
Member Forest Technical Committee of the National Fire Protection Association	1983-1988
Participated in a scientific review of the fire research program at the Great Lakes Forest Research Centre of the Canadian Forestry Service	1984-1985
Participated in a scientific review of the fire research program at the Great Lakes Forest Research Centre of the Canadian Forestry Service 1982-1983	
Participated in the presentation of an Ontario Ministry of Natural Resources course on prescribed burn planning	1981-1982
Participated in a scientific review of the fire research program at the Petawawa National Forestry Institute of the Canadian Forestry Service 1981-1982	
Participated in the development and presentation of an Ontario Ministry of Natural Resources course on prescribed burn planning	1980-1981
Co-chair of the Faculty of Forestry and Landscape Architecture Hartt Commission Working Group That Prepared A Brief for Submission to the Ontario Royal Commission on the Northern Environment 1977-1978	
Participated in the deliberations of a task force on fire damage appraisal convened under the auspices of the National Research Council Canadian Committee on Forest Fire Control	1976-1977
Participated in the deliberations of a drought assessment committee convened under the auspices of the Forest Fire Control Branch of the Ontario Ministry	

Memberships on Committees, Boards, or Policy-making Bodies

Member, College of Reviewers for the Canada Research Chairs (2000 - present)

Member of the NSERC Industrial Engineering Grant Selection Committee (July 1, 1993 - June 30, 1996) and chair (July 1, 1995 - June 30, 1996).

Member of Ontario Graduate Scholarship 1997-98 competition panel.

Member, Ontario Forest Policy Advisory Committee (2001-present)

MITACS College of Reviewers, July 2007 - present

Memberships in Scientific and Professional Societies

Canadian Institute of Forestry

International Association of Wildland Fire

INFORMS

Association for Fire Ecology

Canadian Operational Research Society;

- Past President (2003-2004)
- President (2002-2003)
- Vice President (2001-2002)
- Education Chair, Toronto Section (1975-76)
- Toronto Section Representative to National Council (1976-77)
- Member Council, Toronto Section (1988-1989)
- Program Chair, Toronto Section (1989-91)
- National Council Member and Chair of Membership Committee 1997-1999
- Toronto Section President (1999-2004)
- Member, Committee to Review the Future of INFOR