

CURRICULUM VITAE – JUNE 2015

MARTIN E. ALEXANDER, PhD, RPF

180 – 50434 Range Road 232, Leduc County, Alberta T4X 0L1

Home ph: 780-417-0244; Cell ph: 780-298-0952; E-mail: mea2@telus.net

Skype: marty.alexander89

https://www.frames.gov/applied_fire_behavior

TABLE OF CONTENTS

PROFILE	2
SOME OUTSTANDING CAREER ACCOMPLISHMENTS TO DATE.....	3
UNIVERSITY EDUCATION.....	4
PROFESSIONAL TRAINING COURSES.....	4
AWARDS AND OTHER HONOURS.....	4
PROFESSIONAL SOCIETIES AND ORGANIZATIONS.....	5
PROFESSIONAL EMPLOYMENT RECORD.....	5
SEASONAL AND PART-TIME EMPLOYMENT RECORD.....	6
UNIVERSITY APPOINTMENTS	6
UNIVERSITY GRADUATE STUDENTS SUPERVISED.....	7
MAJOR GROUP AND COMMITTEE ACTIVITIES.....	7
OTHER PROFESSIONAL SERVICES.....	9
INVITED SPEAKER PRESENTATIONS AND CONFERENCE/WORKSHOP MODERATOR.....	10
TECHNOLOGY AND INFORMATION TRANSFER ACTIVITIES	21
LIST OF PUBLICATIONS.....	26
Peer-Reviewed Scientific Journal Articles and Conference Proceedings Papers.....	26
Invited Articles and Papers.....	31
Agency Reports and Publications.....	33
Special Publications.....	37
Books.....	41
Book Chapters.....	42
Symposium, Conference and Workshop Proceedings Papers.....	44
Technical and Popular Articles.....	53
Conference and Workshop Abstracts and Extended Abstracts.....	58
Miscellaneous Reports and Publications.....	67
Web-based Essays and Presentations.....	72
Software Programs.....	78
WEBSITES.....	78

PROFILE

Dr. Alexander retired from Natural Resources Canada in November 2010 following a 34.5 year career in fire research with the Canadian Forest Service (CFS). At the time, he was a Senior Fire Behavior Research Officer stationed at the Northern Forestry Centre in Edmonton, Alberta. His work has taken him to many parts of the world, including the continental USA and Alaska, Australia, New Zealand, Portugal, Greece, Italy, Fiji, and Turkey, as well as every Canadian province and territory.

As a former member of the CFS Fire Danger Group (1981-1995), Dr. Alexander is considered an authority on the Canadian Forest Fire Danger Rating System (CFFDRS) and was one of the architects of the Canadian Forest Fire Behavior Prediction (FBP) System. He served as one of the research coordinators for the International Crown Fire Modelling Experiment (ICFME) project that took place in the Northwest Territories from 1995-2001. Dr. Alexander has also been heavily involved in wildland fire behavior training on a regional, national, and international basis (e.g., Alberta Forest Service course, CD-ROM based courses, national CIFFC sponsored courses, ICFMR short courses).

In 2003, Dr. Alexander received the Wildland Fire Safety Award from the International Association of Wildland Fire for his research and efforts in fire behavior and firefighter safety. In 2005, he was identified in the book *Forest Fires: A Reference Handbook* as one of the 23 individuals that have influenced wildland fire policy and knowledge globally and one of only two Canadians. In 2010, Dr. Alexander received the Canadian Forestry Achievement Award from the Canadian Institute of Forestry; this award recognizes unique and outstanding achievements in forestry in Canada.

His primary research interests remain as wildland fire behavior and forest/grassland fire danger rating, including the practical and scientific application of such knowledge to fire/fuel management and other disciplines, including public and firefighter safety. Dr. Alexander continues to publish on these subjects. He recently contributed three chapters on fire behavior for a book published by Wiley-Blackwell in January 2014 entitled *Fire on Earth: An Introduction* (www.wiley.com/go/scott/fireonearth).

Since retiring from the CFS, Dr. Alexander has continued his involvement with other universities and other forestry and fire organizations. He is presently serving as an Honorary Research Associate with the Faculty of Forestry and Environmental Management at the University of New Brunswick and as a full Adjunct Professor in the Department of Wildland Resources at Utah State University. Dr. Alexander was a member of the International Association of Wildland Fire Board of Directors from 2008-2013 and the Editorial Advisory Committee for the *International Journal of Wildland Fire* from 2009-2013. He has served as *The Forestry Chronicle* Associate Editor for wildland fire science and management since 2007 and in 2014 was appointed the Section Editor of fire science and management for *Current Forestry Reports*.

Prior to joining the CFS he worked for the USDA Forest Service for two seasons as a member of the Bighorn NF inter-regional hotshot crew (1972 and 1973), for two

academic terms in fire danger rating research (1972-3 and 1973-4, and following university graduation in wilderness fuel inventory and slash burning (1974).

Marty and wife Heather have been married (since November 1975) for 39 years now and have four grown children: Neal (January 1987), Evan (December 1988), Graeme (March 1992) and Wynne (August 1994). They live on an acreage at the very southern extent of the boreal forest in western Canada.

SOME OUTSTANDING CAREER ACCOMPLISHMENTS OF A PRACTICAL NATURE TO DATE

- Co-authored a prescribed burning fuels and fire behavior documentation manual that has come to be emulated by many other organizations in Canada.
- Popularized the wildfire behavior case study concept within Canada and elsewhere.
- Conceived the concept of the Canadian Forest Fire Danger Rating System (CFFDRS) Users' Guide which has come to be replicated by others (e.g., Southeast Asia Fire Danger Rating System Project).
- Contributed to the development of several fire management applications and interpretive aids related to the CFFDRS, nationally as well as globally.
- Co-editor of a major revision to the Canadian glossary of forest fire management terms.
- Initiated and coordinated a series of technical and scientific fire weather seminars in central and western Canada designed to enhance information and technology transfer of fire research results.
- Developed a 6-category fire intensity class or rank system for describing and communicating fire behavior information used operationally nation-wide (e.g., <http://bcwildfire.ca/FightingWildfire/firerank.htm>) and globally by fire managers, fire behavior analysts (FBAN), and other fire researchers.
- Co-authored the popular Canadian FBP System "Red Book" field guide which has come to be copied by others nationally and internationally.
- One of the co-founders of the two national CIFFC sponsored fire behavior training courses – *Advanced Wildland Fire Behavior* and *Wildland Fire Behavior Specialist* – and involved in the training of several generations of fire operations staff and FBANs.
- Charged with reinitiating the rural fire research programme in New Zealand, including the hiring and training of staff.
- Played a key role as part of the development teams associated with the national CD-ROM based training courses in fire behaviour, firefighter safety, and fire danger rating.
- Co-developer of a new generation of practical-oriented models and system software such as *Crown Fire Initiation and Spread (CFIS)* for predicting crown fire initiation and spread as well as other aspects of extreme fire behavior.
- Lead or co-lead of three national experimental burning projects in black spruce and jack pine-black spruce fuel types in western and northern Canada.
- Co-coordinated several special issues of *Fire Management Today* dealing with wildland fire behavior.

UNIVERSITY EDUCATION

- B.Sc., Forest Management Science, Colorado State University, 1974.
- M.Sc., Forest Fire Science, Colorado State University, 1979. (Thesis title: Fuels Description in Lodgepole Pine Stands of the Colorado Front Range)
- Ph.D., Forestry, Australian National University, 1998. (Thesis title: Crown Fire Thresholds in Exotic Pine Plantations of Australasia)

PROFESSIONAL TRAINING COURSES

- USDA Forest Service – Intermediate Fire Behavior (S-390), April 1975.
- USDA Forest Service – Fire Behavior Officer (S-590), December 1979.
- University of Alberta, Faculty of Extension – Be an Effective Expert Witness, November 1999.

AWARDS AND OTHER HONOURS

- Colorado State University Undergraduate Scholarship Grant, 1971-74
- Society of American Foresters – Central Rocky Mountain Section Essay Scholarship, 1972
- Daniel Boone Conservation League Scholarship, 1973/74
- Minister of State for Forestry and Mines Letter of Commendation, for efforts related to the development of the Canadian Forest Fire Danger Rating System, 1988.
- Australian National University Ph.D. Scholarship, 1989-92
- Forestry Canada Certificate of Appreciation (for role in the Fire Danger Group), 1990
- Joseph William Gottstein Memorial Trust Fund Fellowship (Australian forest industry), 1991
- Associate Editor, *International Journal of Wildland Fire*, 1993-2002
- Forest and Rural Fire Association of New Zealand – Honorary Life Member, 1993
- Canadian Forest Service Merit Award – Partnerships & Team Achievements for the International Crown Fire Modelling Experiment, 1997
- Natural Resources Canada Departmental Award for the International Crown Fire Modelling Experiment, 1997
- Consulting Editor (Fire Behavior), *Wildfire* magazine, 1997-2000
- VIDEOfUEGO “Golden Firefighter” International Award for Best Multimedia CD-ROM Program of Formation for *Wildland Fire – Safety on the Fireline*, 2001
- VIDEOfUEGO Special Mention (For Quality) Award for Best Multimedia CD-ROM Program of Formation for *Principles of Fire Behavior*, 2001
- International Wildland Fire Safety Award and Life Member – International Association of Wildland Fire, 2003
http://www.wildfirelessons.net/documents/Marty_Alexander_2003IntlWildlandFireSafetyAward.pdf
- Recognized in *Forest Fires: A Reference Handbook* authored by Dr. P.N. Omi (2005) as one of the 23 individuals that have influenced wildland fire policy and knowledge globally and one of only two Canadians.

- Associate Editor (Wildland Fire Science and Management), *The Forestry Chronicle*, 2007 to present
- Canadian Interagency Forest Fire Centre Award (recognizing contributions to national wildland fire behavior training dating back to 1995), 2008
<http://pubs.cif-ifc.org/doi/abs/10.5558/tfc84432-3?journalCode=tfc>
- Canadian Forestry Achievement Award – Canadian Institute of Forestry, 2010
<http://cif-ifc.org/site/awardsrecipients2010>
<http://pubs.cif-ifc.org/doi/pdf/10.5558/tfc86682a-6>
- Section Editor (Fire Science and Management), *Current Forestry Reports*, 2014 to present

PROFESSIONAL SOCIETIES AND ORGANIZATIONS

- Canadian Institute of Forestry, 1976 – Present
- Xi Sigma Pi Honorary (Forestry), 1975
- College of Alberta Professional Foresters (Member No. 165), 1986 – Present
- International Association of Wildland Fire, 1991 – present (made Life Member in 2003)
- Forest and Rural Fire Association of New Zealand, 1991 – present (made Honorary Life Member in 1993)
- Forest History Association of Alberta, 2012 - present

PROFESSIONAL EMPLOYMENT RECORD

March 1998 – November 2010. Senior Fire Behavior Research Officer (FO-3), Canadian Forest Service, Northern Forestry Centre, Edmonton, Alberta.

April 1996 – Present: Fire Guardian (part time), New Sarepta Rural Fire Response Area, County of Leduc Fire Services, Province of Alberta, Canada.

January 2004 – January 2006: Senior Researcher, Wildland Fire Operations Research Group, Forest Engineering Research Institute of Canada – Western Division, Hinton Alberta (on secondment from Canadian Forest Service).

March 1981 – March 1998: Fire Behavior Research Officer (FO-2), Canadian Forest Service, Northern Forestry Centre, Edmonton, Alberta (fire danger rating and fire behavior).

April 1992 – April 1993: Visiting Fire Research Scientist, New Zealand Forest Research Institute, Forest Technology Division, Rotorua, New Zealand (on secondment from Canadian Forest Service).

August 1989 – April 1992: Visiting Fire Researcher, Bushfire Research Unit, CSIRO Division of Forestry, and Ph.D. Scholar, Department of Forestry, Australian National

University, Canberra, A.C.T., Australia (on career development/educational leave from Forestry Canada).

May 1976 - March 1981: Fire Research Officer (FO-1/-2), Canadian Forestry Service, Great Lakes Forest Research Centre, Sault Ste. Marie, Ontario (wildfire ecology/effects and fire behavior).

January 1975 – May 1976: Graduate Research Assistant, Fire Science Program, Department of Forest and Wood Sciences, Colorado State University, Fort Collins, Colorado (lightning fire report analysis and natural fuel estimation).

SEASONAL AND PART-TIME EMPLOYMENT RECORD

July-August 1971: Student Forestry Worker, Domtar Woodlands Ltd., Lebel-sur-Quevillon, Quebec (pre-commercial thinning).

September 1971 – June 1972: Student Forestry Aid, Colorado State University, Department of Forest & Wood Sciences and Colorado State Forest Service, Fort Collins, Colorado (technical assistant to biometry/dendrology professors and fire protection staff forester).

June – September 1972: Fire Control Aid (GS-3), USDA Forest Service, Inter-regional Fire Suppression Crew, Bighorn National Forest, Greybull Ranger District, Greybull, Wyoming.

September 1972 – June 1973: Forestry Research Aid (GS-3), USDA Forest Service, National Fire-Danger Rating Research Work Unit, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

June – September 1973: Forestry Technician (Fire Control) (GS-4), USDA Forest Service, Inter-regional Fire Suppression Crew, Bighorn National Forest, Greybull Ranger District, Greybull, Wyoming.

September 1973 – June 1974: Forestry Research Technician (GS-4), USDA Forest Service, National Fire-Danger Rating Research Work Unit, Rocky Mountain Forest and Range Experiment Station, Fort Collins, Colorado.

June – November 1974: Supervisory Forestry Technician (GS-5), USDA Forest Service, Nezperce National Forest, Grangeville, Idaho. (fuel sampling and slash burning)

UNIVERSITY APPOINTMENTS

July 1999 – June 2015: Adjunct Professor (Wildland Fire Science and Management), Department of Renewable Resources, University of Alberta, Edmonton, Alberta.

March 2002 – Present: Honorary Research Associate (Wildland Fire Science and Management), Faculty of Forestry & Environmental Management, University of New Brunswick, Fredericton, New Brunswick.

September 2011 – Present: Adjunct Professor (Wildland Fire Science and Management), Department of Wildland Resources, Logan, Utah.

January-April 2001 & January-February 2002: Sessional Lecturer (Forest Fire Management Course, FOR 340), Department of Renewable Resources, University of Alberta, Edmonton, Alberta.

UNIVERSITY GRADUATE STUDENTS SUPERVISED

- Mr. W.G. Page, PhD, Utah State University, Logan, 2011-2014. Thesis title: Bark Beetle-induced Changes to Crown Fuel Flammability and Crown Fire Potential.
- Mr. S.M. Frost, MSc, Utah State University, Logan, 2013 to present. Thesis project: Camp Williams (Utah) fuel model mapping and treatment evaluations
- Mr. J.R. Forsythe, MSc, University of New Brunswick, Fredericton, 2010 to 2014. Thesis project: Employing statistics to determine relative spatial accuracy of wildfire predictions. [forced to withdraw due to health problems.]
- Ms. A. Arndt, PhD, University of Natural Resources and Life Sciences, Vienna, Austria, 2008 to present. Thesis project: Development of a forest fire hazard model for Austria.
- Ms. N. Lavoie, PhD, University of Alberta, Edmonton, 1997-2004. Thesis title: Variation in Flammability of Jack Pine/Black Spruce Forests With Time Since Fire.
- Mr. M.G. Cruz, MSc, University of Montana, Missoula, 1998-1999. Thesis title: Modeling the Initiation and Spread of Crown Fires.
- Ms. B. Wilmore, MSc, University of Alaska – Fairbanks, 1998-2000. Thesis title: Duff Moisture Dynamics in Black Spruce – Feathermoss Stands and Their Relation to the Canadian Forest Fire Danger Rating System.
- Mr. M.G. Cruz, PhD, University of Montana, Missoula, 2000-2004. Thesis title: Ignition of Crown Fuels Above a Spreading Surface Fire.
- Ms. S. Niven, MSc, University of Alberta, Edmonton, 2001-2005. Thesis project: heat transfer and wildland firefighter safety zones. [forced to withdraw due to personal reasons.]
- Mr. K. Abbott, MSc, University of New Brunswick, Fredericton, 2001-2005. Thesis title: Fire Danger Monitoring in a Northern Boreal Forest Region Using RADARSAT-1 Imagery.
- Mr. S.G. Otway, MSc, University of Alberta, Edmonton, 2003-2005. Thesis title: Aspen Forest Duff Moisture Depletion and Ground Fire Potential.

MAJOR GROUP AND COMMITTEE ACTIVITIES

- Member, Canadian Forestry Service Fire Danger Group, 1981-1995

- Canadian Forestry Service Representative, Subcommittee on Glossary of Forest Fire Management Terms - Fourth Edition, Canadian Committee on Forest Fire Management, 1985-1987
- Member, Alberta Forest Service Task Force on Pre-suppression Preparedness System 5-Year Review, 1987-1988
- Co-chair, Local Steering Committee for First Interior West Fire Council Annual Meeting and Workshop, 1987-1988
- Chair, Task Group on Glossary of Forest Fire Management Terms, Canadian Committee on Forest Fire Management, 1993-1997
- Course Chair, CIFFC sponsored National Advanced Wildland Fire Behavior Course, 1995-1998
- Course Chair, CIFFC sponsored National Wildland Fire Behavior Specialist Course, 1996-2004
- Canadian Forest Service Representative, National Content/Review Team, *Principles of Fire Behavior* and *Intermediate Fire Behavior*, S-290 CD-ROM Training Courses, 1997-1998
- Member of Organizing and Advisory Committee, III International Conference on Forest Fire Research/14th Conference on Fire & Forest Meteorology, Luso, Portugal – 1998.
- Canadian Forest Service Representative, National Content/Review Team, *Wildland Fire – Safety on the Fireline* CD-ROM Training Course, 1998-1999
- Co-chair, Local Steering Committee, 13th Interior West Fire Council Annual Meeting & Workshop, 1999-2000
- Chair, Subcommittee on Spotting and Breaching, PROMETHEUS (Canadian Wildland Fire Growth Model) Project, 1999-2004
- Member (CFS Representative), National Content/Review Team, *Understanding the Fire Weather Index (FWI) System* CD-ROM Training Course, 2000-2002
- Canadian Forest Service Representative, Research Advisory Committee (ACFIRE) for FERIC Wildland Fire Operations Research Centre, 2001-2003
- Member of Organizing Committee, IV International Conference on Forest Fire Research/2002 Wildland Fire Safety Summit, Luso, Portugal – 2002.
- Co-Investigator (Crown Fire Modelling), European Economic Commission sponsored Forest Fire Spread Prevention and Mitigation – SPREAD Project, 2002-2005
- Member of Standing Committee on Wildland Fire Safety Award, International Association of Wildland Fire, 2004 to present.
- Member of Steering Committee & Proceedings Co-editor, Eighth International Wildland Fire Safety Summit, Missoula, MT – 2005
- Member of Organizing Committee, V International Conference on Forest Fire Research, Figueira da Foz, Portugal – 2006.
- Member, USDA Forest Service Wildland Fire R&D Program Review Panel, 2007
- Member, International Advisory Committee, European Economic Commission sponsored FIRE PARADOX Project, 2008-2010
- Member, Board of Directors, International Association of Wildland Fire, 2008-2013
- Subject Matter Expert (Wildland Fire Research, Fire Behavior, Firefighter Safety) for International Association of Wildland Fire, 2008 to present

- Member, Steering Committee, *The '88 Fires: Yellowstone and Beyond*, International Association of Wildland Fire, 2008
- Member, Editorial Advisory Committee of the *International Journal of Wildland Fire*, 2009-2013
- Program Committee Chair, 3rd Fire Behavior and Fuels Conference, International Association of Wildland Fire, 2009-2010
- Member of Organizing Committee, VI International Conference on Forest Fire Research, Coimbra, Portugal – 2010
- Member, New Sarepta Fire District Advisory Committee, County of Leduc, Alberta, 2010-2013.
- Program Committee Co-Chair, 11th International Wildland Fire Safety Summit, 2010-2011
- Member, Advisory Board, Kastamonu University Journal of Forestry Faculty (Turkey), 2011 to present
- Chair, International Wildland Fire Safety Award Selection Committee, International Association of Wildland Fire, 2012 to present (member since 2003)
- Member, Scientific and Professional Committee, V and VII Annual National Symposium on Forest Fires, La Nucia (Alicante), Spain, 2012 and 2014
- Member, Steering Committee, Large Wildland Fires: Social, Political & Ecological Effects Conference, International Association of Wildland Fire/Association of Fire Ecology, Missoula, MT – 2013-2014
- Member of Scientific Committee, VII International Conference on Forest Fire Research, Coimbra, Portugal – 2014

OTHER PROFESSIONAL SERVICES

- Peer-Reviewer for Scientific and Technical Journals (e.g., *Annals of Forest Service; Atmospheric Chemistry and Physics, Australian Forestry; CALMScience; Canadian Journal of Forest Research; Ecology; Environmental Modelling & Software; European Journal of Forest Research; Fire Technology; Forest Ecology and Management; Forest Science; Forestry Chronicle; International Journal of Forest Research; International Journal of Wildland Fire; Journal of Forestry; Journal of Vegetation Science; Landscape and Ecological Engineering; Natural Hazards, New Zealand Journal of Forestry Science; Oral History Forum; Southwestern Naturalist; and Western Journal of Applied Forestry*).
- Peer-Reviewer for Australian Bushfire Cooperative Research Centre on report on February 7, 2009 Black Saturday Fires in Victoria.
- External Reviewer for several PhD Dissertations and Theses.
- External Reviewer for several promotion reviews of Scientists and University Professors.
- External Reviewer for U.S. Joint Fire Science Program, U.S. National Science Foundation, U.S. Department of Defense, Alberta Innovation Program, and Natural Sciences and Engineering Research Council of Canada proposals.

- Expert Witness and Technical Advisor for several legal cases in Canada and New Zealand.
- Numerous media interviews (e.g., BBC, CBC, Discovery Channel Canada).
- Expert Consultant for European Commission Joint Research Centre.
- Contributed to the Preliminary Assessment of the Application of the Canadian Forest Fire Danger Rating System (CFFDRS) to Alaskan Ecosystems) undertaken by Dr. J. Wolken, University of Alaska. (https://www.frames.gov/documents/catalog/wolken_2014.pdf)

INVITED SPEAKER PRESENTATIONS AND CONFERENCE/WORKSHOP MODERATOR

Invited Speaker: presentation on “Wildfire Ecology/Effects Research at the Great Lakes Forest Research Centre”, Forest Fire Management in Ontario -- A State of the Art Seminar, Geneva Park, ON, Feb 1979.

Invited Guest Lecturer: presentation on “Linking Fire Behavior to Fire Effects”, Vegetation and Wildlife Interrelations Course, University of Guelph, Guelph, ON, Nov. 1979.

Session Moderator: USDA Forest Service/University of Arizona Fire History Workshop, Tucson, AZ, Oct. 1980.

Invited Guest Lecturer: presentation on “Canadian Forest Fire Danger Rating System”, Forest Fire Management Course, University of Alberta, Edmonton, AB, Feb. 1982.

Invited Speaker: presentation on “Forest Fire Danger and Behavior Rating in the Northwest Territories”, Fire Weather Awareness Seminars (Atmospheric Environment Service), AES Western Region Office, Edmonton, AB, Apr. 1983.

Invited Guest Lecturer: presentation on “Current CFS Fire Research Activities”, Fire Control Course, Forest Technology School, Hinton, AB, Feb. 1984.

Invited Guest Lecturer: presentation on “Fire Documentation in Relation to Ecological Studies”, Advanced Fire Ecology Course (FOR 546), University of Alberta, Edmonton, AB, Nov. 1984.

Invited Speaker: presentation on “Canadian Forest Fire Danger Rating System”, Fire Behavior for Fire Managers Course (Indian & Northern Affairs Canada), Yellowknife, NWT, Jan. 1985.

Invited Guest Lecturer: presentation on “Current CFS Fire Research Activities”, Fire Control Course, Forest Technology School, Hinton, AB, Feb. 1985.

Invited Speaker: presentations on physics of forest fires, Canadian Forest Fire Danger Rating System and 1968 Lesser Slave Lake Fire, Keeping Current A Fire Management Workshop (Alberta Forest Service), Forest Technology School, Hinton, AB, Feb. 1985.

Invited Speaker: presentation on Canadian Forest Fire Danger Rating System applications, Mountain Fire Workshop (Alberta Forest Service), Forest Technology School, Hinton, AB, Feb. 1986.

Session Moderator: 9th American Meteorological Society-Society of American Foresters Joint Conference on Fire and Forest Meteorology, San Diego, CA, Apr. 1987.

Invited Speaker: presentation on “A Review of Canadian Forestry Service Prescribed Fire Research in Alberta: 1965-1969”, Prescribed Burning Workshop - Forest Management Applications (Alberta Forest Service), Forest Technology School, Hinton, AB, Sept. 1987.

Invited Guest Lecturer: presentation on “Canadian Forest Fire Danger Rating System”, Forest Fire Management Course (FOR 340), University of Alberta, Edmonton, AB, Feb. 1989.

Invited Guest Lecturer: presentation on “Forest Fire Behaviour Research in Canada”, ADFA Bushfire Seminar, University College, UNSW, Australian Defence Force Academy, Canberra, ACT, Australia, May 1990.

Invited Speaker: presentation on “Fire Research in Support of Fire Management in Canada”, Seventh National Conference of the Australian Association of Rural Fire Authorities, Canberra, ACT, Australia, May 1990.

Invited Speaker: presentation on “Crown Fire Initiation and Spread: Experience in Canadian Forests and Relevance to Australian Exotic Pine Plantations”, Australian Forestry Council Research Working Group (RWG) No. 6 - Fire Management Research Workshop on “Plantation Fire Management: Opportunities for Research”, Victor Harbour, SA, Australia, July 1990.

Invited Guest Lecturer: seminar presentation on “Fire Behaviour Research in Western and Northern Canada”, Fire Protection Branch, Department of Conservation and Environment, Melbourne, VIC. Australia, Sep. 1990.

Invited Speaker: presentation on “Canadian Forest Fire Danger Rating System”, New Zealand Fire Service - Rural Fire Division sponsored seminars on Fire Danger Rating @ Auckland, Rotorua, Palmerston North, Dunedin, Christchurch, Nelson and Wellington, New Zealand, Oct. & Nov. 1990.

Invited Speaker: seminar presentation on “Fire Behavior in Exotic Pine Plantations of Australasia”, Department of Forestry, Australian National University, Canberra, ACT, Australia, Oct. 1991.

Invited Speaker: seminar presentation on “Crown Fires in Pine Plantations”, Country Fire Authority of Victoria, Melbourne, VIC, Australia, Nov. 1991.

Invited Speaker: seminar presentation on “Wildfires and Fire Danger Rating”, Meteorological Service of New Zealand, Head Office, Wellington, New Zealand, May 1992.

Invited Speaker: presentation on “Fire Behaviour Research for Fire Management Purposes”, Department of Conservation Science Research Division 1992 Seminar Series, Wellington, New Zealand, July 1992.

Invited Speaker: presentation on “Applying the Fire Weather Index System to the Urban-Rural Interface in New Zealand”, New Zealand Fire Service Commanders' Seminar, Marton, New Zealand, July 1992.

Invited Speaker: presentation on “Crown Fire Behaviour in Exotic Pine Plantations of Australasia”, University of Canterbury, School of Forestry Lunchtime Seminar Series, Christchurch, New Zealand, Aug. 1992.

Invited Guest Lecturer: presentation on “The Role of Fire Danger Ratings in Forest Land Management”, Advanced Silviculture Course, School of Forestry, University of Canterbury, Christchurch, New Zealand, Aug. 1992.

Invited Speaker: presentation on “The Science of Wildland Fire Behaviour”, Lincoln University, Department of Natural Resources Engineering Seminar Series, Lincoln, New Zealand, Aug. 1992.

Invited Keynote Speaker: presentation on “Fire Behaviour as a Factor in Forest and Rural Fire Suppression”, 1992 Annual Conference of the Forest and Rural Fire Association of New Zealand, Christchurch, New Zealand.

Invited Speaker: presentation on “Progress Report on the Fire Research Programme at FRI”, Fourteenth Meeting of FAFPRO Forest Technology Board, New Zealand Forest Research Institute, Rotorua, New Zealand, Aug. 1992.

Invited Guest Lecturer: presentation on “Fire Danger Rating and Fire Behaviour Prediction”, New Zealand Certificate in Forestry Stage V Course 5170 (Protection and Environmental Studies), Forest Training Centre, Rotorua, Sep. 1992.

Invited Speaker: seminar presentation on “Fire Behaviour as a Factor in Fire Suppression with Particular Reference to Exotic Pine Plantations” to Forestry Corporation of New Zealand field staff, Rotorua, New Zealand, Oct. 1992.

Invited Speaker: presentation on “Fire Behaviour in Exotic Pine Plantations with Particular Reference to Crown Fire Development”, Institute of Foresters of New Zealand, Nelson/Marlborough Branch meeting, Nelson, New Zealand, Nov. 1992.

Invited Speaker: presentation on “Proposed Revision to Fire Danger Class Criteria”, National Rural Fire Authority Regional Annual Meetings @ Palmerston North, Te Awamuta, Burnham, Balclutha and Nelson, New Zealand, Nov. 1992.

Invited Speaker: presentation on “The Science of Plantation Fire Protection”, Institute of Foresters of New Zealand, Rotorua Section meeting, Rotorua, New Zealand, Dec. 1992.

Invited Speaker: presentation on “The Future of Fire Management on the Conservation Estate: A Canadian Fire Researcher's Perspective”, Department of Conservation Senior Managers meeting, Dunedin, New Zealand, Feb. 1993.

Invited Speaker: seminar presentation on “Canadian Forest Fire Weather Index System”, Fiji Pine Limited field staff, Lautoka, Fiji, Apr. 1993.

Invited Speaker: presentation on “Fire Behavior Review (Fire Behavior Considerations Prior to and During Initial Attack with Airtankers” Alberta Land & Forest Service Air Attack Officer Strategy and Tactics Seminar, Hinton, AB, Apr. 1994.

Invited Speaker: presentation on “Systems for Rating Fire Danger and Predicting Fire Behavior in Canada”, USDA Forest Service National Fire Behavior Workshop, Missoula, MT, June 1994.

Invited Speaker: presentation on “Fire Behavior in the Boreal Forest”, Workshop on Biomass Burning, Climate Change and the Carbon Cycle in the North American Boreal Forest Region-Scientific, Management and Policy Implications, Fairbanks, AK, Sep. 1995.

Invited Rapporteur: CFS National Workshop on “Wildland Fire Activity in Canada”, Edmonton, AB, Apr. 1996.

Invited Speaker: presentation on “Natural Fire Regimes and Implications for Forest and Ecosystem Management”, Yukon Science Institute Lecture Series, Whitehorse, YT, Apr. 1996.

Invited Guest Lecturer: two presentations on Canadian Forest Fire Danger Rating System, Forest Fire Management Course (FOR 340), University of Alberta, Edmonton, AB, winter term 1997.

Invited Speaker: presentations on “Living with Fire in the Boreal Forest” delivered at public forums in the Northwest Territories in Enterprise, Mar. 1997, Hay River, Apr. 1997, Fort Smith, Apr. 1997, and Norman Wells, May 1998.

Invited Instructor: presentation on “Fuels Management in the Boreal Forest” at Northwest Territories Fire Marshall's Forest Fire Management Training Course, Fort Smith, NWT, Apr. 1997.

Invited Speaker: presentations on “Living with Fire in the Boreal Forest”, annual meeting of the Association of Yukon Communities, Watson Lake and public forum in Haines Junction, YT, May 1997.

Invited Speaker: seminar presentation on “Fire Considerations in Forest Management”, Daishowa-Marubeni International Ltd., Peace River, AB, May 1997.

Invited Speaker: presentation on “Power of Wildland Fires”, Developing Fire Safe Communities Workshop, Whitehorse, YT, Jan. 1998.

Invited Guest Lecturer: four presentations (Fire Weather Index System, Fire Behavior Prediction System, wildland firefighter safety, living with fire in the boreal forest), University of Alberta undergraduate Forest Fire Management (FOR 340) class, winter term 1998.

Invited Speaker: presentation on “Recent Advances in Understanding and Predicting Crown Fire Behavior”, 1998 Interior West Fire Council Annual Meeting and Workshop, Big Sky, MT, Sep.-Oct. 1998.

Invited Keynote Speaker: presentation on “An Example of Multi-faceted Wildland Fire Research: the International Crown Fire Modelling Experiment”, III International Conference on Forest Fire Research/14th Conference on Fire and Forest Meteorology, Luso-Coimbra, Portugal, Nov. 1998.

Session Moderator: III International Conference on Forest Fire Research/14th Conference on Fire and Forest Meteorology, Luso-Coimbra, Portugal, Nov. 1998.

Invited Guest Lecturer: presentations on “Systems for Fire Danger Rating and Fire Behavior Prediction Used in Canada”, and “Crown Scorch/Crown Fires/Byram's Convection Number”, III Short Course on Forest Fire Behavior Modelling, Luso-Coimbra, Portugal, Nov. 1998.

Invited Speaker: presentation on “Predicting Transitions in Fire Behavior”, National Interagency Fire Behavior Workshop, Phoenix, AZ, Mar. 1999.

Invited Instructor: presentation on “Some Physical Characteristics of Wildland Fires in the Northern Boreal Forest”, Forest Fire Management in the Wildland/Urban Interface Workshop held in conjunction with the Northwest Territories Fire Chiefs Association Annual Conference and Professional Development Workshops, Hay River, NWT, Apr. 1999.

Invited Speaker: presentation on “An International Perspective on Wildland Firefighter Safety”, National Rural Fire Authority Workshops on Firefighter Safety, Rotorua and Greymouth, New Zealand, Aug. 1999.

Invited Keynote Speaker: presentation on “Rural Fire Management Beyond 2000”, 1999 Annual Conference of the Forest and Rural Fire Association of New Zealand, Greymouth, New Zealand, Aug. 1999.

Invited Speaker: presentation on “Crown Fires are Hot!” An Overview of the International Crown Fire Modelling Experiment”, University of Alberta Landscape Ecology Seminar Series, Edmonton, AB, Oct. 1999.

Invited Speaker: presentations on “What is ICFME? A Behind-the-Scenes Look at an International Cooperative Research Effort” and “A New Approach to Live Wildland Fire Training: A Case Study from New Zealand”, 1999 Interior West Fire Council Annual Meeting and Workshop, Estes Park, CO, Oct. 1999.

Invited Guest Lectures: two presentations on “Fire Behavior from the Stand Level to the Landscape Scale”, Advanced Fire Ecology Course (FOR 546), University of Alberta, Edmonton, AB, Jan. 2000.

Invited Speaker: presentation on “Fire Behavior, the Total Fire Environment and Wildland Firefighter Safety,” Alberta Land & Forest Service Rapattack Spotter Strategy and Tactics Course, Environmental Training Centre, Hinton, AB, Apr. 2000.

Invited Speaker: presentation on “Living With Fire in the Boreal Forest” and fuels management exercise, GNWT Forest Management Division Community Fire Protection Workshop, Fort Smith, NWT, Apr. 2000.

Invited Speaker: presentation on “Introduction to the Canadian Forest Fire Danger Rating System”, S-590 Advanced Fire Behavior Interpretation Course, National Advanced Resource Technology Center, Marana, AZ, Apr. 2000.

Invited Speaker: presentations on “Living With Fire in the Boreal Forest” and “International Crown Fire Experiments, Fort Providence, N.W.T.”, Saskatchewan Fire Management & Forest Protection Spring Conference 2000, Prince Albert, SK, Apr. 2000.

Invited Speaker: presentation on “International Crown Fire Modelling Experiment”, Forest Fire Science and Management Forum, Halifax, NS, Sep. 2000.

Session Moderator and Breakout Group Leader: 2000 International Wildfire Safety Summit, Edmonton, AB, Oct. 2000.

Invited Speaker: presentation on “Fire Behavior Knowledge Gaps (& Research Needs) Pertaining to Ecosystem Management”, Workshop on Integrated Resource Management in Ecosystems Dominated by High Intensity Fire: Challenges, Tools and Solutions, Edmonton, AB, Nov. 2000.

Invited Speaker: presentation on “Wildland Fires and Rural/Urban Firefighter Safety: Raising the Awareness of the Inherent Dangers of Grass Fires”, Alberta Association of

Fire Service Instructors Fall Workshop, Fort Saskatchewan, AB, Oct. 2000, Alberta Fire Chiefs Association Region 2 Annual Meeting, Leduc, AB, Jan. 2001, and Sturgeon County Fire Departments, Calahoo, AB, Apr. 2001.

Invited Speaker: presentation on “The Canadian Forest Fire Danger Rating System”, Northeastern Forest Fire Protection Commission Winter Training Session, West Lebanon, NH, Jan. 2001.

Invited Speaker: presentation on “What is the Canadian Forest Service Doing About the Wildland-Urban Interface (WUI) Fire Problem in Canada?”, National Academy of Sciences Natural Disasters Roundtable “Urban/Wildland Fire” Forum, Washington, DC, Jan. 2001.

Invited Speaker: presentation on “Non-Canadian Fire Danger Rating Systems”, Jakarta Fire Danger Rating System Team training session, Canadian Forest Service-Northern Forestry Centre, Edmonton, AB, Mar. 2001.

Invited Instructor: presentation on “Fire Behavior and Wildland Firefighter Safety,” Alberta Land & Forest Service Rapattack Spotter Strategy and Tactics Course, Environmental Training Centre, Hinton, AB, Apr. 2001.

Invited Speaker: presentation on “Addressing the Wildland-Urban Interface Problem in Canada Through Fire Behavior R&D”, Alaska Regional Firewise Communities Workshop, Kenai, AK, Apr. 2001.

Invited Speaker: seminar presentation on “Fire Behavior in the Boreal Forest: The International Crown Fire Modelling Experiment”, University of Alaska, Fairbanks, AK, Apr. 2001.

Session Moderator: 22nd Tall Timbers Fire Ecology Conference, Kananaskis, AB, Oct. 2001.

Invited Speaker: presentation on “Principles, Philosophies and Practicalities of Fire Danger Rating”, SE Asia Fire Danger Rating System Project Workshop, Canadian Forest Service-Northern Forestry Centre, Edmonton, AB, Oct. 2001.

Invited Speaker: presentation on “Introduction to the Canadian Forest Fire Danger Rating System”, Advanced National Fire Danger Rating System Course, National Advanced Resource Technology Center, Marana, AZ, Feb. 2002.

Invited Speaker: presentation on “An Overview of Systems Used for Rating Fire Danger and Predicting Fire Behavior Used in Canada”, S-590 Advanced Wildland Fire Behavior Interpretation Course, National Advanced Resource Technology Center, Marana, AZ, Mar. 2002.

Invited Speaker: presentation on “The Importance of Fire Behavior in Relation to Wildland Firefighter Safety and Fire Suppression Effectiveness”, Northeastern Forest Fire Protection Commission Spring Fire Academy, Amherst, NS, Apr. 2002.

Invited Speaker: presentation on “Wildland Fires and Rural/urban Firefighter Safety: Raising the Awareness of the Inherent Dangers of Grass Fires”, Saskatchewan Association of Fire Chiefs Annual Conference, Weyburn, SK, Apr. 2002.

Invited Guest Lecturer: presentations on “The Importance of Fire Behavior in Relation to Safe and Productive Fire Suppression” and “Crown Fires in Conifer Forests”, IV Short Course on Forest Fire Behavior Modelling, Luso-Coimbra, Portugal, Nov. 2002.

Invited Keynote Speaker: presentation on “Understanding Fire Behavior – The Key to Effective Fuels Management”, FERIC sponsored Fuels Management Workshop, Hinton, AB, Oct. 2003.

Invited Speaker: presentation on “Linking Fire Behavior Knowledge to Human Factors & Risk Management to Improve Firefighter Safety in the Total Fire Environment” Alberta Sustainable Resource Development Wildfire Training Academy, Hinton Training Centre, Hinton, AB, Dec. 2003.

Invited Instructor: presentations on “An Overview of Systems Used for Rating Fire Danger and Predicting Fire Behavior Used in Canada” and “Wildland Fire Behavior Case Studies and Analyses”, S-590 Advanced Wildland Fire Behavior Interpretation Course, National Advanced Resource Technology Center, Marana, AZ, Mar. 2004.

Invited Speaker: presentation on “Fire Behavior Considerations ... for Safe and Productive Fire Suppression”, FERIC sponsored Workshop on Heavy Equipment and Fireline Construction – The Past, Present and Future, Hinton, AB, Mar. 2005.

Invited Speaker: presentation on “Applied Wildland Fire Behavior Research for Fire Operations”, Alberta Fire Chiefs Region 2 Annual Meeting, Barrhead, AB, Apr. 2005.

Invited Speaker: presentation on “Latest Developments in Crown Fire Behavior Prediction”, 19th Annual Interior West Fire Council Conference, Canmore, AB, Oct. 2005.

Invited Speaker: presentation on “Wildland Fire and Drought: Searching for Practical Solutions”, Joint Session of 19th Annual Interior West Fire Council Conference and 6th American Meteorological Society Symposium on Fire and Forest Meteorology, Canmore, AB, Oct. 2005.

Invited Guest Speaker: presentation on “Forest Health: Fire Behavior Considerations”, Post-Harvest Stand Development Conference (sponsored by Foothills Model Forest, Foothills Growth and Yield Association, Alberta Forest Genetic Resources Council, and Forest Resources Improvement Association of Alberta), Edmonton, AB, Jan. 2006.

Invited Guest Lecturer: presentation on “Models for Predicting Crown Fire Behavior – A Review”, V Short Course on Forest Fire Behavior Modelling, Figueira da Foz, Portugal, Nov. 2006.

Invited Keynote Speaker: presentation on “You Are About to be Entrapped or Burned Over by a Wildfire: What Are Your Survival Options?”, V International Conference on Forest Fire Research, Figueira da Foz, Portugal, Nov. 2006.

Invited Speaker: presentation on “Wildland Fires and Rural/Urban Firefighter Safety: Raising the Awareness of the Inherent Dangers of Grass Fires”, Blue Ridge Volunteer Fire Department, Blue Ridge, AB, Apr. 2007.

Invited Speaker: presentation on “Surviving a Wildland Fire Entrapment or Burnover – What Are Your Options?”, Renewable Resources Seminar Series, University of Alberta, Edmonton, AB, Oct. 2007.

Invited Guest Lecturer: presentation on “Fire is Not a Binary Event!”, Forest Biology Course (REN 601), University of Alberta, Edmonton, AB, Oct. 2007.

Invited Guest Lecturer: presentation on “Living With Fire in the Boreal Forest”, Forest Fire Management Course (FOR 340), University of Alberta, Edmonton, AB, Apr. 2008.

Invited Speaker: presentation on “Application of the CFFDRS for Initial Attack Preparedness”, Alaska Division of Forestry Fire Preparedness Workshop, Fairbanks, AK, April 2008.

Invited Speaker: presentation on “Considerations in Applying the CFFDRS to Restricting Firing Operations”, Alaska Fire Service Military Zone Meeting, Fort Wainwright, AK, April 2008.

Invited Speaker: presentation on “A Primer on the Canadian Forest Fire Danger Rating System (CFFDRS)”, Alaska Division of Forestry Spring Operations Meeting, Fairbanks, AK, April 2008.

Invited Speaker: presentation on “Living With Fire in the Boreal Forest”, Renewable Resources Seminar Series, University of Alberta, Edmonton, AB, Oct. 2008.

Invited Banquet Speaker: presentation “Forest Fire Protection and Management in Nova Scotia: Reflecting on the Past, the Present, and the Future”, Halifax, NS, Nov. 2008

Invited Guest Lecturer: presentation on “Living With Fire in the Boreal Forest”, Forest Fire Management Course (FOR 340), University of Alberta, Edmonton, AB, Apr. 2009

Invited Keynote Speaker: presentation on “Are Wildland-Urban Interface Fire Disasters Avoidable?”, New Brunswick Association of Fire Chiefs 32nd Annual Convention, Moncton, NB, May 2009.

Invited Speaker: presentation on “Some Pragmatic Thoughts on the Prediction of Spotting in Wildland Fires”, MITACS/GEOIDE Conference on Forest Fire Modelling, Hinton, AB, June 2009.

Invited Speaker: presentation on “Living With Fire in the Boreal Forest”, Partners in Protection 13th Annual General Meeting, Jasper, AB, Oct. 2009.

Invited Speaker: series of presentations supported by the Scientific and Technological Research Council of Turkey, April 2011:

- Karadeniz Technical University, Faculty of Forestry, Trabzon: “Fundamentals of Fire Behaviour and Application to Wildland Fire Management”, “The Value of Case Studies in Understanding Wildland Fire Behaviour”, “Wildfire Behaviour Monitoring and Documentation”, “Random Thoughts on Research and Operational Prediction of Wildland Fire Behaviour”, and “Living With Fire in the Boreal Forest of Canada”.
- Ministry of Environment and Forestry, National Headquarters, Ankara: “Perspectives on Developing a National Fire Danger Rating”.
- Kastamonu University, Faculty of Forestry, Kastamonu: “International Crown Fire Modelling Experiment (ICFME)”.
- Ministry of Environment and Forestry, Regional Office, Antalya: “Safety Hazards Associated with Suppressing Wildland Fires” and “Survival Options in Wildland Fire Entrapments and Burnovers”.

Invited Speaker: presentation on “NOT ON MY WATCH !” A Personal Perspective on Wildland Fire Safety, National Rural Fire Authority’s Annual Regional Rural Fire Committee Chairpersons Conference, Rotorua, New Zealand, June 2012.

Invited Keynote Speaker: presentation on “Wildland Fire Research’s Raison d’être”, SCION Rural Fire Research Workshop -- “Celebrating 20 Years of Rural Fire Research in NZ”, Rotorua, New Zealand, June 2012.

Invited Speaker: presentation on “The Science and Art Behind Fire Danger Ratings: An Historical and International Perspective”, Australian Bushfire Cooperative Research Centre Professional Development Event Series, Sydney, NSW, Australia, June 2012.

Invited Guest Lecture: presentation on “Why Wildland Fire is Not a Binary Event”, Wildland Disturbance Ecology and Management (WILD 5710), Utah State University, Logan, UT, Oct. 2012.

Invited Seminar Speaker: presentation on “On Linking the Impacts and Effects of Wildland Fires to Their Behavior”, Quinney College of Natural Resources Seminar Series, Utah State University, Logan, UT, Oct. 2012.

Session Moderator: International Association of Wildland Fire 4th Fire Behavior and Fuels Conference, Raleigh, NC, Feb. 2013.

Invited Speaker: presentations on “Synthesizing Knowledge on Crown Fire Behaviour in Conifer Forests” and “Wildfire Behaviour Documentation and Case Study Preparation”, Alberta Environment and Sustainable Resource Development Fire Behaviour Analyst (FBAN) Workshop, Edmonton, AB, Apr. 2013.

Invited Guest Lecture: presentation on “Why Wildland Fire is Not a Binary Event”, Wildland Disturbance Ecology and Management (WILD 5710), Utah State University, Logan, UT, Oct. 2013.

Invited Speaker: presentations on “Recent Developments and Applications in the Field of Wildland Fire Behaviour Research”, “New Models for Predicting Crown Fire Behaviour”, and “Thoughts on Improving Wildland Fire Behaviour Prediction”, Ontario Ministry of Natural Resources – Aviation, Forest Fires and Emergency Services Fire Behaviour Analyst Workshop, Sault Ste. Marie, ON, Dec. 2013.

Invited Speaker: presentation on “Wildland Fire Case Study Development”, FPInnovations Forest Fuels Management Workshop, Hinton, AB, Jan. 2014.

Invited Coordinator and Instructor: The Theory and Practice of Wildland Fire Behaviour Estimation Course (3 days). Kyllås and Hassela, Sweden, Apr. 2014 and Applying Fire Behaviour Knowledge in Wildland Fire Operations Course (3 days), Hassela, Sweden, Apr. 2014.

Invited Speaker: presentations on “*CFIS ... the Crown Fire Initiation and Spread* system software” and “Some Thoughts on Improving Predictions of Wildland Fire Behaviour”, Alberta Environment and Sustainable Resource Development Fire Behaviour Analyst (FBAN) Workshop, Edmonton, AB, Apr. 2014.

Invited Speaker: presentations on “Re-Thinking Forest Fires and Their Behaviour” and “Conflagration Prevention”, to Alberta Environment and Sustainable Resource Development – Lesser Slave Area wildfire management staff, Slave Lake, AB, Apr. 2014.

Invited Keynote Speaker: “Fire Behaviour: A (or The) Key Factor to Safe and Effective Control and Use of Fire”, Great Lakes Forest Fire Compact Annual Meeting, Elkhorn Resort, Riding Mountain National Park, MB, Sep. 2014.

Invited Speaker: presentations on “Overseas Use of CFFDRS” and “Crown Fire Behavior in Conifer Forests Synthesis”, Alaska Fire Science Consortium, Fairbanks, CFFDRS in Alaska Summit, Alaska, Oct. 2014.

Invited Guest Lecturer: presentation on “Crown Fire Behaviour and Fire Dynamics in Conifer Forests”, VII Short Course on Fire Behavior and Fire Dynamics in Conifer Forests”, Coimbra, Portugal, Nov. 2014.

Invited Session Moderator and Poster Judge: VII International Conference on Forest Fire Research, Coimbra, Portugal, Nov. 2014.

Invited Speaker: presentation on “The Practice of Predicting Wildland Fire Behaviour”, Ontario Ministry of Natural Resources – Aviation, Forest Fires and Emergency Services Fire Behaviour Analyst Workshop, Sault Ste. Marie, ON, Dec. 2014.

Invited Keynote Speaker: “Past, Present, and Future Issues in Wildland Fire Science and Management: A Global Perspective”, Northeastern Forest Fire Protection Compact Annual Winter Training/Awareness Meeting, Portland, ME, Jan. 2015.

Invited Speaker: presentations on “Wildland Firefighter Safety and Fire Behavior Prediction in the Field” and “Update on the Second Edition of the FBP System “Redbook” (2015), Alberta Environment and Sustainable Resource Development Fire Behaviour Analyst (FBAN) Workshop, Edmonton, AB, Apr. 2015.

TECHNOLOGY AND INFORMATION TRANSFER ACTIVITIES

Instructor: 1st Alberta Forest Service (AFS) Advanced Fire Behavior Course, Forest Technology School, Hinton, AB, Apr. 1982.

Instructor: 3rd AFS Advanced Fire Behavior Course, Forest Technology School, Hinton, AB, Apr. 1984.

Instructor: information sessions on the Canadian Forest Fire Behavior Prediction System (Saskatchewan Dept. of Parks & Renewable Resources, Manitoba Dept. of Natural Resources, and Alberta Forest Service), Prince Albert, SK, Winnipeg, MB, Calgary, AB [Bow-Crow Forest], Apr. 1985.

Instructor: 4th AFS Advanced Fire Behavior Course, Forest Technology School, Hinton, AB, Apr. 1985.

Instructor: 5th AFS Advanced Fire Behavior Course, Forest Technology School, Hinton, AB, Apr. 1986.

Instructor: 6th AFS Advanced Fire Behavior Course, Forest Technology School, Hinton, AB, Feb. 1987.

Instructor: information sessions on the Canadian Forest Fire Danger Rating System, Quebec and the four Atlantic Provinces (Fredericton, NB, Shubenacadie, NS, Charlottetown, PEI, and Gander, NL), Apr. 1987.

Instructor: 7th Advanced Fire Behavior Course, Forest Technology School, Hinton, AB, Apr. 1988.

Instructor: 8th AFS Advanced Fire Behavior Course, Forest Technology School, Hinton, AB, Apr. 1989.

Coordinator & Instructor: Advanced Fire Behaviour Courses [sponsored by National Rural Fire Authority in cooperation with the New Zealand Forest Research Institute], Rotorua, New Zealand, Sep. 1992.

Coordinator & Instructor: Advanced Fire Behaviour Courses [sponsored by National Rural Fire Authority in cooperation with the New Zealand Forest Research Institute], Christchurch, New Zealand, Sep. 1992.

Coordinator & Instructor: Advanced Fire Behaviour Courses [sponsored by National Rural Fire Authority in cooperation with the New Zealand Forest Research Institute], Bulls, New Zealand, Mar. 1993.

Coordinator & Instructor: Advanced Fire Behaviour Course Refresher Seminar [sponsored by National Rural Fire Authority in cooperation with New Zealand Forest Research Institute], Rotorua, Zealand, Mar. 1993.

Coordinator & Instructor: Advanced Fire Behaviour Course Refresher Seminar [sponsored by National Rural Fire Authority in cooperation with New Zealand Forest Research Institute], Christchurch, New Zealand, Mar. 1993.

Coordinator & Instructor: Fire Behaviour Awareness Workshops [sponsored by Carter Holt Harvey Forests Limited in association with New Zealand Forest Research Institute], Tokoroa, New Zealand (2 sessions), Apr. 1993.

Coordinator & Instructor: Fire Behaviour Awareness Workshops [sponsored by Carter Holt Harvey Forests Limited in association with New Zealand Forest Research Institute], Hamner Springs (2 sessions), New Zealand, Apr. 1993.

Instructor: Multi-agency Advanced Fire Behavior Course, Environmental Training Centre, Hinton, AB, Mar. 1994.

Course Chairperson, Unit Leader & Instructor: 1st Canadian Interagency Forest Fire Centre (CIFFC) sponsored National Advanced Wildland Fire Behavior Course, Hinton, AB, Feb. 1995.

Coordinator & Instructor: Fire Management Applications of the Canadian Forest Fire Danger Rating System (CFFDRS) Workshop. [Sponsored by Alaska Division of Forestry in association with the Canadian Forest Service], Anchorage, AK, Jan. 1996.

Course Chairperson, Unit Leader & Instructor: 2nd CIFFC sponsored National Advanced Wildland Fire Behavior Course, Sault Ste. Marie, ON, Jan. 1996.

Course Chairperson, Unit Leader & Instructor: 3rd CIFFC sponsored National Advanced Wildland Fire Behavior Course, Hinton, AB, Mar. 1996.

Course Chair, Unit Leader & Instructor: 1st CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Mar. 1996.

Course Chairperson, Unit Leader & Instructor: 4th CIFFC sponsored National Advanced Wildland Fire Behavior Course in cooperation with the Alaska Fire Service, Fairbanks, AK, Oct. 1996.

Course Chairperson, Unit Leader & Instructor: 5th CIFFC sponsored National Advanced Wildland Fire Behavior Course, Fredericton, NB, Nov. 1996.

Coordinator & Speaker: Western North American Fire Shelter Meeting [sponsored by Alberta Land & Forest Service in association with The Canadian Forest Service], Bragg Creek, AB, Sep. 1996.

Course Chair, Unit Leader & Instructor: 2nd CIFFC sponsored Wildland Fire Behavior Specialist Course, Hinton, AB, Feb. 1997.

Course Chairperson, Unit Leader & Instructor: 6th CIFFC sponsored National Advanced Wildland Fire Behavior Course, Hinton, AB, Nov. 1997.

Course Chair, Unit Leader & Instructor: 3rd CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Feb. 1998.

Coordinator & Instructor: Wildfire Behavior Documentation Workshop held in conjunction with the annual meeting of the Atlantic Forest Fire Management Coordinating Committee, Charlottetown, PEI, Sep. 1998.

Poster Presentations: “A Simple Aid for Predicting Fire Behavior in Grasslands Under Severe Burning Conditions”, co-authored with L.G. Fogarty (formerly New Zealand Forest Research Institute), Interior West Fire Council Annual Meeting and Workshop, Big Sky, MT, Sep.-Oct., 1998 and 2nd Canada/Australia/US Safety Summit, Winthrop, WA, Oct., 1998.

Instructor: 1st CIFFC sponsored Western Region Advanced Wildland Fire Behavior Course, Salmon, Arm, BC, Oct. 1998.

Course Chair, Unit Leader & Instructor: 4th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Mar. 1999.

Poster Presentation: “A Simple Aid for Predicting Fire Behavior in Grasslands Under Severe Burning Conditions”, co-authored with L.G. Fogarty (formerly New Zealand Forest Research Institute), National Interagency Fire Behavior Workshop, Phoenix, AZ, Mar. 1999.

Poster Presentations: “Canadian Forest Fire Danger Rating System”, co-authored with T.A. Van Nest (Alberta Environmental Training Centre) and the “The Mann Gulch Fire and the Canadian Forest Fire Danger Rating System”, National Interagency Fire Behavior Workshop, Phoenix, AZ, Mar., 1999.

Poster Presentation: “Crown Fires are “HOT””: Introducing the International Crown Fire Modelling Experiment”, co-authored with B.J. Stocks (CFS) and R.A. Lanoville (GNWT), Fire on Ice Workshop, Khabarovsk, Russia, Aug., 1999.

Instructor: 2nd CIFFC sponsored Western Region Advanced Wildland Fire Behavior Course, Hinton, AB, Nov. 1999.

Instructor: 1st CIFFC sponsored Eastern Region Advanced Wildland Fire Behavior Course, Thunder Bay, ON, Jan. 2000.

Course Chair, Unit Leader & Instructor: 5th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Feb. 2000.

Poster Presentations: “Predicting Fire Behavior in Wildland/Urban Environments”, co-authored with C.N. Stefner (CFS), and “A Pocket Card for Predicting Fire Behavior in Grasslands Under Severe Burning Conditions”, co-authored with L.G. Fogarty (formerly New Zealand Forest Research Institute) Interface Fires 2000 Conference, Halifax, NS, May 2000.

Poster Presentations: “CD-ROM *Wildland Fire - Safety on the Fireline* Now Available!”, co-authored with R.W. Thorburn (Alberta Environmental Training Centre), A. MacMallian (Christie Communications), D. Campbell (Saskatchewan Environment & Resource Management) and J. McLevin (Alberta Land & Forest Service), “New Insights into the Effectiveness of Fuel Reduction Treatments”, co-authored with J.A. Beck (FERIC), C.N. Stefner (CFS), R.A. Lanoville (GNWT) and G. Holloway (B.C. Forest Service), and “Predicting the Initiation and Spread of Crown Fires”, co-authored with M.G. Cruz and R.H. Wakimoto (Univ. of Montana), Forest Fire Science and Management Forum, Halifax, NS, Sep., 2000.

Poster Presentation: “The International Crown Fire Modelling Experiment”, co-authored with B.J. Stocks (CFS), B.M. Wotton (CFS) and R.A. Lanoville (GNWT), Euromediterranean Wildfire Meetings, Hyeres les Palmiers, France, Oct., 2000.

Instructor: 3rd CIFFC sponsored Western Region Advanced Wildland Fire Behavior Course, Salmon Arm, BC, Oct.-Nov. 2000.

Course Chair, Unit Leader & Instructor: 6th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Feb.-Mar. 2001.

Instructor: 4th CIFFC sponsored Western Region Advanced Wildland Fire Behavior Course, Hinton, AB, Oct.-Nov. 2001.

Course Chair & Instructor: 1st CIFFC sponsored National Wildland Fire Behavior Specialist Refresher Course, Hinton, AB, Feb. 2002.

Instructor: 5th CIFFC sponsored Western Region Advanced Wildland Fire Behavior Course, Prince Albert, SK, Oct. 2002.

Instructor: 6th CIFFC sponsored Western Region Advanced Wildland Fire Behavior Course, Hinton, AB, Oct. 2003.

Course Chair, Unit Leader & Instructor: 7th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Feb. 2004.

Instructor: 8th CIFFC sponsored Western Region Advanced Wildland Fire Behavior Course, Hinton, AB, Oct. 2005.

Unit Leader & Instructor: 8th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Feb. 2006.

Unit Leader & Instructor: 9th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Feb. 2008.

Instructor: 10th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Feb. 2010.

Lecturer: presentation on “Living With Fire in the Boreal Forest”, Forest Fire Management Course (FOR 340), University of Alberta, Edmonton, AB, Apr. 2010.

Lecturer: presentation on “ ‘Lest we forget’: Canada’s major wildland fire disasters of the past, 1825-1938”, Forest Fire Management Course (FOR 340), University of Alberta, Edmonton, AB, Mar. 2011.

Moderator: 11th International Wildland Fire Safety Summit, Hotstove Session: Stories of Close Calls and Near Misses, Missoula, MT, Apr. 2011.

Lecturer: presentation on “What kind of fire behavior is required to open serotinous cones of jack pine and lodgepole pine?”, Renewable Resources Departmental Seminar Series, University of Alberta, Edmonton, Alberta, October 20, 2011.

Instructor: 11th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Jan.-Feb. 2012.

Special Session Moderator: International Association of Wildland Fire 4th Fire Behavior and Fuels Conference, Raleigh, NC, Feb. 2013.

Instructor and Coordinator: “Crown Fire Behavior in Conifer Forests” Workshop, 4th IAWF Fire Behavior and Fuels Conference, Raleigh, NC, Feb. 2013.

Speaker: presentation on “Wildfire’s Resistance to Control in Mountain Pine Beetle-attacked Lodgepole Pine Forests”, Renewable Resources Departmental Seminar Series, University of Alberta, Edmonton, AB, Oct. 2013.

Lecturer: presentation on “Past, Present, and Future Issues in Wildland Fire Science and Management: A Global Perspective”, Introduction to Fire Science and Management Course (REN R 340) Course, University of Alberta, Edmonton, AB, Jan. 2014.

Instructor: 12th CIFFC sponsored National Wildland Fire Behavior Specialist Course, Hinton, AB, Feb. 2014.

Instructor: Practical Tools for Assessing Potential Crown Fire Behavior and Canopy Fuel Characteristics Workshop held in conjunction with Conference on Large Wildland Fires: Social, Political & Ecological Effects, Missoula, MT, May 2014.

Lecture: presentation on “Wildland Firefighter and Public Fire Safety”, Introduction to Fire Science and Management Course (REN R 340) Course, University of Alberta, Edmonton, AB, Mar. 2015.

LIST OF PUBLICATIONS¹

Peer-Reviewed Scientific Journal Articles and Conference Proceedings Papers

Alexander, M.E.; Hawksworth, F.G. 1976. Fire and dwarf mistletoes in North American coniferous forests. *Journal of Forestry* 74: 446-449.

Alexander, M.E. 1980. Four fire scar records on lodgepole pine (*Pinus contorta* Dougl.) in north-central Colorado. *Southwestern Naturalist* 25: 432-434.

Alexander, M.E. 1982. Fire behavior in aspen slash fuels as related to the Canadian Fire Weather Index. *Canadian Journal of Forest Research* 12: 1028-1029.

Alexander, M.E. 1982. Calculating and interpreting forest fire intensities. *Canadian Journal of Botany* 60: 349-357, 2185.

Alexander, M.E. 1984. Prescribed fire behavior and impact in an eastern spruce-fir slash fuel complex. *Canadian Forestry Service Research Notes* 4: 3-7, 25.

Harvey, D.A.; Alexander, M.E.; Janz, B. 1986. A comparison of fire weather severity in northern Alberta during the 1980 and 1981 fire seasons. *Forestry Chronicle* 62: 507-513.

¹ A good many of the publications are available through the Canadian Forest Service Publications website (<http://cfs.nrcan.gc.ca/publications>). For those that are not, please contact the author (mea2@telus.net).

Alexander, M.E.; Sando, R.W. 1989. Fire behavior and effects in aspen-northern hardwood stands. Pages 263-274 in Proc. 10th Conf. on Fire and For. Meteorol. (Apr. 17-21, 1989, Ottawa, ON). For. Can. and Environ. Can., Ottawa, ON.

Stocks, B.J.; Lawson, B.D.; Alexander, M.E.; Van Wagner, C.E.; McAlpine, R.S.; Lynham, T.J.; Dube, D.E. 1989. The Canadian Forest Fire Danger Rating System: An Overview. *Forestry Chronicle* 65: 450-457.

Alexander, M.E.; Quintilio, D. 1990. Perspectives on experimental fires in Canadian forestry research. *Mathematical and Computer Modelling* 13(12):17-26.

Alexander, M.E. 1991. The 1985 Butte Fire in central Idaho: a Canadian perspective on the associated burning conditions. Pages 334-343 in Proc. Interl. Symp. Fire and the Environment: Ecological and Cultural Perspectives (Mar. 20-24, 1990, Knoxville, TN). USDA For. Serv., Southeast. For. Exp. Stn., Asheville, NC. Gen. Tech. Rep. SE-69.

Alexander, M.E. 1992. The Keetch-Byram Drought Index: a corrigendum. *Bulletin of the American Meteorological Society* 73: 61.

Catchpole, E.A.; Alexander, M.E.; Gill, A.M. 1992. Elliptical-fire perimeter-and area-intensity distributions. *Can. J. For. Res.* 22(7): 968-972. (Errata: 23(6):1244, 1993; 29(6):788, 1999)

Pearce, H.G.; Alexander, M.E. 1995. A simple test fire exercise for fire behavior training. *Wildfire* 5(1):37-41.

Nalder, I.A.; Wein, R.W.; Alexander M.E.; de Groot, W.J. 1997. Physical properties of dead and downed round-wood fuels in the boreal forests of Alberta and the Northwest Territories. *Canadian Journal of Forest Research* 27:1513-1517.

Nalder, I.A.; Wein, R.W.; Alexander, M.E.; de Groot, W.J. 1999. Physical properties of dead and downed roundwood fuels in the boreal forests of western and northern Canada. *International Journal of Wildland Fire* 9: 85-99.

Thorburn, R.W.; MacMillan, A.; Alexander, M.E. 2000. The application of interactive multimedia CD-ROM technology to wildland fire safety training. *Forestry Chronicle* 76: 953-959.

Amiro, B.D.; Stocks, B.J.; Alexander, M.E.; Flannigan, M.D.; Wotton, B.M. 2001. Fire, climate change, carbon and fuel management in the Canadian boreal forest. *International Journal of Wildland Fire* 10: 405-413.

Leblon, B.; Alexander, M.E.; Chen, J.; White, S. 2001. Monitoring fire danger of northern boreal forests using NOAA-AVHRR NDVI images. *International Journal of Remote Sensing* 22: 2839-2846.

Beck, J.A.; Alexander, M.E.; Harvey, S.D.; Beaver, A.K. 2002. Forecasting diurnal variation in fire intensity to enhance wildland firefighter safety. *International Journal of Wildland Fire* 11: 173-182.

Leblon, B.; Kasischke, E.S.; Alexander, M.E.; Doyle, M.; Abbott, M. 2002. Fire danger monitoring using ERS-1 SAR images in the case of northern boreal forests. *Natural Hazards* 27: 231-255.

Lee, B.S.; Alexander, M.E.; Hawkes, B.C.; Lynham, T.J.; Stocks, B.J.; Englefield, P. 2002. Information systems in support of wildland fire management decision making in Canada. *Computers and Electronics in Agriculture* 37: 185-198.

Cruz, M.G.; Alexander, M.E.; Wakimoto, R.H. 2003. Assessing canopy fuel stratum characteristics in crown fire prone fuel types in western North America. *International Journal of Wildland Fire* 12: 39-50.

Cruz, M.G.; Alexander, M.E.; Wakimoto, R.H. 2003. Assessing the probability of crown fire initiation based on fire danger indices. *Forestry Chronicle* 79: 976-983.

Cruz, M.G.; Alexander, M.E.; Wakimoto, R.H. 2003. Definition of a fire behavior model evaluation protocol: a case study application to crown fire behavior models. Pages 49-67 in Omi, P.N.; Joyce, L.A. (tech. eds.). *Fire, Fuel Treatments and Ecological Restoration: Conference Proceedings* (Apr. 16-18, 2002, Fort Collins, CO). USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO. Proceedings.RMRS-P-29.

Oldford, S.; Leblon, N.; Gallant, L.; Alexander, M.E. 2003. Mapping pre-fire conditions in the Northwest Territories, Canada, using NOAA-AVHRR images. *Geocarto International* 18(4): 21-32.

de Groot, W.J.; Bothwell, P.M.; Taylor, S.W.; Wotton, B.M.; Stocks, B.J.; Alexander, M.E. 2004. Jack pine regeneration and crown fires. *Canadian Journal of Forest Research* 34: 1634-1641.

Cruz, M.G.; Alexander, M.E.; Wakimoto, R.H. 2004. Modeling the likelihood of crown fire occurrence in conifer forest stands. *Forest Science* 50: 640-658.

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... further major advances in combating wildfire are unlikely to be achieved simply by continued application of the traditional methods. What is required is a more fundamental approach that can be applied at the design stage ... Such an approach requires a detailed understanding of fire behavior ... Drysdale (2011: 1) - An Introduction to Fire Dynamics (Third edition)