

William B McGill

Curriculum Vitae

1. OVERVIEW

Personal Data

Business Address Ecosystem Science & Management
University of Northern British
Columbia,
3333 University Way, Prince George
British Columbia, V2N 4Z9

e-mail bill.mcgill@unbc.ca

Birth date 20 October, 1945

Birthplace Manitoba, Canada; Canadian Citizen

Education

PhD – 1972 Saskatchewan (Soil Biology & Biochemistry)
MSc – 1969 Manitoba (Soil Science)
BSA (Hon) - 1967 Manitoba

Employment Summary

2012 - Present Professor, Ecosystem Science & Management UNBC (½ time)
2010 – 2012 Professor, Ecosystem Science & Management UNBC
2001 – 2010 Professor & Dean, College of Science and Management, UNBC
1981 – 2000 Professor, Dept Renewable Resources (formerly Soil Science), U of AB
1975 – 1981 Associate Professor Department Soil Science, U of Alberta
1971 - 1975 Assistant Professor Department Soil Science, U of Alberta
1968 - 1970 Graduate Assistant, Department Soil Science, U of Saskatchewan
1964 - 1966 Summer Assistant, Department Soil Science, U of Manitoba

Academic Administration

2019-05 - Present Interim University Librarian
2014-03 – present A/Director, Special Projects, UNBC
2013-07 – 2014-08 Director, Natural Resources and Environment Institute (NRESi)
2013-02 – 2013-07 A/Dean of Graduate Programs, UNBC
2001 – 2010 (June) Dean, College of Science and Management, UNBC
1991 – 1993 Associate Dean, Faculty of Graduate Studies & Research, U of Alberta
1979 – 1989 Chair, Department Soil Science U of Alberta

Boards (Recent)

2018 - 2020 Board Member Prince George Airport Authority & Chair of the
Governance Committee
2014 – 2017 Vice Chair BC Forest Practices Board (Appointed by Cabinet)
2013 – 2014 Past President, Prince George Chamber of Commerce
2012 – 2013 President Prince George Chamber of Commerce

2011 – 2013	Member BC Forest Practices Board (Appointed by Cabinet)
2010	Founding Director, Northern Technology & Engineering Society
2008 – 2010	Director Innovation Resource Center, Prince George
2008 – 2010	Applied Technology and Engineering Education Consortium
2008 – 2014	Board of Haida Gwaii Higher Education Society
2009—2013	Leaders Group: Northern Interior Mining Group
2008 – 2014	Board and Vice Chair of Resources North Association
2001 - 2008	Board of McGregor Model Forest Association
2008 – 2012	Director (2008), Treasurer (2009), 2 nd Vice President Prince George Chamber of Commerce (present)

Honors & Awards

2012	Fellow, American Association for the Advancement of Science
2002	Fellow, Soil Science Society of America
2001	Fellow, Agricultural Institute of Canada
1999	Teaching Wall of Fame; Fac. Agriculture, Forestry & Home Economics
1999	Sabbatical Fellowship; Associated Western Universities & Battelle PNL
1996	Distinguished Agrologist, Alberta Institute of Agrologists
1995	Fellow, Canadian Society of Soil Science
1984/85	Senior Research Fellowship - CSIRO, Brisbane, Australia
1969/70 & 1967/68	Post-Graduate Scholarship, National Research Council (now NSERC)
1967	Gold Medal - Honors Agriculture U of Manitoba
1963 - 1966	Undergraduate Bursaries, Province of Manitoba

2. TEACHING

Courses Taught

Name	Number	Years
Global Food Systems	BIOL 498	2014
Soil Remediation	ENCS 455	2000, 1998, 1997, 1996, 1995
Waste Management and Utilization	ENCS 475	1999, 1998, 1997, 1996, 1995, 1994
Introduction to Geochemistry	ENSC 307	2018, 2017, 2016, 2015
Internship	ENSC 440	2014
Reclamation and Remediation of Disturbed Environments	ENSC 452	2018, 2016, 2014
Soil Plant Relations	ENSC 498	2015, 2014
Hazardous Waste Management	ENVS 404	2001
Communicating Research Results / Seminar	FOR / SOILS 600	1996, 1995 (2 terms), 1994
Biogeochemical Processes in Soil Systems	FSTY 455/655	2002
Society, Policy and Administration	NREM 306 / POLS 344	2019, 2017, 2015, 2013
Integrated Environmental Systems I	NRES 801	2019, 2018, 2017, 2016, 2015, 2013, 2012

Integrated Environmental Systems II Graduate Seminar	NRES 802 NRES 704, NRES 804, MCPS 704	2019, 2018 2001
Soils & People	SOILS 316	1993, 1992, 1991
Soil Biological Processes	SOILS 330	1984, 1983, 1982, 1981, 1980, 1979, 1978, 1977, 1976, 1975, 1974, 1973
Soil Microbiology & Biochemistry	SOILS 430	1999, 1998, 1997, 1996, 1995, 1993, 1992, 1991, 1989, 1988, 1987, 1986
Soil Biochemistry	SOILS 435	1979, 1978, 1977, 1976, 1975, 1974, 1973, 1972
Advanced Soil Biochemistry	SOILS 535	1997, 1994, 1991, 1989, 1988, 1986, 1983, 1982, 1981, 1979, 1977
Soil Science Seminar	SOILS 600	1984, 1983, 1982, 1981, 1980, 1979, 1973, 1972

Extension / Special Courses

Name	Contact Hours	Years
Home Gardiner (Soils Section)	6	2017, 2013, 2012
Hydrocarbon contamination in soil	7	2000
Waste Management and Utilization	21	1999, 1996
Measuring Active Components of Soil Organic Matter	9	1995
Soil Science Refresher: Heilongjiang August First Land Reclamation University, China	60	1986
Soil Quality	3	1983

External PhD Examiner

Name	Year	Department	University
Withheld FoI PoP	2007	Forestry	University of Toronto
	2001	Agricultural Science (PhD)	University of Adelaide
	2001	Civil Engineering (PhD)	University of Calgary
	1992	Renewable Resources (PhD)	McGill University
	1991	Soils (PhD)	Univ. of Saskatchewan
	1991	Soils (MAGSc)	University of Adelaide
	1989	Microbiology (PhD)	University of Queensland
	1986	Environmental. Studies (PhD)	Griffith University
	1983	Soils (PhD)	Univ. of Saskatchewan
1981	Soils (PhD)	University of Manitoba	

3. RESEARCH PROGRAM

Title: Mechanisms Regulating Terrestrial C And N Cycling.

Program Components

1. Biogeochemical cycles.
2. Resource recovery – Value added uses of Wood Ash.
3. Simulation Modeling of C & N Cycles: Greenhouse gases.
4. Transformations of Xenobiotics in Soils.

Refereed Journal Papers

- 117 Shi, J.; McGill, WB.; Chen, N.; Rutherford, PM.; Whitcombe, TW.; Zhang, W. (2020) Formation and Immobilization of Cr(VI) species in long-term tannery waste contaminated soils. *Environ. Sci. Technol.* 54:7226-7235
- 116 Tian, Y., Li, J., Whitcombe, T., McGill, W.B. Thring, R., 2020. Application of oily sludge-derived char for lead and cadmium removal from aqueous solution. *Chem. Eng. J.* 384(Article Number: 123386). DOI: 10.1016/j.cej.2019.123386
- 115 Tian, Y., McGill, W.B., Whitcombe, T.W., Li, J., 2019. Ionic liquid-enhanced solvent extraction for oil recovery from oily sludge. *Energy Fuels* 33, 3429–3438. DOI: 10.1021/acs.energyfuels.9b00224
- 114 Domes K.A., de Zeeuw T., Massicotte H.B., Elkin C., McGill W.B., Jull M.J., Chisholm C.E., and Rutherford P.M. 2018. Short-term changes in spruce foliar nutrients and soil properties in response to wood ash application in the sub-boreal climate zone of British Columbia. *Can. J. Soil Sci.* 98: 246–263 [dx.doi.org/10.1139/cjss-2017-0115](https://doi.org/10.1139/cjss-2017-0115)
- 113 Izaurrealde, RC; McGill, WB; Williams, JR.; Jones, CD.; Link, RP.; Manowitz, DH.; Schwab, DE; Zhang, XS; Robertson, GP; Millar, N. 2017. Simulating microbial denitrification with EPIC: Model description and evaluation. *Ecological Modelling*, 359:349-362 DOI: 10.1016/j.ecolmodel.2017.06.007
- 112 Lychuk, TE; Izaurrealde, RC; Williams, JR; McGill, WB; and Hill, RL. 2015. Biochar as a global change adaptation: Predicting biochar impacts on crop productivity and soil quality for a tropical soil with the Environmental Policy Integrated Climate (EPIC) model. *Mitigation & Adaptation Strategies for Global Change*, 20:1437-1458. Published on-line 18 March 2014. DOI 10.1007/s11027-014-9554-7
- 111 Ross, SM; Izaurrealde, RC; Janzen, HH; Robertson, JA and McGill, WB. 2008. The nitrogen balance of three long-term agroecosystems on a boreal soil in western Canada. *Agriculture, Ecosystems and Environment*, 127:241-250.
- 110 Robertson, SJ; McGill, WB; Massicotte, HB and Rutherford, PM. 2007. Petroleum hydrocarbon contamination in boreal forest soils: a mycorrhizal ecosystems perspective. *Biological Reviews* 82:213-240.
- 109 Izaurrealde, RC; Williams, J R; Post, WM; Thomson, AM; McGill, WB; Owens, LB and Lal, R. 2007. Long-Term modeling of soil C erosion and sequestration at the small watershed scale. *Climatic Change* 80:73–90.
- 108 Liang, Y; Leonard, JJ; Feddes, JJR; McGill, WB. 2006. Influence of carbon and buffer amendment on ammonia volatilization in composting. *Bioresource Technology* 97:748-761.

- 107 Izaurrealde, RC; Williams, JR; McGill, WB; Rosenberg, NJ and Quiroga Jakas, MC. 2006. Simulating soil C dynamics with EPIC: Model description and testing against long-term data. *Ecological Modeling* 192:362-384.
- 106 Liang, Y; Leonard, JJ; Feddes, JJ and McGill, WB. 2004. A simulation model of ammonia volatilization in composting. *Transactions of the ASAE*: 47(5): 1667-1680
- 105 Fletcher, CF; Arshad, MA; Izaurrealde, RC and McGill, WB. 2004. Spatial variability of nutrient requirements in fields of the south Peace River Region, Alberta. *Comm. Soil Sci. & Plant Analysis* 35:903-919.
- 104 Roy, JL; McGill, WB; Lowen, HA and Johnson, RL. 2003. Relationship between water repellency and native and petroleum-derived organic carbon in soils. *J Environ. Qual.* 32:583-590.
- 103 Bailey, VL and McGill, WB. 2002. The fate of ¹⁴C-Labeled pyrene in a creosote- and octadecane in an oil-contaminated soil. *Soil Biology & Biochemistry* 34:423-433.
- 102 Plante, AF; Feng, Y and McGill, WB. 2002. A modeling approach to quantifying soil macroaggregate dynamics. *Can J Soil Science.* 82:181-190.
- 101 Plante, AF and McGill, WB. 2002. Soil aggregate dynamics and the retention of organic matter in laboratory-incubated soil with differing simulated tillage frequencies. *Soil & Tillage Res.* 66:79-92.
- 100 Plante, AF, and McGill WB. 2002. Intraseasonal soil macroaggregate dynamics in two contrasting field soils using labeled tracer spheres. *Soil Science Society of America J.* 66: 1285-1295
- 99 Roy JL, McGill WB. 2002. Assessing soil water repellency using the molarity of ethanol droplet (MED) test. *Soil Science* 167:83-97
- 98 Roy JL, and McGill WB. 2001. Observations on the chemistry of organic materials in water-repellent soils. *International Turfgrass Society Research Journal* 9:428-436.
- 97 Bailey, VL and McGill, WB. 2001. Carbon transformations by indigenous microbes in four hydrocarbon-contaminated soils under static remediation conditions *Can. J Soil Science* 81:193-204.
- 96 Charrois, JWA; McGill, WB and Froese, KL. 2001. Ecotoxicity of creosote contaminated soils: I. Acute toxicity to *Eisenia fetida*. *Environmental Toxicology & Chemistry* 20:2594-2603.
- 95 Grant, RF; Juma, NG; Robertson, JA; Izaurrealde, RC and McGill, WB. 2001. Long-term changes in soil carbon under different fertilizer, manure, and rotation: Testing the mathematical model *ecosys* with data from the Breton Plots. *Soil Sci. Soc. Amer. J.* 65:205-214.
- 94 Izaurrealde, RC; McGill, WB; Robertson, JA; Juma, NG and Thurston, JT. 2001. Carbon balance of the Breton Classical Plots over half a century. *Soil Sci. Soc. Amer. J.* 65:431-441.
- 93 Salloum, MJ; Dudas, MJ and McGill, WB. 2001. Sorption of 1-naphthol to soil and geologic samples with varying diagenic properties *Chemosphere* 44:779-787.
- 92 Salloum, MJ; Dudas, MJ and McGill, WB. 2001. Variation of 1-naphthol sorption with organic matter fractionation: The role of physical conformation. *Organic Geochemistry* 32:709-719.
- 91 Izaurrealde, RC; McGill, WB and Rosenberg, NJ. 2000. Carbon cost of applying nitrogen fertilizer (Letter). *Science*, 288:811-812.
- 90 Duke, MJM, Plante, AF and McGill, WB. 2000. Application of INAA in the characterization and quantification of Dy-labeled ceramic spheres and their use as inert tracers in soil studies. *J. Radioanalytical and Nuclear Chemistry* 244:165-171.

- 89 Gregorich, EG; Liang, BC; Drury, CF; Mackenzie, AF and McGill, WB. 2000. The source and turnover of water soluble and microbial biomass carbon in agricultural soils. *Soil Biology & Biochemistry* 32:581-587.
- 88 McGill, WB and Roy, JL. 2000. Reply to Preston, CM. 2000. Comments on "Applications of ¹³C CPMAS NMR techniques in 'Petroleum residues as water-repellent substances in weathered nonwetable oil-contaminated soils' (Roy et al., 1999) and related studies. *Can J Soil Sci.* 80: 231-234.
- 87 Roy, JL and McGill WB. 2000. Investigation into mechanisms leading to the development, spread and persistence of soil water repellency following contamination by crude oil. *Can J Soil Sci* 80:595-606
- 86 Roy, JL and McGill WB. 2000. Flexible conformation in organic matter coatings: An hypothesis about soil water repellency. *Can. J Soil Sci.* 80:143-1n52.
- 85 Salloum, MJ; Dudas, MJ; McGill, WB and Murphy, SM. 2000. Surfactant sorption to soil and geologic samples with varying mineralogical and chemical properties. *Environmental Toxicology and Chemistry* 19:2436-2442.
- 84 Chen, Z; Xing, B and McGill, WB. 1999. A unified sorption variable for environmental applications of the Freundlich equation. *J Environ. Qual.* 28:1422-1428.
- 83 Janzen, RA; McGill; WB; Leonard, JJ and Jeffrey, SR. 1999. Manure as a resource: Ecological and economic considerations in balance. *Trans. ASAE* 42:1261-1273.
- 82 Plante, AF; Duke, MJM and McGill, WB. 1999. A tracer sphere detectable by Instrumental Neutron Activation Analysis for soil aggregation and tracer studies. *Soil Science Society of America Journal*, 63:1284-1290.
- 81 Roy, JL; McGill WB and Rawluk MD. 1999. Petroleum residues as water-repellent substances in weathered nonwetable oil-contaminated soils. *Can. J Soil Sci.*, 79:367-380.
- 80 Janzen, HH; Campbell, CA; Izaurralde, RC; Ellert, BH; Juma, N; McGill, WB; Zentner, RP. 1998. Management effects on soil C storage on the Canadian prairies. *Soil & Tillage Research* 47:181-195
- 79 Roy, JL and McGill, WB. 1998. Characterization of disaggregated nonwetable surface soils found at old crude oil spill sites. *Can. J. Soil Sci.* 78:331-344.
- 78 Rutherford, PM, Banerjee, DK; Luther, SM; Gray, MR; Dudas, MJ; McGill, WB; Pickard, MA and Salloum, MJ. 1998. Slurry-phase bioremediation of creosote- and petroleum-contaminated soils. *Environmental Technology* 19:683-696.
- 77 Singh, B; Chanasyk, DS and McGill WB. 1998. Soil water regime under barley with long-term tillage-residue systems. *Soil & Tillage Research* 45:59-74.
- 76 Zhang, M; Nyborg, M and McGill, WB. 1998. Phosphorus imbibed by barley seeds: Location within the seed and assimilation by seedlings. *Seed Science and Technology* 26:325-332.
- 75 Drijber, RA and McGill, WB. 1997. *Cytophaga hutchinsonii* ATCC 33406 contains a structural variant of the sulfonolipid N-acylcapsine. *Can. J. Microbiol.* 43:689-693.
- 74 Jans-Hammermeister, DC and McGill, WB. 1997. Evaluation of three simulation models used to describe plant residue decomposition in soil. *Ecological Modelling* 104:1-13.
- 73 Khorasani, GR, Janzen, RA; McGill, WB and Kennelly, JJ. 1997. Site and extent of mineral absorption in lactating cows fed whole-crop cereal silage or alfalfa silage. *J Animal Science* 75:239-248.

- 72 Smith P; Smith JU; Powlson, DS; McGill, WB; Arah, JRM; Chertov, O; Coleman, KW; Franko, U; Frolking, S; Jenkinson, DS; Jensen, LS; Kelly, RH; Klein-Gunnewiek, H; Komarov, AS; Li, C; Molina, JAE; Mueller, T; Parton, WJ; Thornley, JHM; Whitmore, AP. 1997. A comparison of the performance of nine soil organic matter models using datasets from seven long-term experiments. *Geoderma*, 81:153-225.
- 71 Chen, Z, Xing, B; McGill, WB and Dudas, MJ. 1996. α -Naphthol sorption as regulated by structure and composition of organic substances in soils and sediments. *Can. J. Soil Sci.* 76:513-522.
- 70 Janzen, RA; Xing, B; Gomez, CC; Salloum, MJ; Drijber, RA; and McGill, WB. 1996. Compost extract enhances desorption of α -naphthol and naphthalene from pristine and contaminated soils. *Soil Biology & Biochemistry* 28:1089-1098.
- 69 Singh, Baldev, Chanasyk, DS, and McGill WB. 1996. Soil hydraulic properties of an Orthic Black Chernozem under long-term tillage and residue management. *Can. J. Soil Sc.* 76:63-71.
- 68 Izaurrealde, RC, Feng, Y, Robertson, JA, McGill, WB, and Juma, NG. 1995. Long-term influence of cropping systems, tillage methods, and N sources on nitrate leaching. *Can. J Soil Sc.* 75:497-505.
- 67 Izaurrealde, RC., M. Choudhary, NG. Juma, WB. McGill, and L. Haderlein. 1995. Crop and N yield in short-term legume-based rotations practiced with zero tillage and low-input methods. *Agron. J.* 87:958-964.
- 66 Janzen, RA, Dormaar, JF and McGill, WB. 1995. A community-level concept of controls on decomposition processes: Decomposition of barley straw by *Phanerochaete chrysosporium* or *Phlebia radiata* in pure or mixed culture. *Soil Biol. & Biochem.* 27:173-179.
- 65 Janzen, RA, Cook, FD and McGill, WB. 1995. Compost extract added to microcosms may simulate community-level controls on soil microorganisms involved in element cycling. *Soil Biol. & Biochem.* 27:181-188.
- 64 Janzen, RA and McGill, WB. 1995. Community-level interactions control proliferation of *Azospirillum brasilense* cd in microcosms. *Soil Biol. & Biochem.* 27:189-196.
- 63 Drijber, RA and McGill, WB. 1994. Sulfonolipids as a biomarker to monitor the population dynamics of the genera *Cytophaga* and *Flexibacter* in soil worked by the earthworm *Aporrectodea turgida*. *Soil Biol. & Biochem.* 26:1395-1403
- 62 Drijber, RA and McGill, WB. 1994. Sulfonolipid content of *Cytophaga* and *Flexibacter* species isolated from soil and cultured under different nutrient and temperature conditions. *Can J Microbiol* 40:132-139
- 61 Jans, DC, McGill, WB and Jensen, TL. 1994. Nitrogen accumulation and relative rates of mineralization in two soil-plant systems following green manuring. *Can J Soil Sc.* 74:23-28
- 60 Jans, DC, McGill, WB and Jensen, TL. 1994. Dynamics of ^{15}N in two soil-plant systems following incorporation of 10% bloom and full bloom field pea. *Can J Soil Sc.* 74:99-107
- 59 Janzen, RA, Raverkar, KP, Rutherford, PM, and McGill, WB. 1994. Decreasing amounts of extractable phospholipid-linked fatty acids in a soil during decline in numbers of pseudomonads. *Can J Soil Sc.* 74: 277-284
- 58 Singh, B, Chanasyk, DS, McGill, WB, and Nyborg, MPK. 1994. Residue and tillage management effects on soil properties of a typic cryoboroll under continuous barley. *Soil & Tillage Res.* 32:117-133

- 57 Wani, SP, McGill, WB, Haugen-Kozyra, KL and Juma, NG. 1994. Increased proportion of active soil N in Breton loam under cropping systems with forages and green manures. *Can J Soil Sci.* 74:67-74.
- 56 Wani, SP, McGill, WB, Haugen-Kozyra, KL, Robertson, JA and Thurston, JJ. 1994. Improved soil quality and barley yields with fababeans, manure, forages and crop rotation on a gray luvisol. *Can J Soil Sci.* 74:75-84
- 55 Xing, B; McGill, WB; and Dudas, MJ 1994. Sorption of benzene, toluene, and o-xylene by collagen compared with non-protein organic sorbents. *Can J Soil Sc.* 74: 465-469.
- 54 Xing, B, McGill, WB and Dudas, MJ. 1994. Sorption of α -Naphthol onto organic sorbents varying in polarity and aromaticity. *Chemosphere*, 28:145-153
- 53 Xing, B, McGill, WB, Dudas, MJ, Maham, Y and Hepler, LG. 1994. Sorption of phenol by selected biopolymers: Isotherms, energetics, and polarity. *Environ Sc. & Technol.* 28:466-473
- 52 Xing, B, McGill, WB and Dudas, MJ 1994. Cross-correlation of polarity curves to predict partition coefficients of nonionic organic contaminants. *Envir Sc. & Tech.* 28: 1929-1933
- 51 Grant, RF, Juma NG and WB McGill. 1993. Simulation of carbon and nitrogen transformations in soils. I: Mineralization. *Soil Biol. & Biochem.* 25:1317-1329
- 50 Grant, RF, Juma NG and WB McGill. 1993. Simulation of carbon and nitrogen transformations in soils. II: Microbial biomass and metabolic products. *Soil Biol. & Biochem.* 25:1331-1338.
- 49 Izaurrealde, RC, Juma, NG, McGill, WB, Chanasyk, DS, Pawluk, S and Dudas, MJ. 1993. Properties of diverse cropping systems for cryoboreal subhumid central Alberta. *J Agric Sc. Cambr*, 120:33-41.
- 48 Naeth, MA, Chanasyk, DS, McGill, WB and Bailey, AW. 1993. Soil temperature regime in mixed prairie rangeland after pipeline construction and operation. *Can Agric Engg* 35:89-95
- 47 Xing, B, McGill, WB, Dudas, MJ, Hepler, LG and Dobrogowska, C. 1993. Thermodynamic parameters for pentachlorophenol sorption on montmorillonite in aqueous suspensions. *Chemosphere*, 26:1311-1324
- 46 Burton DL and McGill WB. 1992. Spatial and temporal fluctuation in biomass, nitrogen mineralizing reactions and mineral nitrogen in a soil cropped to barley. *Can J Soil Sc.* 72:31-42.
- 45 Drijber, RA and McGill, WB. 1992. A modification of the method using cellulose overlay agar to isolate and purify cellulolytic Cytophagas from enrichment cultures. *Can J Microbiol* 38: 687-689.
- 44 Janzen, RA, Rood, SB, Dormaar, JF, and McGill, WB. 1992. *Azospirillum brasilense* produces gibberellin in pure culture on chemically defined medium and in co-culture on straw. *Soil Biol. & Biochem* 24:1061-1064.
- 43 Izaurrealde, RC, McGill, WB, and Juma, NG. 1992. Nitrogen fixation efficiency, interspecies N transfer, and root growth in barley-field-pea intercrop on a Black Chernozemic soil. *Biol. & Fert of Soils.* 13:11-16.
- 42 Burton, DL and McGill, WB. 1991. Inductive and repressive effects of carbon and nitrogen on L-histidine NH₃-lyase activity in a Black Chernozemic soil. *Soil Biol. & Biochem* 23: 939-946.
- 41 Wani, SP, McGill, WB and Robertson, JA. 1991. Soil N dynamics and N yield of barley grown on Breton loam using N from biological fixation or fertilizer. *Biol. Fert Soil* 12:10-18.

- 40 Wani, SP, McGill, WB and Tewari, JP. 1991. Mycorrhizal and common-root rot infection, and nutrient accumulation in barley grown on Breton loam using N from biological fixation or fertilizer. *Biol. & Fert Soils* 12:46-54.
- 39 Izaurrealde, RC, Juma, NG and McGill, WB. 1990. Plant and nitrogen yield of barley-field pea intercrop in cryoboreal-subhumid central Alberta. *Agron J* 82:295-301.
- 38 Johnson, BN and McGill, WB. 1990. Comparison of ergosterol and chitin as quantitative estimates of mycorrhizal infection and *Pinus contorta* seedling response to inoculation. *Can J For Res.* 20:1125-1131.
- 37 Johnson, BN and McGill, WB. 1990. Ontological and environmental influences on ergosterol content and activities of polyamine biosynthesis enzymes in *Hebeloma crustuliniforme* mycelia. *Can J Microbiol.* 36:682-689.
- 36 Johnson, BN and McGill, WB. 1990. Variations in ergosterol content and ornithine decarboxylase activity of ectomycorrhizal root-soil systems. *Pl. & Soil* 127:71-79.
- 35 Malhi, SS, McGill, WB and Nyborg, M. 1990. Nitrate losses in soils: Effect of temperature, moisture and substrate concentration. *Soil Biol. & Biochem* 22:733-737.
- 34 Nason, GE, Pluth, DJ, Hardin, RT and McGill, WB. 1990. Dynamics of foliar N in Douglas-fir after spring and fall application of ammonium nitrate and urea. *Can J For Res.* 20:1515-1523.
- 33 Zhang, M, Nyborg, M and McGill, WB. 1990. Phosphorus concentration in barley (*Hordeum vulgare* L) seed: Influence on seedling growth and dry matter production. *Pl. & Soil* 122:79-83.
- 32 Burton, DL and McGill, WB. 1989. Role of enzyme stability in controlling histidine deaminating activity in soil. *Soil Biol. & Bioch.* 21:903-910.
- 31 Burton, DL, Gower, DA, Rutherford, PM and McGill, WB. 1989. Amino acid interference with ammonium determination in soil extracts using the automated indophenol method. *Commun. in Soil Sc. & Plant Anal* 20:555-565.
- 30 Monreal, CM and McGill, WB. 1989. Kinetic analysis of cystine cycling through the solution of a Gray Luvisol and an Andept soil. *Soil Biol. & Bioch.* 21:671-679.
- 29 Monreal, CM and McGill, WB. 1989. Kinetic analysis of microbial components under perturbed and steady-state conditions in a Gray Luvisol. *Soil Biol. & Bioch.* 21:681-688.
- 28 Monreal, CM and McGill, WB. 1989. The dynamics of free cystine cycling at steady-state through the solutions of selected cultivated and uncultivated Chernozemic and Luvisolic soils. *Soil Biol. & Bioch.* 21:689-694.
- 27 Monreal, CM and McGill, WB. 1989. The effects of soil amendments on the dynamics of free cystine cycling at steady-state through the solutions of a Black Chernozemic and an Andept soil. *Soil Biol. & Bioch.* 21:695-701.
- 26 Fyles, JW and McGill, WB. 1988. Effects of vegetation on properties of sandy soils in central Alberta. *Can J Soil Sc.* 68:381-394.
- 25 Naeth, MA, Chanasyk, DS, McGill, WB, Bailey, AW and Hardin, RT. 1988. Perennial pastures in Solonchic mixed prairie rangeland. *Can J Soil Sc.* 68:603-610.
- 24 Nason, GE, Pluth, DJ and McGill, WB. 1988. Volatilization and foliar recapture of ammonia following spring and fall application of 15-N urea to a Douglas-fir ecosystem. *Soil Sc. Soc. Amer. J* 52:821-828.
- 23 Fyles, IH and McGill, WB. 1987. The development of nitrogen cycling in subalpine reclaimed mine sites in southeastern British Columbia. *Can J Soil Sc.* 67:117-133.
- 22 Fyles, JW and McGill, WB. 1987. Decomposition of boreal forest litters from central Alberta under laboratory conditions. *Can J For Res.* 17:109-114.

- 21 Fyles, JW and McGill, WB. 1987. Nitrogen mineralization in forest soil profiles from central Alberta. *Can J For Res.* 17:242-249.
- 20 Naeth, MA, McGill, WB, and Bailey, AW. 1987. Persistence of changes in selected soil chemical and physical properties after pipeline installation in Solonchic rangeland. *Can J Soil Sc.* 67:747-763.
- 19 Monreal, CM, McGill, WB and Nyborg M. 1986. Spatial heterogeneity of substrates: Effects on hydrolysis, immobilization and nitrification of urea-N. *Can J Soil Sc.* 66:499-511.
- 18 McGill, WB, Cannon, KR, Robertson, JA and Cook, FD. 1986. Dynamics of soil microbial biomass and water-soluble organic C in Breton L after 50 years of cropping to two rotation. *Can J Soil Science*, 66: 1-19.
- 17 Monreal, CM and McGill, WB. 1985. Centrifugal extraction and determination of free amino acids in soil solutions by TLC using tritiated 1-fluoro-2, 4-dinitrobenzene. *Soil Biol. and Biochem* 17: 533-539.
- 16 Binkley, D, Sollins, P, and McGill, WB. 1985. Natural abundance of nitrogen-15 as a tool for tracing alder-fixed nitrogen. *Soil Sc. Soc. Amer. J* 49: 444-447.
- 15 McGill, WB, and Spence, JR. 1985. Soil fauna and soil structure: Feedback between size and architecture. *Quest Entomol.* 21: 645-654.
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- 44 Monreal, C, McGill, WB, Ng, D. 1982. ¹³⁷Cs activity in soils. A rapid method to estimate soil erosion losses. In University of Alberta SLOWPOKE Facility Annual Report. University of Alberta, Edmonton, PR51-R52.
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- 41 McGill, WB, Campbell, CA, Dormaar, JF, Paul, EA, and Anderson, DW. 1981. Soil organic matter losses. Alberta Soil Science Workshop, 72-133.
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- 39 Monreal, CM and McGill, WB. 1981. Death of microbial biomass as a factor in nitrogen mineralization in soils. Proc Alberta Soil Science Workshop, Edmonton, P 447-458.

- 38 Campbell, CA, McGill, WB, and Paul, EA. 1980. Trends in nitrogen under cereal production on the Canadian prairies. Paper presented at FAO/IAEA Nitrogen Symposium, Vienna 73 pp.
- 37 Coy, GR and McGill, WB. 1980. Aspects of control of protease production and activity in soil. Proc 1980 Annual Meeting of the Canadian Society of Soil Science, Edmonton.
- 36 McGill, WB. 1980. Factors affecting oil decomposition rate in soil. In Disposal of industrial and oily sludges by land cultivation. Resource Systems and Management Association, New Jersey, P 103-122.
- 35 Spiers, GA, Bergstrom, D, and McGill, WB. 1980. Aspects of control of phosphatase activity in soil. Proc 1980 Annual Meeting of the Canadian Society of Soil Science, Edmonton, (Abstract).
- 34 Kong, K, Lindsay, JD and McGill, WB. 1979. Interim report on characterization and utilization of peat in the Athabasca oil sands area. Alberta Oil Sands Environmental Research Program, Project LS 5.2. 95 pp.
- 33 McGill, WB. 1978. Total C, N, S and P. In JA McKeague, Ed, Manual on soil sampling and methods of analysis. Second Edition. Canada Soil Survey Committee, Ottawa, P 109-140.
- 32 McGill, WB, Hunt, HW, Woodmansee, RW and Reuss, JO. 1978. Simulation of carbon and nitrogen transformations in grassland soil. Agron Ab.p143.
- 31 McGill, WB, MacLean, AH, Turchenek, LW, and Gale, CA. 1978. Interim report on soils research related to revegetation of the oil sands area. Alberta Oil Sands Environ Res. Prog, Proj LS-4-1. Edmonton, Alberta 181 pp.
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- 29 McGill, WB and Hoyt, PB. 1977. Effect of forages and rotation management on soil organic matter. Proc Alberta Soil Science Workshop, P 33-80.
- 28 McGill, WB and Rowell, MJ. 1977. Extraction of oil from soil. In JA Toogood and McGill, WB, (Eds.) The reclamation of agricultural soils after oil spills. Part I: Research. Alberta Institute of Pedology, Edmonton, Alberta. Publication No M-77-11, P 61-78.
- 27 McGill, WB and Rowell, MJ. 1977. Soil respiration rates. In JA Toogood and McGill, WB, (Eds.) The reclamation of agricultural soils after oil spills. Part I: Research. Alberta Institute of Pedology, Edmonton, Alberta. Publication No M-77-11, P 98-107.
- 26 McGill, WB Rowell, MJ and Cook, FD. 1977. Microbiological aspects. In JA Toogood and McGill, WB, (Eds.) The reclamation of agricultural soils after oil spills. Part 1: Research. Alberta Institute of Pedology, Edmonton, Alberta. Publication No M-77-11, Pp. 94-98.
- 25 Rowell, MJ and McGill, WB. 1977. Study into the reclamation of five oil spills in Alberta. Final report, Project funded by PROSCARAC, Norwest Soils Research Ltd, Edmonton, 134 pp.

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- 23 Campbell, CA, Paul, EA, and McGill, WB. 1976. Effect of cultivation and cropping on the amount and forms of soil N. Proc Alberta Soil Science Workshop, P 7-101.
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- 21 McGill, WB. 1976. An introduction for field personnel to the effects of oil spills on soil and some general restoration and cleanup procedures. Alberta Institute of Pedology, Edmonton, Alberta. Pub No G-76-1 29p.
- 20 McGill, WB. 1976. Field and laboratory techniques for assessing the half-life of ¹⁴C-labeled crop residues in soil. Experiment 34. In V Middleboe, DR Nielsen and DA Rennie, (Eds.) Tracer manual on crops and soils. IAEA Tech Rept Series, No 171, P 253-259.
- 19 McGill, WB. 1976. Incubation jar technique for assessing the half-life of ¹⁴C-labeled protein and cellulose in soil. Experiment 33. In V Middleboe, DR Nielsen and DA Rennie, (Eds.) Tracer manual on crops and soils. IAEA Tech Rept Series, No 171, P 249-252.
- 18 McGill, WB. 1976. Total C, N, S and P. In JA McKeague, Ed, Manual on soil sampling and methods of analysis. Canada Soil Survey Committee, Ottawa, P 109-140.
- 17 McGill, WB. 1975. A preliminary model of oil decomposition in soil. In Proc Conference on the Environmental Effects of Oil and Salt Water Spills on Land, Univ. of Calgary and Alberta Environ, Edm AB, P 291-312.
- 16 McGill, WB. 1975. Soil conditions and site restoration problems and procedures following oil and salt water spills. Paper: Spill Seminar, Prairie Reg Oil Spill Containment and Recovery Advisory Comm.
- 15 McGill, WB, and Nyborg, M. 1975. Reclamation of wet forest soils subjected to oil spills. Contract No OSP3-0073, with Northern Forest Research Center, Edm. Dept. Soil Sc., Univ. of Alberta. AIP Pub No G-75-1, 129pp.
- 14 Nyborg, M, McGill, WB. 1975. Restoration of oil spills on forest soils. Proc: Environmental Effects of Oil and Salt Water Spills on Land, University of Calgary and Alberta Environment, Edm AB P 277-290.
- 13 Takyi, SK, Rowell, MJ, McGill, WB, and Nyborg, M. 1975. Reclamation and vegetation of surface mined areas in the Alberta oil sands. Contract report to Syncrude Canada. Dept. Soil Science, Univ. Alberta 200 pp.
- 12 McGill, WB. 1974. Degradation of organic pollutants in soil. Part I: Pesticides. Agriculture Bulletin, The Univ. Alberta, Edmonton, No 22, P 13-15.

- 11 McGill, WB. 1974. Degradation of organic pollutants in soil. Part 2: Petroleum and human and industrial wastes. Agriculture Bulletin, The University of Alberta, Edmonton, No 23, P 11-14.
- 10 McGill, WB. 1974. Soil nitrogen cycling, Matador site, CCIBP-PT. Canadian Committee for the International Biological Program—Productivity, Terrestrial, Edmonton, Alberta.
- 9 McGill, WB. 1974. Soil, systems analysis, modeling, management and the microbe. Proc Alberta Soil Science Workshop, P 20-43.
- 8 McGill, WB and Nyborg, M. 1974. Reclamation of forested soils damaged by oil spills. Results of preliminary studies under Contract No OSP3-0073, with Northern Forest Res. Center, Edmonton. Dept. Soil Sc. U of A.
- 7 McGill, WB, Nyborg, MP, Rowell, MJ, Toogood, JA, Cook, FD, and Laverty, DH. 1974. Methods of accelerating oil decomposition in soil. In Proc Workshop on Reclamation of Disturbed Land. Northern Forest Research Center, Edmonton, Alberta. Info Rept NOR-X-116: 118-137.
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- 5 Nyborg, M, McGill, WB, Carlson, LW, and Holland, WD. 1974. Methods of establishing plant growth after heavy oil spills. Proc Workshop on Reclamation of Disturbed Land. Northern Forest Research Center, Edmonton, Alberta. Information Report NOR-X-116: 138-150.
- 4 Cook, FD, McGill, WB, Nyborg, M, and Toogood, JA. 1973. Pipelines, oil spills, gas plants, and the Alberta environment. In D Mackay and W Harrison, (Eds.), Oil and the Canadian Environment. Proc Conference, University of Toronto, P 47-50.
- 3 Lowe, WE, Shields, JA, McGill, WB, and Paul, EA. 1972. Bacteria and the decomposer cycle. Pp. 43-47 In Matador Project, Fifth Annual Report. International Biological Program, Saskatoon, Saskatchewan.
- 2 McGill, WB. 1972. Carbon and nitrogen turnover in northern soils. Proc Alberta Soils Advisory Committee Meeting.
- 1 McGill, WB, Paul, EA. 1971. Decomposer cycle. 1: Preliminary models. Pp. 154-164 In Matador Project, Fifth Annual Report. International Biological Program, Saskatoon, Saskatchewan.

Invited Scientific Seminars and Talks

- 51 McGill, WB. 2013. *Quo Vadis: the living soil and society?*. Alberta Soil Science Workshop, Feb 20, Lethbridge, AB.
- 50 McGill, W.B. 2011. Soils & Change: Universe to the Microbe. Invited Presentation to Pacific Regional Soil Science Society. February, UBC.
- 49 McGill 2008. Food, Fuel Fiber – Future of (Forest) Soil Organic Matter. Invited Symposium Paper: Can Soc Soil Sci Annual Mtgs, UNBC
- 48 McGill, WB. 2004. Overview of Meaningful Pools in Determining C and N Dynamics. Soil Sci Soc America / Can Soc Soil Sci International Mtg Symp S3, Seattle Nov 2004.
- 47 McGill, WB. 2003. Nutrient cycling for efficient manure utilization. Manure Management 2003 Conference: Progress and Opportunities, Lethbridge June 24 – 26
- 46 McGill, WB. 2003. Nutrient cycling – From Liebig to landforms: 40 years of ASSW. Alberta Soil Science Workshop, Edmonton, Alberta, Feb 19.
- 45 McGill, WB, Izaurralde, RC and Feng, Y. 2001. Soil organic matter dynamics: unifying measureable variables and kinetic concepts. Invited paper, 7th International Symposium on Soil and Plant Analysis, Edmonton, 21 – 27 July 2001.
- 44 McGill, WB. 1999. Bioavailability: Inspiration from a soil water release curve and a bottle of wine. Department of Renewable Resources, U of Alberta.
- 43 McGill, WB. 1999. Soil C Fluxes in Agricultural Soils. Carbon Flux Process Experts Meeting, Downsview, Ontario January 18-19.
- 42 Izaurralde, RC; Haugen-Kozyra, K; McGill, WB; Janzen HH and Rosenberg NJ 1998. Soil C Dynamics: Measurement, simulation and site to region scale-up. Invited paper at the International Workshop on "Methods of Assessment of Soil Carbon", held in Columbus, Ohio, on 2-4 November 1998
- 41 McGill, WB and Charrois, JWA. 1997. Bioavailability of substrates to soil organisms. Annual Meeting of Canadian Society of Microbiologists, Université Laval
- 40 McGill, WB. 1997. What do you mean: “Construct a topsoil”? 34th Alberta Soil Science Workshop, Calgary AB.
- 39 McGill, WB. 1997. Fate and effects of petroleum hydrocarbons in the unsaturated zone. Presented at the CCME Hydrocarbon Workshop, Canadian Center for Inland Waters, Burlington ON.
- 38 McGill, WB. 1996. Soil sustainability: Microorganisms, and electrons. Conference #2; Solo / Suelo’96 XIII Congresso Latino Americano de Ciência do Solo, 4 - 8 August, Aguas de Lindóia, Sao Paulo, Brazil
- 37 McGill, WB; Feng YS and Izaurralde RC. 1996. Soil organic matter dynamics: From past frustrations to future expectations. Soil Biology Symposium, Solo / Suelo’96 XIII Congresso Latino Americano de Ciência do Solo, 4 - 8 August, Águas de Lindóia, Sao Paulo, Brazil
- 36 McGill, WB. 1995. Review and classification of ten soil organic matter models. Invited paper NATO Advanced Research Workshop on “Evaluation of soil organic matter models using existing, long term data sets”, held at IACR-Rothamsted, Harpenden, UK
- 35 McGill, WB. 1995. Regulation of C storage in and release from soils. Invited paper: Symposium on Greenhouse Gas Emissions. Annual Meeting of CSSS-AQSSS, Université Laval
- 34 McGill, WB. 1994. QSAR: From designing chemicals to attenuating their movement in the environment. Department of Renewable Resources, U of Alberta.

- 33 McGill, WB, 1992. Environmental Management: People as constructive members of ecosystems. Department of Land Resource Science, Guelph University
- 32 McGill WB. 1991. Modeling root C and N contributions to organic matter turnover. Workshop on Simulation Modeling of Long Term Management Scenarios, Michigan State University.
- 31 McGill WB. 1991. Effectiveness and the Science of Agriculture: Cycles as heuristic tools. Third Conference, The Chinese Agriculture Association of Students and Scholars, Blacksburg, Va.
- 30 McGill WB. 1991. The Science of Soils. Special seminar in Soils 600, University of Alberta.
- 29 McGill WB. 1990. Dynamics of soil organic carbon and nitrogen: The search for links in a hierarchical system. First quarterly soil biology seminar, CSIRO division of Soils, Glen Osmond, South Australia.
- 28 McGill WB. 1990. Dynamics of soil organic carbon and nitrogen: The search for links in a hierarchical system. CSIRO, division of Plant Industry, Adelaide, A.C.T., Australia.
- 27 McGill WB. 1990. Isotopes, biochemical markers and kinetic analyses: Old tools, new problems in soil microbiology. Department of Microbiology, University of Queensland, Brisbane, Qld., Australia.
- 26 McGill WB. 1990. Dynamics of soil organic C and N: Toward sustainability. CSIRO, division of Tropical Crops and Pastures, Brisbane, Qld., Australia
- 25 McGill WB. 1989. Soil organic matter dynamics. Agriculture Canada Research Station, Swift Current, Saskatchewan.
- 24 McGill WB. 1986. Modeling quality and dynamics of soil organic matter. Can. Soc. Soil Sc. Modeling Symposium, Saskatoon.
- 23 McGill WB. 1986. C, N, S, P. cycling: Integration of elemental cycles. International Humic Substances Society, Oslo.
- 22 McGill WB. 1985. Controls on dynamics of soil microbial biomass. CSIRO, Adelaide.
- 21 McGill WB. 1985. Internal C and N cycling in cleared Brigalow lands: A model with laboratory and field data. CSIRO, Division Of Tropical Crops And Pastures, Brisbane, Qld., Australia.
- 20 McGill WB. 1985. Modeling in the biosphere. Global biogeochemical modeling workshop. Atmospheric Environmental Service, Toronto.
- 19 McGill WB. 1985. Controls on dynamics of soil and fertilizer N. Amer. Soc. Agron. Special Symposium, Chicago.
- 18 McGill WB. 1984. Soil biomass size and activity: Of what value are ATP and AEC. CSIRO, Division of Tropical Crops and Pastures, Brisbane, Qld., Australia.
- 17 McGill WB. 1984. N cycling in pastures and forests. QDPI/CSIRO Workshop. Brisbane, Qld., Australia.
- 16 McGill WB. 1984. Understanding soil-plant systems through integrated modeling and experimentation. Biloela, Qld., Australia.
- 15 McGill WB. 1984. N and C cycling through grassland soil-plant systems. CSIRO, Division of tropical Crops and Pastures, Brisbane, Qld., Australia.
- 14 McGill WB. 1984. Soil biological process: problems of scale. Australian Soil Science Society, Queensland Chapter.
- 13 McGill WB. 1983. Organic matter dynamics. Land Resource Research Institute, Ottawa.
- 12 McGill WB. 1983. Effects of cultivation on organic matter content of Canadian prairie soils. Land Degradation Workshop: Expert Committee on Soil Survey, Ottawa.

- 11 McGill WB. 1982. Contributions of cultivated soils to atmospheric CO₂. Climate and CO₂ Workshop. Canadian Climate Center, Atmospheric Environment Service, Toronto
- 10 McGill WB. 1981. Biogeochemical aspects of nutrient cycle interactions in soil and organisms. SCOPE workshop on interactions of the biogeochemical cycles, Friiberghs Herrgard, Sweden
- 9 McGill WB. 1980. Interactions of C, N, S and P cycles in soil. SCOPE, Interactions of biogeochemical cycles meeting. Fort Collins, Colorado
- 8 McGill WB. 1980. Interactions of C, N, S and P cycling in soil organic matter during pedogenesis. Department of Soil Science, University of Saskatchewan.
- 7 McGill WB. 1980. The mechanistic approach to modeling litter decomposition dynamics. NSF sponsored meeting. Ecosystems Center, Woods Hole.
- 6 McGill WB. 1979. Simulation models of the terrestrial nitrogen cycle. Workshop: Nitrogen Cycling in Terrestrial Ecosystems. Gysinge Sweden.
- 5 McGill WB. 1978. Comparative aspects of C, N, S and P cycling in soil. Soil biology workshop on nutrient cycling, ISSS Congress, Edmonton.
- 4 McGill WB. 1977. C and N cycling in grasslands. Department of Soil Science, University of Saskatchewan.
- 3 McGill WB. 1975. Oil and soil. Petroleum Section, Canadian Institute of Mining and Metallurgy Meetings, Edmonton.
- 2 McGill WB. 1975. Organic matter decomposition. Seminar and workshop on nutrient cycling in ecosystems, Estes Park, Colorado. Sponsored by National Resource Ecology Laboratory. Colorado State University and US. National Science Foundation.
- 1 McGill WB. 1973. Nitrogen cycling. Synthesis meeting, US. And Canadian grassland IBP groups. Colorado State University, Ft. Collins.

Presentations to Scientific, Community and Professional Groups (Some Recent Examples)

- 57 Burton, S; Robinson, J; Kabzems, R and McGill, WB. 2014. Stories from the Soils: An Interactive Soils and Forage Course. Soils Education Session, Canadian Society of Soil Science, May 2014 (Banff).
- 56 McGill, WB. 2013. Professionalism and Community Connections. Northern BC Graduate Student Society Graduate Conference UNBC Feb 28.
- 55 McGill, WB; Izaurrealde, RC; Williams, JR; Link, RP; Manowitz, DH; Schwab, DE and Zhang, X. 2012. An EPIC adventure: modeling element cycling and trace gas dynamics from electrons to climatic zones. Alberta Soil Science Workshop, Feb.
- 54 McGill, WB. 2012. Are Ecosystems Fragile? Natural Resources and Environmental Studies Institute Colloquium, UNBC, Jan
- 53 Izaurrealde, RC; McGill, WB; Williams, JR; Manowitz, DH; Schwab, DE; and Zhang, X. 2011. Predicting Soil Carbon Dynamics, Net Ecosystem Exchange, and Nitrous Oxide Emissions with the EPIC Model. Soil Sci. Soc. Amer. Annual Mtg, October, San Antonio TX.
- 52 McGill, W.B. 2011. Soil Amendments for Prince George. Two hour talk to David Douglas Botanical Garden Society, Prince George, November.
- 51 McGill, WB. 2010. Caressing Mother Earth's resilient skin. Café Scientifique, Prince George
- 50 Schwab, DE; Izaurrealde, RC; McGill, WB Williams, JR and Schmid E 2009. Denitrification and Nitrification in EPIC. CSiTE Modeling Meeting, Joint Global Change Research Institute, University of Maryland
- 49 Izaurrealde, R.C., and W.B. McGill. 2005. How does landscape architecture influence the upscaling of soil processes? Invited Presentation made by RC Izaurrealde at the Frontiers in Soil Science Research Workshop, December 12-14, 2005, National Academy of Sciences, Washington, DC. See *Frontiers In Soil Science Research*, Report of a Workshop (2009). http://www.nap.edu/catalog.php?record_id=12666
- 48 Izaurrealde, R.C.; Post, W.M. ; Williams, J.R.; Puget, P.; Thomson, A.M.; McGill, W.B.; Lal, R.; and Owens, L.B. 2005. Modeling long-term soil organic carbon dynamics as affected by management and water erosion. Third USDA Greenhouse Gas Symposium, Baltimore.
- 47 McGill, WB; Izaurrealde, RC; Williams, JR. 2004. A selfish microbe model of soil trace gas metabolism. Soil Sci Soc America / Can Soc Soil Sci International Mtg Symp S3, Seattle Nov 2004.
- 46 McGill, W. B.; Vasanathan, S and Laurel, A. 2001. Biotreatment of Drilling Cuttings Using Wood Shavings and Canola Meal. In *Situ and On-Site Bioremediation: The Sixth International Symposium*, San Diego, CA, June 4-7, 2001.
- 45 McGill, WB. 1999. Summary of results from the UNOTEC project at Ellerslie 1998/99. Alberta Energy Utilities Board, 2 Feb 1999.
- 44 Charrois, JWA and McGill, WB. 1999. DNA adduct quantification in *Eisenia foetida* after subchronic exposures to creosote-contaminated soils. 36th Alberta Soil Science Workshop, Brooks, AB.
- 43 Duke, MJM, Plante, AF and McGill, WB. 1999. Application of Instrumental Neutron Activation Analysis in the characterization and quantification of Dy-labeled ceramic spheres and their use as inert tracers in soil studies. 10th Modern Trends in Activation Analysis, April, Washington, DC.
- 42 Bailey, VL and McGill, WB 1998. Transformations of model organic contaminants in two hydrocarbon-contaminated soils. Annual Meetings, CSSS, Vancouver, July 5-9.

- 41 Charrois, JWA and McGill, WB. 1998. Bioavailability and Risk of Toxicity in Two Biotreated Creosote Contaminated Soils: Soils for a Healthy Society. Annual Meetings, CSSS, Vancouver, July 5-9.
- 40 Cody, MJ; McGill, WB; Alegre, J and Kass, DCL. 1998. Release and movement of N from litters of contrasting fallow systems in the humid tropics of Peru. Annual Meetings, CSSS, Vancouver, July 5-9.
- 39 McGill, WB, Feddes, JJR; Franke, JO; Janzen, RA; Leonard, JJ; and Liang, Y. 1998. Conserving nutrients in manure compost. Composting Conference, 16 - 17 April, Olds, AB. .
- 38 McGill, WB. 1998. Environmental aspects of agricultural waste management. The 11th Annual WEALA & AWAC Workshop on: "Environmental and Analytical Issues of Agricultural Waste Management, Alberta Research Council April 11, 1998
- 37 Offord, JL and McGill, WB. 1998. Specific N Release: Quantity and quality of soil N. Presented at: June 13 to 18, 1998 University of Northern British Columbia, Sponsored by UNBC and Forest Renewal BC
- 36 Offord, JL and McGill, WB. 1998. Specific mineral N release from organic and mineral boreal forest horizons at five temperatures related to soil field temperatures. Annual Meetings, CSSS, Vancouver, July 5-9 (Poster).
- 35 Plante, AF; McGill, WB; Duke, MJM; and Stensrud, JC. 1998. Development of a tracer method for studying soil aggregate dynamics. Annual Meetings, CSSS, Vancouver, July 5-9 (Poster).
- 34 Salloum, MJ; Dudas, MJ and McGill, WB. 1998. Polarity of soil organic matter determined by 1-naphthol sorption and nuclear magnetic resonance spectroscopy. Annual Meetings, CSSS, Vancouver, July 5-9.
- 33 Abboud, SA; McGill, WB. And Leonard, JJ. 1997. Co-composting of Edmonton's sewage sludge and municipal solid waste. – effect of water content on compost respiration. Composting Council of Canada.
- 32 Bailey, VL and McGill, WB. 1997. Do growing plants facilitate bioremediation in two hydrocarbon-contaminated soils? AIC/CSSS Annual Mtg., Truro NS.
- 31 Bailey, VL and McGill, WB. 1997. Summary & synthesis of bioavailability research in the ESTAC project. Technology Transfer Seminar, Edmonton.
- 30 McGill WB. 1997. Soil Remediation: Establishing Connections Seminar: Guy Poirier group CHUL Québec City
- 29 McGill, WB Abboud, SA and Leonard, JJ. 1997. Co-Composting pilot project: Product quality testing and assessment. Presentation to consortium designing the co-composting facility for TransAlta Enterprises and City of Edmonton.
- 28 Mu R, Leonard, JJ and McGill, WB. 1997. Co-composting of industrial bio-oxidation sludge with wood waste, Part I: Laboratory trials. Composting Council of Canada
- 27 Offord, JL and McGill, WB. 1997. N mineralization rates at different temperature and moisture conditions. AIC/CSSS Annual Mtg., Truro NS.
- 26 Roy, JL and McGill, WB. 1997. The behavior of amphiphilic molecules in dispersed water-repellent soils. AIC/CSSS Annual Mtg., Truro NS.
- 25 Salloum, MJ; Dudas, MJ and McGill, WB. 1997. Surfactant sorption to soil: Implications for surfactant enhanced soil remediation. AIC/CSSS Annual Mtg., Truro NS.
- 24 Bailey, VL and McGill, WB. 1996. Restrictions to bioremediation in four hydrocarbon-contaminated soils. CSSS Annual Mtgs., Lethbridge, Alberta

- 23 Frank, J; Leonard, JJ; Janzen, RA; Feddes, JJR and McGill, WB. 1996. A system of studying microbial heat production for cold-climate manure composting. Paper No. 96-500, CSAE Annual Mtgs. Lethbridge, Alberta
- 22 Gomez, CC; Janzen, RA and McGill, WB. 1996. Leaching of soluble C, N and P from intact soil cores amended with manure or compost. CSSS Annual Mtgs., Lethbridge, Alberta.
- 21 McGill, WB. 1996. Soil Remediation. University of Alberta - Industry Liaison Office seminar with Dr. Richard Rodgers, Imperial Oil Resources Ltd
- 20 Rutherford, PM; Banerjee, DK; Luther, SM; Dudas, MJ; Gray, MR; McGill, WB; Pickard, MA; Salloum, MJ and Hashimoto, A. 1996. Desorption and bioremediation of organic contaminants in soils. CSSS Annual Mtgs., Lethbridge, Alberta.
- 19 Salloum, MJ; Dudas, MJ and McGill, WB. 1996. Surfactant and contaminant interaction with soils. CSSS Annual Mtgs., Lethbridge, Alberta.
- 18 McGill, WB, Izaurralde, RC, and Juma, NG. 1995. Carbon sequestration: A win-win use of land. 65th Annual Breton Plots Field Day.
- 17 Rutherford, PM; Luther, SM; Banerjee, D; Dudas, MJ; Gray, MR; McGill, WB; and Pickard, MA. 1995. Desorption and bioremediation of organic contaminants from soil. ESTAC Technology Day, Toronto
- 16 McGill WB and Janzen RA. 1995. Use of manure to reduce greenhouse gas emissions. Greenhouse Gases Workshop, Lethbridge Research Station, January.
- 15 McGill, WB and Dinwoodie, GD. 1994. Waste utilization: Potential contaminants and human health form a soil perspective. Edmonton Board of Health.
- 14 Xing, B., N. Sawatsky, C. Qualizza, W.B. McGill, Y. Feng and M.J. Dudas. 1993. Sorption of α -naphthol: equilibrium, rate, and polarity effect. (Abstract) Assoc. of Environ. & Analytical Chemistry 3rd Ann. Soil & Sediment. Analysis Workshop, Winnipeg, Aug. 8-11, 1993.
- 13 McGill, WB, 1991. Soil organic matter and reclamation. Lecture to staff of Reclamation Division, Alberta Environment.
- 12 McGill, WB, 1991. Can we save Mother Earth's thin skin? Public lecture at "Super Saturday" University of Alberta.
- 11 McGill, WB, 1991. Land Degradation. Governor General's Canadian Studies Conference. Olds, Alberta.
- 10 McGill, WB, 1991. Wrap up presentation: Sustainable Agriculture. Sustainable Agriculture Traveling symposium. Olds, Alberta; and Vulcan, Alberta
- 9 McGill, WB, 1990. Soil conservation into the future. Northwest Peat Soil Association, Westlock, Alberta.
- 8 McGill, WB, 1989. On ecological food production: An Alberta perspective. Panel discussion Sustainable Agriculture Association, Edmonton
- 7 McGill, WB, 1989. Sustaining soil quality and the problem of flight. Soil Degradation: Reappraisal and Future Consideration. Soils and Crops Workshop, Saskatoon.
- 6 McGill, WB, 1989. Sustainable farming methods: Cultivation practices to minimize soil degradation. Soil, Water and Wildlife Information Session for Producers, Barrhead
- 5 McGill, WB, 1987. Transformations of organic material. Soil Conservation In-service Training. PFRA, Saskatoon.
- 4 McGill, WB, 1987. Microbiology of agricultural soils. Invited plenary session paper, Alberta Soil Science Workshop, Calgary.

- 3 McGill, WB, 1987. Farming systems using forages and organic materials and their effects on soils. Amer. Soil and Water Cons Soc. (Alberta Chapter) Spring Conf. Edmonton
- 2 McGill, WB, 1986. Soil Analysis: Impact on agricultural and resource industries. (rapporteur). WEALA Workshop, Calgary
- 1 McGill, WB, 1984. Organic matter and nutrient loss in Central Alberta. Presentation at seminars on soil conservation, Stettler and Barrhead.

5. ADMINISTRATION, COMMITTEES AND COMMUNITY SERVICE

Faculty / Department

UNBC	2001 – 2010	Numerous committees and task forces; a few continuing examples are listed below Dean College of Science and Management (CSAM) College Promotion & Tenure Committee (Chair) CSAM College Council, (Chair) CSAM Appointment Selection Committee for Chairs (Chair)
UNBC	2003 - 2010t	College management Team (Chair)
U of A	1999	Breton Plots Symposium Committee
U of A	1998	Department Teaching and Learning Committee Department Representative to University Library Department Graduate Program Review Committee
U of A	1997	Department Administration Review Task Force Department Graduate Program Review Committee
U of A	1996 - 1997	Faculty Teaching & Learning Committee
U of A	1995	Committee on Field Research Facilities Teaching and Learning Committee (Fall term)
U of A	1994	Department member on FEC for tenure hearings of: YS Feng; RC Izaurralde; T Martin
U of A	1993 - 1994	Merger Committee
U of A	1991 - 1992	Graduate Coordinator, Department Soil Science
U of A	1979 - 1989	<u>Chair</u> Department of Soil Science
U of A	1987 - 1988	Agricultural Systems Ad Hoc Committee
U of A	1986 - 1988	Science, Technology and Society Studies Committee, Faculty of Arts (<u>Agriculture & Forestry representative</u>).
U of A	1985 - 1989 1979 - 1984	Faculty Salaries and Promotions Committee.
U of A	1981 - 1984	Endowment Fund for the Future Committee.
U of A	1979 - 1984	Alberta Institute of Agrologists Board of Examiners.
U of A	1978	Ad Hoc Equipment Committee (<u>Chair</u>).
U of A	1976 - 1979	Curriculum Review Committee. (<u>Chair: 1978-1979</u>)
U of A	1974 - 1975	Executive Committee
U of A	1972 - 1975	Registration and Revisions Committee. (<u>Chair: 1973-1974</u>)

University

UNBC	2013 - 2015	UNBC –Peace River Forage Association Interactive Soils & Forage Course
UNBC	2014 – 2015 (Sept)	Manager of Northern Analytical Lab Services
UNBC	2014 - present	Student Appeals and Discipline on behalf of the Dean
UNBC	2011 – 2012	UNBC-Muskwa-Kechika Collaboration Agreement Steering Committee
UNBC	2011 - 2013	UNBC – Omineca Beetle Action Coalition; Agricultural Research Initiative (Lead)
UNBC	2001- 2004	Board of Directors, Aleza Lake Research Forest
UNBC	2001 – 2002	New Lab Bldg Planning & Design Committee
UNBC	2003 – 2004	Northern Health Sciences Center Planning & Design Assistance
UNBC	2004 – 2005	Teaching & Learning Bldg Planning & Design Assistance
UNBC	2002	Selection committee for Dean of Graduate Studies
UNBC	2002	Selection committee for Vice President (Admin & Finance)
UNBC	2003	Selection committee for Director of Institutional Research
UNBC	2004	Selection committee for Vice President (Academic) & Provost
UNBC	2001 – 2010	Academic Budget Council President’s Council Senate Senate Committee on Research and Graduate Studies Senate Committee on Academic Planning and Policy Senate Committee on Scholarships and Bursaries Space Allocation Committee
UNBC	2002 – 2010	Research Chair Selection Committees
UNBC	2004 - 2010t	Committee on Research Planning and Services Academic Planning and Services Committee
U of A	1999	Task Force on Thesis Based Master’s Degrees (<u>Chair</u>) Adjudicator for Intellectual Infrastructure Program
U of A	1997 – 1999	General Appeals Committee Member (<u>Panel Chair</u> in 1998) Graduate Assistance Policy Committee
U of A	1996	Internal-External reviewer for Graduate Review of Department of English
U of A	1995	Selection panel: Faculty of Graduate Studies & Research / University of Alberta nominees for NSERC Doctoral thesis prize. (7 theses reviewed)
U of A	1992-1994	Killam Annual Professor Selection Committee (Chaired by Vice President - Research)
U of A	Sept 1991 - Dec 1993	Associate Dean, FGSR Chair Selection Committees (FGSR Rep) Decanal Selection Committees (FGSR Rep; into 1994) Graduate Scholarship Committee (Chair)
U of A	1991 – 1994	Academic Development Committee - General Faculties Council elected rep

U of A	1990 – 1992	AAS:UA Council - Agriculture & Forestry rep Chair Selection Committees - Vice Pres (Acad.) rep Committee on Admissions and Transfers - General Faculties Council elected rep.
U of A	1990 - 1993 1979-1984	Faculty of Graduate Studies and Research Council.
U of A	1988 – 1989	Decanal Selection Committee: Dentistry - General Faculties Council Representative
U of A	1982 – 1984	Facilities Development Committee.
U of A	1974 – 1984	Library Committee - Soil Science Representative.

Community & Provincial

BC	2014 – Present	BC Forage Council - Project Advisory Committee
BC	2013 - 2014	Past President Prince George Chamber of Commerce
BC	2012 - 2013	President Prince George Chamber of Commerce
BC	2011 – Present	BC Forest Practices Board (Appointed by Cabinet)
BC	2010	Founding member Northern Technology & Engineering Society
BC	2009—2012	Leaders Group: Northern Interior Mining Group
BC	2008 - 2014	Board of Haida Gwaii Higher Education Society
BC	2008 – 2012	Director & Executive Prince George Chamber of Commerce
BC	2008 – 2012	Board and Vice Chair of Resources North Association
BC	2004 - 2006t	BC Coalition for Implementation of the National Forest Strategy
BC	2002 – 2010	Advisory Board, Faculty of Forestry UBC
BC	2002 – 2008	Board of Directors, McGregor Model Forest Association
Alberta	1993 – 1994	Alberta Heritage Foundation Scholarships – Adjudicator
Alberta	1980 – 1989	Alberta Soils Advisory Committee (<u>Chair</u>)
Alberta	1979 – 1989	Alberta Agriculture Coordinating Committee
Alberta	1983 – 1989	Alberta Soil/Land Inventory Coordinating Committee (<u>Chair: 1983/84</u>)
Alberta	1981 – 1989	Farming for the Future: Land Resource and Engineering Program Committee
Alberta	1988 – 1989	Alberta Agricultural Research Institute: Resource Conservation Subcommittee
Alberta	1990 – 1991	Alberta Institute of Agrologists (Edmonton Branch): Past President (Acting)
Alberta	1988 – 1989	Alberta Institute of Agrologists (Edmonton Branch): President
Alberta	1987 – 1988	Alberta Institute of Agrologists (Edmonton Branch): President-Elect
Alberta	1986 – 1987	Alberta Institute of Agrologists (Edmonton Branch): Continuing Education Director

National and International

- 2012 - Present Associate Deputy Editor: Climatic Change
- 2004 Chair NSERC Site Visit Team for the Research Network: Metals in the Holistic Environment.
- 1999 Awards Committee: CSSS
Planning Committee: 7th International Symposium for Soil and Plant Analysis
- 1996 External Reviewer for the Agriculture Development Fund-supported Strategic Research Program in Soil Science, Integrated Soil Management, University of Saskatchewan.
- 1995 - 1996 Associate Editor: Canadian Journal of Soil Science
- 1993 - 1994 Canadian Society of Soil Science: Past President
- 1992 - 1993 Canadian Society of Soil Science: President
- 1991 - 1992 International Society of Soil Science: Program and Editorial Committee - Working Group "MO"
- 1991 - 1992 Canadian Society of Soil Science: President-Elect / Awards Chair
Canadian Society of Soil Science: Program Committee (Chair) 1992 Annual Meeting
- 1990 - 1992 Canadian Society of Soil Science: Finance Committee
- 1987 - 1989 Black Dragon River Consortium: U. of Alberta Representative on Management Committee
- 1988 Agricultural Institute of Canada: Biotechnology in Agriculture Symposium Committee (Chair)
- 1977 - 1978 International Society of Soil Science: Commercial Exhibits Committee (Chair)
- 1978 International Society of Soil Science: Soil Biology Nutrient Cycle Workshop Committee

6. REFEREE, REVIEWER, OR EXTERNAL ASSESSOR

External Assessment of Programs or People

Agriculture and Agri-Food Canada
 Batelle, Pacific Northwest National Laboratory
 Canada Research Chairs Program
 McGill University
 United States Department of Agriculture
 University of British Columbia
 University of Massachusetts
 University of Northern British Columbia
 University of Saskatchewan

Journal Referee

Canadian J of Botany
 Canadian J of Forest Research
 Canadian J of Microbiology
 Canadian J of Soil Science
 Chemical Geology
 Chemosphere
 Climatic Change
 Environmental Science & Technology
 Environmental Technology
 Geoderma
 J Environmental Engineering & Science
 J Hazardous Materials
 Pedosphere
 Plant & Soil
 Prairie Forum
 Science
 Science of the Total Environment
 Separation Science and Technology
 Soil & Tillage Research
 Soil Biology & Biochemistry
 Soil Science Society of America Journal

Research Grant Reviewer

Alberta Agricultural Research Institute
 Alberta Science & and Research Authority (ASRA)
 Canada Research Chairs
 Canadian Foundation for Climate and Atmospheric Science (CFCAS)
 Challenge Grants in Biodiversity (U of Alberta)
 Earth & Life Sciences Council, (Netherlands); Netherlands Organization for Scientific Research
 Manitoba Rural Adaptation Council Inc.

National Science Foundation (USA)
NERC (UK)
NSERC

7. TEACHING AND RESEARCH EXPERIENCE OUTSIDE CANADA

Australia
China
Costa Rica
Peru
Thailand
USA

8. CURRENT MEMBERSHIPS

American Association for the Advancement of Science
American Chemical Society
British Columbia Institute of Agrologists
Canadian Society of Soil Science
Soil Science Society of America