

PETER J. DILLON

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EDUCATION: B. Sc. (Hons.) Chemistry, University of Toronto (1968)
M. Sc. Chemistry, University of Toronto (1969); Supervisor, Dr. A. G. Brook
Ph. D. Zoology, University of Toronto (1974); Supervisor, Dr. F. H. Rigler

AWARDS: ISI Highly Cited Researcher (2006)
Trent University Distinguished Research Award (2004)
Miroslaw Romanowski Medal of the Royal Society of Canada (2003)
F. H. Rigler Memorial Award, Society of Canadian Limnologists (2001)
Species named in my honour - *Dinobryon dillonii* (2000)
NSERC Industrial Research Chair in Watershed Biogeochemistry (1999)
Fellow of the Royal Society of Canada (1993)
Fellow of the Rawson Academy of Aquatic Science (1991)
Ontario Ministry of Environment (First) Excellence in
Research Award (1989)
Ontario Provincial Graduate Scholarship (1972, 1973)
National Research Council Graduate Scholarship (1969, 1970, 1971)
Undergraduate Scholarships, University of Toronto (1964, 1965, 1966, 1967)
Douglas M. Burgess Scholarship, University of Toronto (1964)

EMPLOYMENT HISTORY:

1968-70 Teaching Assistant, Department of Chemistry, University of Toronto.

1970-73 Teaching Assistant, Department of Zoology, University of Toronto.

1973-74 Canada Centre for Inland Waters, Department of the Environment, Assistant to the Senior Scientist (Dr. R. A. Vollenweider).

1974-1986 Supervisor of Limnology Unit, Water Resources Branch, Ontario Ministry of the Environment. Responsible for the Dorset Research Centre. Supervised and participated in projects dealing with nutrient inputs to and carrying capacity of lakes, acidification and trace metal contamination of lakes, precipitation chemistry, macrophyte production and control in lakes, water

quality in urban lakes, use of marsh lands for removal of nutrients from waste water, lake and watershed mass balance studies and the determination of rates and effects of acidification.

- 1986-1999 Manager of the Aquatic Science Section, Standards Development Branch, then Laboratory Services Branch of the Ontario Ministry of the Environment. Responsible for the Dorset Environmental Science Centre, including the scientific research, surveillance and monitoring programmes, and the administration including both financial and human resources. My scientific work included studies of nutrients and eutrophication, lake and watershed mass balance studies of acidification-related parameters and of carbon.
- 1999-present OPG/NSERC Industrial Research Chair in Watershed Biogeochemistry, Professor in Environmental & Resource Studies and Chemistry Departments, Trent University
- 2001-present Director, Water Quality Centre, Trent University. The WQC is an environmental analytical facility that houses state-of-the-art instrumentation and that focuses on development of innovative new methods in environmental chemistry.

OTHER UNIVERSITY APPOINTMENTS:

- Adjunct member of the Faculty of Graduate Studies at York University in association with the Geography Department.
- Associate Member of the Faculty of Graduate Studies in association with the Department of Animal Sciences at the University of Guelph.
- Adjunct member of the Faculty of Graduate Studies in association with the Department of Biology at the University of Waterloo.
- At various times, adjunct faculty member at University of Toronto and other universities (depending on whether or not I am co-supervising any graduate students at these universities at the time).

RESEARCH EXPERIENCE:

- 1968-70 Synthetic and structural organometallic chemistry, photochemistry, thermolytic reactions.

1970-73	Nutrient budget modelling and interpretation, trophic status-nutrient relationships.
1973-74	Library research on primary production, trace metals and pesticide contamination.
1974-79	Nutrient budget modelling, studies of acidified lakes, fertilization of acid lakes, studies on responses of lakes to nutrient inputs, geochemical cycling of elements, precipitation chemistry.
1979-85	Mass balance modelling (nutrients, acids and bases), sediment chemistry and sedimentation rates, effects of acidification on the chemistry of watersheds and lakes.
1985-1998	Modelling chemistry of lakes and streams, biogeochemistry of catchments including the sulphur cycle, the carbon cycle, alkalinity generation in ecosystems. Studies of the effects of climate and climate change on the physical and chemical properties of lakes and rivers.
1999-present	Biogeochemistry of lakes and catchments, including elemental cycles (S, N, C, P, O, base cations, ANC), weathering and forest accumulation of elements, mercury and other trace metal cycles, metal-DOC interactions, climate change effects on biogeochemistry.

RESEARCH RESPONSIBILITIES: GOVERNMENT

In my career with the Ontario Ministry of the Environment, I planned and directed the scientific activities of the Aquatic Science Section (a group of ~20 scientist and technicians) and planned, conducted and interpreted my own research. I was responsible for a many major scientific programmes including the following examples:

1) Sudbury Environmental Study (1973-81): an 8-year study of the effects of smelter operations on aquatic ecosystems near Sudbury, Ontario completed in 1981; a considerable number of technical papers based on this project have been published in the scientific literature, a summary report describing the entire study has been prepared, and a book published by John Wiley and Sons; the results of this study are the basis for the Ministry's policies concerning Inco Ltd. and Falconbridge.

2) Lakeshore Capacity Study (1975-81): a project to develop a methodology for assessing the capacity of soft-water lakes for development; planned and directed the Ministry of the Environment Trophic Status Component of this 6-year project; involved in carrying out many

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aspects of the programme, including much of the data interpretation, report and paper preparation and presentation of results; carried out a number of related sub-projects including a study of new methodologies of measurement of the biologically available component of phosphorus, a study of sedimentation rates in Precambrian lakes using radionuclide chronologies, etc. Additional work on nutrients and nutrient budget modelling was initiated in 1987 and is ongoing.

3) Acid Precipitation in Ontario Study (1979-1994): responsible for both the aquatic effects programme and the biogeochemistry programme in this study; involved in all stages of the planning and, in the review of the methodologies used; directed the work programme and the data analyses and am involved in most aspects of the data interpretation, report and paper agencies (national, international) and with university research programmes; directly conducted several projects, e.g. a study of whole-lake trace metal accumulations, a study of chemical changes in streamwater during the snowmelt process, etc.

4) Inland Lakes Study (1985-1990): a diverse programme including studies of the nutrient budgets of several eutrophic Kawartha Lakes, the mass budgets, bioconcentration and bioaccumulation of mercury in several soft-water lakes, the accumulation of trace organic pollutants in the biota of soft-water lakes, geographic information systems (GIS) linkages with remote-sensed data, chemical surveys of large lakes in Ontario, etc.

In addition, I oversaw the administrative management of the Dorset Environmental Science Centre and the Aquatic Science Section. This includes financial responsibility (ca. between \$1,500 K and \$4,000 K/yr, and personnel management (has varied between 15 and 40 staff).

RESEARCH RESPONSIBILITIES: ACADEMIC

In my academic career as OPG-NSERC Industrial Research chair, my research has included the following partial list:

1. Ontario Power Generation (OPG) /NSERC Industrial Research Chair in Watershed Biogeochemistry.

The scientific programme of the OPG/NSERC Industrial Research Chair in Watershed Biogeochemistry was designed in response to anticipated increases in sulphur (S) and nitrogen (N) emissions from Ontario Power Generation Inc. In 1996, fossil power accounted for just 13% of OPG's total power production capacity, but increased to 27% by 1999. Although measures based on technological methods were employed by OPG to keep emission rates below the cap set by regulation, deposition of strong acid anions (sulphate and nitrate) was expected to rise in response to the increased emissions. As well, emissions and possibly deposition of trace metals such as mercury (Hg) were anticipated to increase. Currently there are four main projects conducted to achieve the objectives of this research, focused on 1) evaluation of existing

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environmental data in Ontario related to surface and groundwater chemistry, 2) measurement of the chemical and biological response of aquatic ecosystems to changes in OPG's sulphur emissions, 3) evaluation of the interrelationships between climate change, the sulphur cycle in lakes and watersheds, and changes in emission and deposition of acid precursors, with specific reference to El Niño episodes, 4) investigation of the role of dissolved organic carbon (DOC) in integrating the effects of multiple stressors including acid deposition, changing climate and others

Funding provided by OPG and matched by NSERC (\$ 1,952, 600 over 5 years). Logistical support provided by the Ontario Ministry of the Environment through a Trent – MOE partnership.

2. Collaborative Mercury Research Network (COMERN).

Research project is focused on relationships between mercury and dissolved organic matter, including thermodynamic properties of complexes, effects on bioavailability, and the role of photochemistry. Mercury sources and mercury dynamics in catchments including lakes, wetlands and terrestrial systems are also investigated, with a focus on the use of stable isotope signatures for the elucidation of sources and for investigating biologically-mediated processes. It is conducted as part of COMERN, a pan-Canadian research network based at University of Québec at Montréal and established in 2001. The five-year mission is to integrate Canadian research efforts toward a better understanding of processes ruling mercury exchanges and accumulation in wide-scale ecosystems in the northern part of the American continent.

Funding provided by NSERC (\$ 535,465 over five years for the DOC-Hg work plus a portion of \$ 558,000 provided for the stable isotope work).

3. Carbon Aging and Metal Bioavailability (CAMBIO).

Research focuses on 1) characterisation of DOC structure and quantification of how that structure changes over spatial and temporal gradients and 2) measurement of trace metal – DOC interactions as a function of age and character of DOC and the resultant effects on bioavailability of DOC bound metals to aquatic organisms. Two experimental approaches are taken, using changes in DOC that occur over spatial and temporal scales in natural systems and creating changes in DOC under controlled laboratory conditions.

Funding (NSERC Strategic Project) is provided by the co-sponsorship between NSERC (\$427, 550 over 5 years) and Industry such as INCO (\$ 10,000 annually) and OPG.

4. Effects of Landscape Alteration via Golf Course Construction and Operation on the Aquatic Environment.

The main goal of this research is to determine the effects of golf course construction on soft water streams on the Precambrian Shield. The impacts of golf courses on water chemistry, periphyton and benthic macroinvertebrates are investigated. So far, results of this research

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showed that 1) concentrations of nitrate were elevated in streams on operational golf courses relative to typical Precambrian Shield lakes, 2) phosphorus and potassium concentrations were higher at several sites, 3) nutrient concentrations were also elevated at several construction sites possibly reflecting the movement of nutrients to streams after deforestation or the runoff of fertilisers used in turf grass establishment, 4) mercury concentrations were elevated in operational golf courses course streams where mercury-containing fungicides were applied historically.

Funding provided by industry (\$150,000, 3-year total), logistical support provided by the Ontario Ministry of the Environment (Dorset Environmental Science Centre).

5. Metal budgets of lakes and catchments on the Precambrian Shield: compartment size fluxes between compartments (MITE Research Network).

The objective of this project is to measure the amount of various metals stored in all of the major compartments in the Plastic Lake catchment, including both the aquatic and terrestrial components, to measure the fluxes between the compartments, and to determine the factors that control the magnitude of these fluxes. These data will be used for the development and testing of fate and transport models. This project is conducted for the Metals in the Environment Research Network (MITE-RE), which aims to understand the sources of metals in the environment, how metals move and transform within the environment, and how they can affect ecosystems and human health. This understanding is essential for assessing the risk they may pose and determining how to reduce that risk. As one of the world's largest producers and exporters of metals, Canada has a vital interest in developing effective ways to deal with these issues. Through a series of workshops, the Canadian Network of Toxicology Centres (CNTC), in cooperation with its partners in government and industry, has identified important gaps in metals research and developed a multi-disciplinary research program.

Funding (\$114,000 over 3 years) is provided by NSERC, OPG, Mining Association of Canada (MAC), Environment Canada, Dept. of Fisheries and Oceans, and Natural Resources Canada.

6. Development and Application of Water Quality Assessment Tools in Nova Scotia and New Brunswick Lakes Using Paleolimnological and Modelling Techniques.

The two major water quality issues facing the Maritime region of Canada are acidification and eutrophication. Because of the lack of long-term data sets, it is impossible to measure the extent and degree of degradation in water quality of the lakes in this region. Using paleolimnological approaches in combination with biogeochemical modelling, we are able to address this shortfall in 2 ways that are independent but complementary. In addition to producing water quality histories of ecosystems, we will forecast the conditions expected under different atmospheric deposition and land use scenarios. We will also be able to compare 2 different approaches, each of which has strengths and weaknesses.

Funding (\$ 585,000 over 5 years) is provided by NSERC through the Strategic Grants programme.

7. Fly Ash for Remediation of Acid-Impacted Forest Soils.

The main objective of this research study is to assess the impact of fly ash application on soil chemistry and tree health and chemistry using a combination of laboratory studies and field trials in central Ontario. Fly ash is a by-product of coal combustion and is composed on particulate matter collected from the flue gas stream. The mineralogical, physical and chemical properties of fly ash depend on the nature of the parent coal, conditions of combustion, type of emission control devices and storage and handling methods. Fly ash can have beneficial effects on soil quality through the presence of Ca, K, and other nutrients, a high buffering capacity of the soil and the mitigation of aluminium toxicity, especially in sub-soils. The application of fly ash can also improve the physical properties of soil and may increase the water holding capacity of soil.

Funding (\$ 45,300, 3-year total) is provided by the OPG.

8. RECOVER 2010 - European Union Framework 4 Research Programme.

I participated as the sole Canadian researcher in a major research programme that was designed to assess the impact of current and future anthropogenic pressures on sensitive European freshwater ecosystems. This pan-European assessment used enhanced predictive models to evaluate the degree of compliance with respect to restoration of acidified waters by the year 2016 as specified under the European Union Water framework Directive, and to evaluate the economic costs and environmental benefits of agreed and proposed UN-ECE protocols on emissions control. Much of the work done here provided a valuable starting point for similar considerations in Canada, and will be used in the 2004 Acid Rain Assessment produced in conjunction with the Canadian federal government.

9. Eurolimpacs - European Union Framework 6 Research Programme

I am a major contributor (largest number of py's of 35 partners) to a new EU research effort that focuses on the interaction of global change with other stressors. In particular, I will provide Canadian data and modelling expertise to this 4-year programme. The funding for this programme totals ca. 15 million Euros over this time period.

10. Mercury Sources in Norway

I am a partner in a research project funded by the Norwegian science council that focuses on using innovative new techniques to investigate source contributions to the mercury bioaccumulated in the Norwegian environment. Specifically, I will use a new technique based on stable isotope ratios to evaluate sources; this is only potentially possible for "heavy" elements such as mercury because of the very recent advent of multi-collector ICP-MS (MC-ICP-MS) and the acquisition of such an instrument in my lab.

RESEARCH SUPPORT

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Name	Title of proposal, funding source and program	Amount per year (my portion)	Year
P.J. Dillon and 1 other	LRTAP biological data - integration of databases Fisheries and Oceans Environmental Monitoring and Assessment	40,000 (95%)	1997
R. D. Evans and 4 others	Establishment of the Trent University Water Quality Centre Canada Foundation for Innovation Infrastructure	810,000 (20%)	1998
P.J. Dillon	Effects of landscape alteration via golf course construction and operation on the aquatic environment Industry	150,000 (100%)	1999-2001
P. J. Dillon and 5 others	The role of freshwaters in Canadian carbon budgets Environment Canada Climate Change Action Fund	159,000 (60%)	1999-2000
R.D. Evans and 4 others	Establishment of the Trent University Water Quality Centre Ontario Challenge Fund CFI matching funds	810,000 (20%)	1999
R.D. Evans and 4 others	Establishment of the Trent University Water Quality Centre various industries CFI - OCF matching funds	300,000 (20%)	1999
P.J. Dillon and 2 others	Carbon analyzer autosampler NSERC Equipment grant	15,212 (75%)	2000
P.J. Dillon and 2 others	Isotope ratio laboratory for environmental biogeochemistry studies Canada Foundation for Innovation Infrastructure	670,000 (40%)	2000
P.J. Dillon and 2 others	Isotope ratio laboratory for environmental biogeochemistry studies Ontario Innovation Trust CFI matching funds	670,000 (40%)	2001
P.J. Dillon and 2 others	Isotope ratio laboratory for environmental biogeochemistry studies various industrial sponsors CFI - OIT matching funds	799,577 (40%)	2001

P.J. Dillon and 1 other	Base cation fluxes in forested catchments U.S. Dept. Agriculture NERC	27,500 (60%)	2001
P.J. Dillon	Industrial Research Chair in Watershed Biogeochemistry NSERC/Ontario Power Generation Inc. – joint funding Industrial Partnerships Programme	1,952,600 (100%)	1999-2004
R.D. Evans and 2 others	Carbon aging and metal bioavailability (CAMBIO) NSERC Strategic grant	428,550 (35%)	1999-2002
R.D. Evans and 5 others	Trent University Water Quality Centre NSERC Major Facilities Access grant	193,5000 (20%)	2000-2002
P.J. Dillon and 2 others	Impacts of atmospheric mercury deposition on Canada NSERC - COMERN project that I lead Research Networks	535,465 (35%)	2001-2005
P.J. Dillon and 1 other	Fly ash for remediation of acid-impacted forest soils industrial grant	45,300 (50%)	2001-2003
P.J. Dillon and 1 other	Trace metal mass balances NSERC - MITE project that I lead project funded through MITE - an NSERC Research Network	114,500 (75%)	2001-2004
H. Hintelmann and 2 others	Use of stable isotopes of Hg NSERC - COMERN project Research Networks	557,500 (33%)	2001-2005
P. Dillon	Environmental stressors research support Ontario Ministry of the Environment Research support	\$225,000 (100%)	2001-2005
P.J. Dillon	Biogeochemistry laboratory Canada Foundation for Innovation New Opportunities	83,600 (100%)	2002
P.J. Dillon	Biogeochemistry laboratory industry CFI - OIT matching funds	45,000 (100%)	2002
P.J. Dillon	Biogeochemistry laboratory Ontario Innovation Trust New Opportunities	83,600 (100%)	2002

P.J. Dillon	Mass balance measurements and modelling as means to evaluate the effects of multiple stressors on lakes and their catchments NSERC Discovery Grant	185,840 (100%)	2002-2005
P.J. Dillon	Evaluation of critical loads of nitrogen in eastern Canada Canada Council of Ministers Environment Research funding	15,000 (100%)	2002
J. Smol and 2 others	Development and application of water quality assessment tools in Nova Scotia NSERC Strategic Grant	585,000 (47%)	2002-2006
P. Dillon and 1 other	Critical load mapping for Ontario Environment Canada LRTAP programme	25,000 (50%)	2003-2004
P. Dillon and 5 others	Trent University Water Quality Centre NSERC Major Facilities Access grant	201,600 (50%)	2003-2005
P. Dillon	Critical load modelling for Ontario Environment Canada LRTAP programme	17,000 (100%)	2003-2004
P. Dillon and 1 other	Critical load modelling for Scotland Macaulay Institute, Scotland Research Grant programme	31,200 (50%)	2004-2005
P. Dillon	Nutrient management in the Black River watershed Lake Simcoe Conservation Authority Research Grant programme	25,000 (100%)	2004-2005
P. Dillon and 2 others	Stream bioassessment methods Environment Canada Science Horizons grant	9,720 (75%)	2004
P. Dillon	Metal isotope ratios: use in source allocation Ontario Ministry of the Environment Best in Science Research Grant	72,000 (100%)	2005-2006
M. Xenopoulos and P. Dillon	Spectrofluorometric characterization of dissolved organic carbon NSERC Research Tools and Instruments - Category 1 grant	45,576 (50%)	2005

T. Larssen and P. J. Dillon	Mercury contamination, mobility, and transport in boreal ecosystems Norwegian Research Council Research Grant	19,000 (50%)	2005
S. Watmough and 2 others	Spatial and temporal impacts of acid deposition in the Oil Sands region NSERC Collaborative Research and Development	578,575 (30%)	2005-2009
P. J. Dillon and R. Bailey	Biocriteria for small streams in agricultural catchments of southern Ontario Ontario Ministry of the Environment Best in Science Research Grant	95,750 (90%)	2006-2008
P. Dillon applied for	Dissolved organic matter in aquatic systems Canada Council for the Arts Killam Fellowship	140,000	2006-2008
P. Dillon applied for	Water quality, denitrification, and greenhouse gases: understanding links between nutrient loading and future climate Ontario Ministry of the Environment Best in Science Research Grant	126,790	2006-2009
P. Dillon applied for	Trophic dynamics within the zooplankton community among lakes of varying dissolved organic carbon concentration. Ontario Ministry of the Environment Best in Science grant	138,625	2006-2009
P. Dillon and 3 others applied for	Measuring greenhouse gases in aquatic systems NSERC Research Tools and Instruments - Category 1 Grant	80,719	2006
P. Dillon and 7 others applied for	Trent University Water Quality Centre NSERC Major Facilities Access Grant	435,000	2006-2009
P.J. Dillon	The effects of multiple stressors on the biogeochemistry of lakes and catchments NSERC Discovery Grant	570,500 (100%)	2006-2011

PROFESSIONAL MEMBERSHIPS:

- American Association for the Advancement of Science (AAAS)
- Societas Internationalis Limnologiae (SIL; Canadian representative to the governing council, 1978-81)
- Society of Canadian Limnologists (SCL; vice-president, 1985-87)
- Canadian Society of Zoology
- American Society of Limnology and Oceanography (ASLO)
- International Association of Great Lakes Research (IAGLR; member of Board of Directors 1983-85)
- International Association of Sediment-Water Science
- North American Lake Management Society (NALMS)
- American Geophysical Union (AGU)
- International Association of Water Pollution Research (IAWPR)

PRINCIPAL SUPERVISOR OF:

Dr. R. Hall (postdoctoral fellow, Trent University 1994-96) – Paleolimnological hindcasting of nutrient levels in soft-water lakes. [currently holds tenure-track position at U. Waterloo]

Dr. J. Hudson (postdoctoral fellow, Trent University, 1999 - 2001) – DOC, climate and acidification interactions. [currently holds tenure-track position at U. Saskatchewan]

Dr. J. Winter (postdoctoral fellow, Trent University, 1999 - 2001) – Effects of land use alterations on nutrient fluxes. [currently holds research scientist position, Ontario Min. Envir.]

Dr. J. Aherne (postdoctoral fellow, Trent University, 2001 - 2005) – Dynamic modelling of recovery from acidification. [currently Canada Research Chair, Tier 2 at Trent University]

Dr. C. Eimers (postdoctoral fellow, Trent University, 2003-2004) – Sulphur cycling in catchments and the effects of DOC on mercury bioavailability to algae. [currently holds NSERC post-doctoral fellowship, Trent University]

Dr. S. Watmough (postdoctoral fellow, Trent University, 1999-2004) – Critical sulphur loads to terrestrial catchments. [currently holds tenure-track position at Trent University]

Dr. F. Wu (postdoctoral fellow (co-supervised), Trent University, 2001-2004) – DOC-metal interactions and speciation. [currently holds faculty position, China]

Dr. Y. Shi (postdoctoral fellow, Trent University, 1999-2002) – ICP-MS methods development for trace metal analysis. [currently employed at AECL, Chalk River]

Dr. X. Miao (postdoctoral fellow, Trent University, 1999-2002) – HPLC-MS analysis of trace contaminants. [currently employed in pharmaceutical industry, Boston]

Dr. S. Lu (postdoctoral fellow, Trent University, 2001-2002) – Use of MC-ICP-MS for stable mercury isotope analysis. [currently employed in industry, Hamilton]

Dr. X. Zhao (postdoctoral fellow, Trent University, 2003-2005) – HPLC-MS analysis of trace contaminants. [currently employed by Ont. Min. Environ.]

Dr. R. He (postdoctoral fellow, Trent University, 2003-2005) - Stable isotope analyses [currently employed in industry, California]

Dr. Q. Xie (postdoctoral fellow, Trent University, 2003-; in progress) - ICP-MS methods development

Dr. H. Lu (postdoctoral fellow, Trent University, 2005-; in progress) - HPLC-MS analysis of trace contaminants.

Dr. J. Owen (postdoctoral fellow, Trent University, 2006-; in progress) - Stable isotope analyses

Dr. N. Hassan (postdoctoral fellow, Trent University, 2006-; in progress) - ICP-MS methods development for trace metal analysis.

C. Eimers (Ph. D., U. Waterloo, 2003) – Sulphur cycling in catchments.

M. Futter (Ph. D. programme, Trent University, in progress) – DOC and mercury moelling using MAGIC and INCA.

I. Lavoie (Ph. D. programme, Trent University, in progress) – Stream indicators of land use effects.

A. Persaud (Ph. D. programme, Trent University, in progress) – DOC as a mediator of freshwater food webs - a stable isotope approach.

H. Baulch (Ph. D. programme, Trent University, in progress) – Nitrogen oxide emissions in forested catchments.

M. Wolniewicz (Ph. D. programme, Trent University, in progress) – Biogeochemical modelling of acid rain effects in Nova Scotia

N. Kharouba (Ph. D. programme, Trent University, in progress) - Ni chemistry and modelling

A. Brownridge (M. Sc. programme, Trent University; in progress) - Trace metal cycling in a headwater catchment.

K. Devito (M. Sc., Trent University; 1989) - Phosphorus and nitrogen retention capacity of Canadian Shield wetlands.

G. Eerkes (M. Sc., Trent University, 2002) – Hydrologic flow paths in a forested catchment

B. Gilbert (M. Sc. programme, Trent University, 2006) - The effects of substrate on benthic invertebrate indices

K. Harding (M. Sc., Trent University, 2005) - The effects of DOC on bioavailability of mercury to benthic invertebrates.

J. Lento (M. Sc., Trent University, 2004) – Rapid bioassessment of streams.

T. Metcalfe (M. Sc. programme, Trent University, in progress) – Fluxes of trace organics from golf courses.

K. Mueller (M. Sc. programme, Trent University, 2006) – Long-term changes in lake and stream chemistry.

E. O'Connor (M. Sc. programme, Trent University, in progress) – DOC - mercury interactions and the use of GIS for modelling mercury mass balances.

T. Parsons (M. Sc. programme, Trent University, in progress) – The use of benthic invertebrates as indicators of stress in lakes near the Alberta Oil Sands Project.

J. Schulenburg (M. Sc., Trent University, 2004) – Rapid bioassessment as a tool for measuring ecosystem health. [currently employed by Quinte Conservation Authority]

C. Soliman (M. Sc. programme, Trent University, in progress) – Nutrient models for lakes in eastern Canada: comparison with paleolimnological inferences.

S. Stephens (M. Sc. programme, Trent University, in progress) – Effects of agricultural runoff on water quality.

C. Whitfield (M. Sc., Trent University, 2005) - Biogeochemical modelling of acid deposition in Kejimikijik Park, Nova Scotia.

S. Hickman (B. Sc. programme, exchange student from Germany, 2003)

M. McDonald (B. Sc. programme, Trent University, 2004) - Temporal changes in spectral properties of DOC in a lake

CO-PRINCIPAL SUPERVISOR OF:

H. Evans (M. Sc., Trent University; 1982) - The effects of core diameter on lake sediment sampling.

W. Gibson (M. Sc., Trent University; 1988) - The effect of calcium ion on the toxicity of aluminum and acid to common shiner and rainbow trout.

H. Evans (Ph. D., University of Toronto; 1991) - The influence of dissolved organic matter on the cycling of hydrophobic organic pollutants in lakes.

C. Jennings (M. Sc., York University, 1999) - The photolysis of dissolved organic carbon in lakes and streams.

D. Kothawala (M. Sc., Trent University; 2003) - Examination of spatial and temporal patterns in the molecular weight distribution of dissolved organic carbon in Precambrian Shield streams with high performance size exclusion chromatography.

B. Mills (M. Sc., Trent University; 2003) - Photodegradation of humic substances (HS) from three south-central Ontario watersheds.

Member of the graduate committee of the following students:

B. Rooke (Ph. D., University of Guelph; 1983) - Aspects of the biology of certain mollusks from six low-alkalinity lakes in south-central Ontario.

N. Hutchinson (Ph. D., University of Guelph; 1984) - The contribution of metals to reproductive failure of fish in acid waters.

M. Stephenson (Ph. D., University of Guelph; 1986) - Benthic invertebrates and metal recycling of acidifying lakes.

C. Allan (M. Sc., Trent University; 1987) - Winter ice cover development and spring meltwater chemistry in lakes of the Muskoka-Haliburton area, Ontario.

M. Shaw (M. Sc., University of Guelph; 1987). Factors affecting reproduction of the snail *Amnicola limosa* in low-alkalinity lakes in south-central Ontario.

J. Gunn (Ph. D., University of Guelph; 1987). Effects of acid snowmelt on ecology and early life history of lake charr.

L. Warren (Ph. D., University of Toronto, 1988). Trace metal transport by and geochemical associations with suspended sediments in the Don River.

N. Yan (Ph. D., University of Guelph, 1989). Factors influencing cadmium accumulation in plankton.

L. Bendell-Young (Ph. D., University of Toronto, 1989). Transfer of metals from aquatic to terrestrial environments.

K. Devito (Ph. D., York University, 1990). The role of wetlands in acidification of Precambrian streams.

C. Allan (Ph. D., York University, 1990). Hydrochemical processes involving aluminum mobilization on the Canadian Shield.

P. Rasmussen (Ph. D., University of Waterloo, 1994). Natural causes of mercury enrichment in lakes in the Huntsville area.

N. O'Driscoll (M. Sc., Trent University, 1996). Methyl mercury - DOC binding in natural waters.

N. Benoit (M. Sc., Trent University, 2001). The effects of DOC on bioavailability of metals to benthic invertebrates.

S. Faulkenham (M. Sc., U. Waterloo, 2001). The effects of drought-induced acidification on diatom assemblages in two Precambrian Shield lakes: a paleolimnological approach.

C. Eckley (M. Sc., Trent University, 2003). Assessing methylmercury formation in lakewater using a stable isotope technique.

K. Haines (M. Sc. programme, Trent University, 2004). Mercury - selenium interactions in wildlife

G. Reid (Ph. D. programme, University of Guelph, 2004) - The effects of aquaculture on the trophic status of Lake Huron, North Channel

K. Wolgemuth (M. Sc. programme, Trent University, 2005) – The role of DOC in the food chain

M. Dzurko (M. Sc. programme, Trent University, 2005) - Fractionation of mercury isotopes during methylation

N. Kelton (Ph. D. programme, York University, 2006) - DOC-iron interactions in natural waters

J. Mueller (Ph. D. programme, University of Waterloo, in progress) - Hydrologic effects on ion transport in catchments

Other academic responsibilities include:

- External examiner for theses submitted at McGill, Trent, Guelph and Brock Universities in Canada and at Uppsala University in Sweden
- Supervisor of one post-doctoral fellow through arrangement with the University of Toronto, two through the University of Guelph and three through Trent University.
- Reviewer and evaluator of staff (University of Toronto) for tenure appointments.
- Present several lectures each year at Ontario universities.
- NSERC Representative for Trent University (2005-present)

MAJOR COMMITTEES AND PANELS:

- National Research Council Panel on Eutrophication (1974-75).
- International Joint Commission Science Advisory Board Task Force on Non-Phosphate Detergents 1977-79).
- National Research Council Panel on Acidification in the Canadian Aquatic Environment (1979-81).
- Organization for Economic Co-operation and Development (OECD) Eutrophication Committee member 1973-75, contributor 1975-81).
- United States Environmental Protection Agency Critical Assessment Document Committee - Acidification (1981-82).

- Royal Society of Canada Peer Review of the Canadian Federal Research Programme (1984).
- SCOPE (UNEP) Committee on Acidification in Tropical Countries (1983-1990).
- Research Management Co-ordination Committee, Aquatic Effects Task Force on Acidification in Canada (1984-1994).
- RAIN (Reversing Acidification in Norway) Project Steering Committee (1985-1990).
- Royal Society of Canada Canadian Global Change Programme Committee on Lake Acidification (1990-1992).
- National Science Foundation Ten-Year Review Committee for the U.S. LTER (Long Term Ecological Research) Programme (1992-1993).
- National Science Foundation Programme Review Panel for LTER (1994).
- EMAN (Environmental Monitoring and Assessment Programme) National Monitoring Programme (1994 - present)
- Joint Expert Working Group on Dynamic Modelling - UN ECE ICP on Integrated Monitoring, Mapping and Waters (2000 - present)
- COMERN (Collaborative Mercury Research Network) - Scientific Committee member (2002 - present)
- BIOCAP Canada Foundation - National Aquatic Systems and Climate Change Research Network Steering Committee member (2005 - present)

CONFERENCE ORGANIZER:

- Third Biennial Workshop on Modelling Acidification (Muskoka, 1985).
- International Conference on Trace Metals in Lakes (Hamilton, 1988).
- International Conference on Metals in Soils, Waters, Plants and Animals (Orlando, 1990).
- American Geological Union, Mass Balances in Forested Catchments (Montreal, 1992).
- Dahlem Conference on Acidification of Freshwaters (Berlin, 1992).
- Ninth International Conference on Heavy Metals in the Environment (Toronto, 1993).
- NATO Advanced Workshop on Ecosystem Modelling (Bayreuth, FRG, 1994).
- Fifteenth North American Lake Management Society Conference (Toronto, 1995).
- Acid Deposition: 7th Global Conference (Prague, 2005)

OTHER SCIENTIFIC RESPONSIBILITIES:

- a) Review or referee an average of about 20 scientific publications per year for major journals including:

Science

Nature

Canadian Journal of Fisheries and Aquatic Sciences

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Limnology and Oceanography
Water Research
Environmental Science and Technology
Water Resources Research
Geochimica et Cosmochimica Acta
Ecology
Ecological Monographs
Journal of Great Lakes Research
Water Pollution Research in Canada
International Association for Water Pollution Research
Journal of Environmental Quality
Water, Air and Soil Pollution
Biogeochemistry
Environmental Pollution
Science of the Total Environment
Hydrology and Earth Systems Science

b) Review books for:

Canadian Journal of Fisheries & Aquatic Sciences
Geochimica et Cosmochimica Acta
Transactions of the American Fisheries Society
Quarterly Review of Biology

c) Review research grant applications for:

Natural Sciences and Engineering Research Council (Canada)
National Science Foundation (U.S.A.)
Environmental Protection Agency (U.S.A.)
Department of Fisheries & Oceans (Canada)
Department of the Environment (Canada)
Sea Grant Program (U.S.A.)
Environmental Protection Agency (Sweden)

In the past, reviewed the Acidic Precipitation programmes for the United States Environmental Protection Agency, Swedish Environmental Protection Agency, Canadian Department of the Environment, and Canadian Department of Fisheries and Oceans.

ONGOING COLLABORATIONS:

I have undertaken many collaborative studies with people nationally and internationally. These include:

Shelley Arnott (Queens U.)
Jim Buttle (Trent U.)
Tom Clair (Environment Canada)
Jack Cosby (U. Virginia)
Brian Cumming (Queens U.)
Mike English (Wilfred Laurier U.)
R. Doug Evans (Trent U.)
Bob Ferrier (Macaulay Land Use Research Institute, UK)
Eik Fjeld (NIVA, Norway)
Roland Hall (U. Waterloo)
Arne Henriksen (NIVA, Norway)
Holger Hintelmann (Trent U.)
Dean Jeffries (Environment Canada)
Alan Jenkins (Centre for Ecology and Hydrology, UK)
Thorjorn Larsen (NIVA, Norway)
David Lean (U. of Ottawa)
Greg Mierle (Ont. Min. Envir.)
Filip Moldan (IVL, Sweden)
Lewis Molot (York U.)
John Munthe (IVL, Sweden)
Steve Norton (U. of Maine)
Andrew Paterson (Ont. Min. Envir.)
Max Posch (RIVM, Netherlands)
Sigurd Rognerud (NIVA, Norway)
Bjorn Rosseland (U. Oslo, Norway)
Sherry Schiff (U. Waterloo)
David Schindler (U. Alberta)
Brit Lisa Skjelvaale (NIVA, Norway)
John Smol (Queens U.)
Keith Somers (Ont. Min. Envir.)
Harald Sverdrup (Lund Univ., Lund, Sweden)
Richard Wright (NIVA, Norway)

SCIENTIFIC AND TECHNICAL PUBLICATIONS:

a) Theses:

Dillon, P. J. 1969. The photolysis of acyl silanes and acyl germanes in carbon tetrachloride. M. Sc. thesis, University of Toronto. 93 pp.

Dillon, P. J. 1974. The prediction of phosphorus and chlorophyll concentrations in lakes. Ph. D. Thesis, University of Toronto. 330 pp.

b) Papers:

Brook, A. G. and P. J. Dillon. 1969. Alkoxy carbenes from the thermolysis of silyl ketals. *Can. J. Chem.* 47: 4347-4351.

Brook, A. G., P. J. Dillon and R. Pearce. 1971. Photolysis of acyl group IV metalloids: the formation of silyl radicals. *Can. J. Chem.* 49: 133-135.

Dillon, P. J. 1974. A critical review of Vollenweider's nutrient budget model and other related models. *Wat. Res. Bull.* 19: 969-989.

Dillon, P. J. and F. H. Rigler. 1974. The phosphorus-chlorophyll relationship in lakes. *Limnol. Oceanogr.* 19: 767-773.

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- Aherne, J. and P. J. Dillon. Dynamic modeling in Canada. UN ECE Joint Expert Group on Dynamic Modelling, Fourth Workshop. November 2003, Sitges, Spain.
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- Watmough, S. A. and P. J. Dillon. Synthesis of base cation budgets at long-term monitoring catchments in eastern North America. Northeastern Ecosystem Research Cooperative (NERC) Annual Meeting. October 2002, Amherst, Maine, U.S.A.
- Watmough, S. A., J. Aherne and P. J. Dillon. Acid deposition and harvesting effects on base cation budgets of Ontario forests. Sustainable Forest Strategy Commission. October 2002, Sault Ste. Marie, Ontario.
- Aherne, J., P. J. Dillon, A. Henriksen and M. Posch, Critical loads of acidity for surface waters in Ontario, Canada. Poster presentation at the 4th International Symposium on Ecosystem Behavior, BIOGEMON. August 2002, University of Reading, UK.
- Aherne, J., T. Larssen, P. J. Dillon and B. J. Cosby. Modelling the effects of climate events on elemental fluxes from forested catchments in Ontario, Canada. Poster presentation at the 4th International Symposium on Ecosystem Behavior, BIOGEMON. August 2002, University of Reading, UK.
- Eimers, C. and P. Dillon. Sources and controls of sulphate export in forested catchments in south-central Ontario. The 4th International Symposium on Ecosystem Behavior, BIOGEMON. August, 2002, University of Reading, UK.
- Evans, R.D. and P.J. Dillon. Determination of variations in isotope ratios of Hg. Poster presentation at the Goldschmidt Geochemistry Conference. August, 2002, Davos, Switzerland.
- Lavoie, I., P. J. Dillon and K. Somers. Testing variability scales in benthic diatom community structure. poster presentation at International Diatom Symposium (IDS). August 2002, Ottawa, Ontario.

- Watmough, S. and P.J. Dillon. Acidification of forested catchments in south-central Ontario. The 4th International Symposium on Ecosystem Behaviour. BIOGEMON. August, 2002, University of Reading, UK.
- Dillon, P. J., J. Aherne, J. Cosby, K. Somers, M.C. Eimers and L.A. Molot. Effects of climate events on elemental fluxes from forested catchments in Ontario. American Society of Limnology and Oceanography. June 2002, Victoria, B.C.
- Schiff, S. L., S. A. Humphries, J. Spoelstra, F. C. Wu, G. A. Ferguson, R. J. Elgood, M. J. Mitchell, D. S. Jeffries, P. J. Dillon and R. D. Evans. Sources and diagenesis of DOM in forested watersheds: what can isotopes of total DOM tell us? American Society of Limnology and Oceanography. June 2002, Victoria, B.C.
- Yan, N. D., R. Girard, B. Keller, J. Heneberry, P. J. Dillon and J. Gunn. Long-term recovery in four historically acidic Sudbury lakes: 28 years of incomplete but positive limnological change. American Society of Limnology and Oceanography. June 2002, Victoria, B.C.
- Buttle, J. M., G. Eerkes and P. J. Dillon. Thresholds influencing slope-riparian zone-stream coupling: an example from the Canadian Shield. Annual Meeting of the Canadian Association of Geographers. May 2002, University of Toronto, Toronto, Ontario.
- Beall, F. D., I. F. Creed, D. S. Jeffries, P. J. Dillon and L. A. Molot. Dissolved organic carbon flux at the Turkey Lakes watershed. Joint meeting of the Canadian Geophysical Union and the Canadian Society of Soil Science. May 2002, Banff, Alberta.
- Dillon, P.J., S. Watmough, Y. Shi and K. Epova. Trace metal mass balances for Plastic Lake and its catchment. Metals In The Environment Research Network (MITE-RN), Annual Research Symposium. February 2002, Ottawa, Ontario.
- Eimers, M. C., P. J. Dillon and S. L. Schiff. Climate effects on sulphur cycling in Canadian Shield catchments. Sudbury Restoration Workshop. February, 2002, Sudbury, Ontario.
- Eimers, M. C. and P. J. Dillon. Effects of climate on sulphate fluxes from forested catchments in south-central Ontario, Canada. Society of Canadian Limnologists/Canadian Conference for Fisheries Research. January 2002, Vancouver, British Columbia.

- Kothawala, D. Temporal and spatial patterns of dissolved organic carbon (DOC) size distribution by High Performance Size Exclusion Chromatography (HPSEC). Society of Canadian Limnologists/Canadian Conference for Fisheries Research. January 2002, Vancouver, British Columbia.
- Mills, R. B., R. D. Evans and P. J. Dillon. Speciation modeling of copper in photolyzed natural waters using potentiometric techniques. Society of Canadian Limnologists/Canadian Conference for Fisheries Research. January 2002, Vancouver, British Columbia.
- Dillon, P. J., I. Creed, L. Molot and F. Beall. Dissolved organic carbon in aquatic systems in the Boreal ecozone. American Geophysical Union Fall Meeting. December 2001, San Francisco, California, U.S.A.
- Aherne, J. and P. J. Dillon. Critical loads and dynamic modelling in south-central Ontario. Un ECE Joint Expert Group on Dynamic Modelling Second Meeting. November 2001, Ystad, Sweden.
- Evans, R. D., P. J. Dillon and H. Hintelmann. Natural variation in mercury isotope ratios. Poster presentation at the 6th International Conference on Mercury as a Global Pollutant. October 2001, Minamata, Japan.
- Dillon, P. J. The influence of climate and climate change on the recovery of lakes and catchments following reductions in sulphur emissions. RECOVER 2010 Annual Workshop. September 2001, Pallanza, Italy.
- Eimers, M. C. and P. J. Dillon. Climate effects on sulphur cycling in forested catchments in south-central Ontario, Canada. Poster presentation at Gordon Research Conference. July, 2001, Andover, New Hampshire.
- Watmough, S. A. and P. J. Dillon. Calcium losses from a mixed hardwood catchment in south-central Ontario. Gordon Research Conference. July, 2001, Andover, New Hampshire.
- Reid, R. A. and K. M. Somers. Seasonal variation in rapid bioassessment indices from an unimpacted lake in south-central Ontario, Canada. Poster presentation at North American Benthological Society, 49th Meeting. June, 2001, La Crosse, Wisconsin.
- Somers, K. M., R. A. Reid and R. E. Girard. Temporal coherence among crayfish trap catches from different habitats in 13 south central Ontario Lakes. North American Benthological Society, 49th Meeting. June, 2001, La Crosse, Wisconsin.

- Eimers, M. C., P. J. Dillon and S. A. Watmough. Response of lakes and catchments to reduced S deposition in Ontario, Canada. American Geophysical Union Spring Meeting. May 2001, Boston, Massachusetts.
- Dillon, P. J. The biogeochemistry of dissolved organic carbon: some things we know and don't know. Groupe de Recherche Interuniversite de Limnologie (GRIL) Symposium. February 2001, St. Hyacinthe, Quebec.
- Evans, R. D., H. Hintelmann and P. J. Dillon. High precision isotope ratio measurements of transient signals: is it possible? Plasma Spectrochemistry Conference. February 2001, Lillehammer, Norway.
- Dillon, P. J. The use of mass balance measurements in studies of lakes and their catchments. F. H. Rigler Lecture, Society of Canadian Limnologists/Canadian Conference for Fisheries Research. January 2001, Toronto, Ontario.
- Gennings, C., L. A. Molot and P. J. Dillon. Enhanced UV-mediated loss of organic carbon in acidic waters. Society of Canadian Limnologists/Canadian Conference for Fisheries Research. January 2001, Toronto, Ontario.
- Hudson, J. J., P. J. Dillon and K. M. Somers. Long-term synchronous patterns in dissolved organic carbon in small inland lakes as influenced by climatic factors. Society of Canadian Limnologists/Canadian Conference for Fisheries Research. January 2001, Toronto, Ontario.
- Miller, S., L. A. Molot and P. J. Dillon. A simple assay for measuring relative photo-oxidation potential in natural and synthetic waters. Society of Canadian Limnologists/Canadian Conference for Fisheries Research. January 2001, Toronto, Ontario.
- Gennings, C., L. A. Molot and P. J. Dillon. Enhanced UV-mediated loss of organic carbon in acidic waters. American Chemical Society Conference, Environmental Photochemistry. December 2000, Honolulu, Hawaii.
- Miller, S., L. A. Molot and P. J. Dillon. A simple assay for measuring relative photo-oxidation potential in natural and synthetic waters. American Chemical Society Conference, Environmental Photochemistry. December 2000, Honolulu, Hawaii.
- Eimers, M. C., P. J. Dillon, S. L. Schiff, A. Paterson and B. F. Cumming. Sulphur concentrations and isotope ratios in sediment cores from 2 lakes in south-central Ontario. Poster presentation at the 8th International Paleolimnology Symposium. August 2000, Kingston, Ontario.

- Dillon, P. J. Effects of climate on changes in lake chemistry in S. Ontario following reductions in sulphur deposition. American Society of Limnology and Oceanography Conference (ASLO 2000). June 2000, Copenhagen, Denmark.
- Dillon, P. J. The effects of climate on the recovery of lakes and streams following reductions in sulphur deposition. Norwegian Institute for Water Research. June 2000, Oslo, Norway.
- Hudson, J., P. J. Dillon and K. M. Somers. Long-term changes in dissolved organic carbon in lakes in Ontario, Canada. Poster presentation at the American Society of Limnology and Oceanography Conference (ASLO 2000). June 2000, Copenhagen, Denmark.
- Watmough, S. A. and P. J. Dillon. Estimates of critical loads of acid deposition for Ontario forests. New England Governors and Eastern Canadian Premiers Committee on Critical Loads Workshop. June 2000, Montreal, Quebec.
- Keller, W., P. J. Dillon, J. Heneberry and M. Malette. Sulphate and nitrate in Sudbury lakes: trends and status. Sudbury Restoration Workshop. February. 2000, Sudbury, Ontario.
- Arnott, S. E., P. J. Dillon, W. Keller and N. D. Yan. Annual and seasonal variation in chemical and physical properties of a lake recovering from acidification. Society of Canadian Limnologists. January 2000, Fredericton, New Brunswick.
- Dillon, P. J. Modelling the impacts of stressors on lakes. LIMPACS - Human Impacts on Lake Ecosystems and the Role of Paleolimnology. January 2000, Institute of Freshwater Ecology, Windermere Laboratory, UK.
- Dillon, P. J. The interaction of acid deposition and climate change; studies in south-central Ontario. Monitoring the Effects of Climate Change and Other Stressors on Boreal Shield Lakes in Ontario Workshop. January 2000, Toronto, Ontario.
- Watmough, S. A. and P. J. Dillon. Base cation losses from a coniferous catchment in central Ontario, Canada. Poster presentation at the EMAN National Science Meeting. January 2000. Toronto, Ontario.
- Watmough, S. A. and P. J. Dillon. Base cation losses from a coniferous catchment in central Ontario, Canada. Poster presentation at the International Conference on Critical Loads. UN ECE Convention on Long-Range Transboundary Air Pollution. November 1999, Copenhagen, Denmark.

- Schulenburg, J.C., P.J. Dillon, K.M. Somers, J.G. Winters, and R. Reid. Determining the impacts of golf course development on the benthic macroinvertebrate communities in streams on the Precambrian Shield. Society of Canadian Limnologists (SCL) Conference. January 2003, Ottawa, Ontario.
- Schulenburg, J.C., P.J. Dillon, K.M. Somers, J.G. Winters, and R. Reid. Determining the impacts of golf course development on the benthic macroinvertebrate communities in streams on the Precambrian Shield. North American Benthological Society (NABS) Conference. May-June, 2002, Pittsburgh, Pennsylvania
- Winter, J.C., P.J. Dillon, R.A.Reid, and K. Somers. The use of benthic algal bioassessment to investigate the effects of golf course construction and operation on headwater streams. North American Benthological Society (NABS) Conference. May-June, 2002, Pittsburgh, Pennsylvania.
- Winter, J. G., P. J. Dillon, M. N. Futter, K. H. Nicholls, W. A. Scheider and L. D. Scott. Total phosphorus budgets and nitrogen loads: Lake Simcoe, Ontario (1990-1998). Central Can. Symp. Water Pollut. Res. February, 2002, Burlington, Ontario.
- Clark, B. J., K. Somers and P. J. Dillon. Variability in total phosphorus-chlorophyll a concentrations in south-central Ontario lakes: implications for the use of phosphorus-based lakeshore capacity models. North American Lake Management Society (NALMS) Conference. November, 2001, Madison, Wisconsin.
- Winter, J. G., P.J. Dillon, K.M. Somers and R.A. Reid. The effects of golf course construction and operation on Precambrian Shield streams. Abstract. NABS Bulletin Vol. 18, p. 191. North American Benthological Society Symposium. June 2001, La Crosse, Wisconsin.
- Winter, J. G., P. J. Dillon, K. M. Somers and R. A. Reid. Effects of golf course construction and operation on Precambrian Shield streams. Society of Canadian Limnologists/Canadian Conference for Fisheries Research. January 2001, Toronto, Ontario.
- Winter, J. G., P. J. Dillon, K. M. Somers and R. A. Reid. Golf courses on the Precambrian Shield and their effects on softwater streams. Poster presentation at the Society of Environmental Toxicology and Chemistry Conference. November 2000, Nashville, Tennessee.

Winter, J. G., P. J. Dillon, K. M. Somers and R. A. Reid. Effects of golf courses on the aquatic environment of the Precambrian Shield. North American Benthological Society Symposium. May 2000, Keystone, Colorado.

In addition, I have made presentations at many major conferences and workshops (most by invitation); a sample is shown below.

500th Anniversary Jubilee Symposium on Lake Management and Metabolism (Uppsala, Sweden; August 1977).

Societas Internationalis Limnologiae (Copenhagen, Denmark; 1977)

American Chemical Society Conferences (1978, 1979, 1980, 1981, 1982).

EPA/OECD Conferences (Minneapolis, Minn, 1978, Portland, Oregon; 1980).

Ecological Impact of Acid Precipitation Conference (Sandefjord, Norway; 1980)

American Society of Limnology and Oceanography Conference (1980).

American Fisheries Society Conferences (1980, 1981).

Canadian Meteorological Society/American Meteorological Society Conference on airborne pollutants. Syracuse, N.Y.; 1981).

Conference on Acidification of Ecosystems (Cornell University, N.Y.; 1981)

International Symposium on Interactions between Sediments and Water (Kingston, Ontario; 1981)

Expert Meeting on Ecological Effects of Acidification (Stockholm, Sweden; 1982).

Conference on Acidification of Freshwaters (University of Michigan, Michigan; 1981)

Conference on Acidification (University of Vermont, Vt.; 1983).

EPA-NAS Workshop on Effects of Acidification on Freshwaters (Washington, DC; 1984)

Workshop on Predicting Soil and Water Acidification (Knoxville, Tennessee; 1984).

International Symposium on Hydrochemical Balances of Freshwater Systems (Uppsala, Sweden; 1984)

Workshop on Mechanisms and Model Approaches to the Acidification of Ecological Systems (Uppsala, Sweden; 1984)

Muskoka 1985 International Conference on Acid Deposition (Muskoka, Ontario; 1985)

EPA-NSF-EPRI Workshop on Alkalinity Production in Ecosystems (Ithaca, N.Y.; 1986)

SCOPE (UNEP) Workshop on Acidification in Tropical Countries (Caracas, Venezuela; 1986)

GEOMON Geochemistry and Monitoring in Representative Basins (Prague, Czechoslovakia; 1987)

International Symposium on Acidification and Water Pathways (Bolkesjo, Norway; 1987)

USDA Forest Service Workshop on Effects of Air Pollutants on Wilderness Resources (Millbrook, N.Y.; 1988)

28th International Geological Congress (Washington, D.C.; 1989)

Glasgow 1990 International Conference on Acid Deposition (Glasgow, U.K.; 1990)
North American Lake Management Society 11th meeting (Denver, Colorado; 1991)

In addition, I have presented papers at many other general conferences, workshops and meetings, eg.:

American Geophysical Union Conference
Ontario Society of Environmental Management Conference
International Association for Water Pollution Research Conference
North American Lake Management Society (twice)
International Sediment/Water Symposium
SIL Conferences

and at numerous other institutes and universities eg.:

Freshwater Institute (Winnipeg)
Canada Centre for Inland Waters (now N.W.R.I.) (Burlington)
Dept. of Fisheries and Oceans (Wolfville, Nova Scotia)
Electric Power Research Institute (Palo Alto, California)
University of Massachusetts (Amherst)
University of West Virginia
State University of New York (Albany)
McGill University (Montreal)
University of Toronto
University of Guelph
Trent University
McMaster University