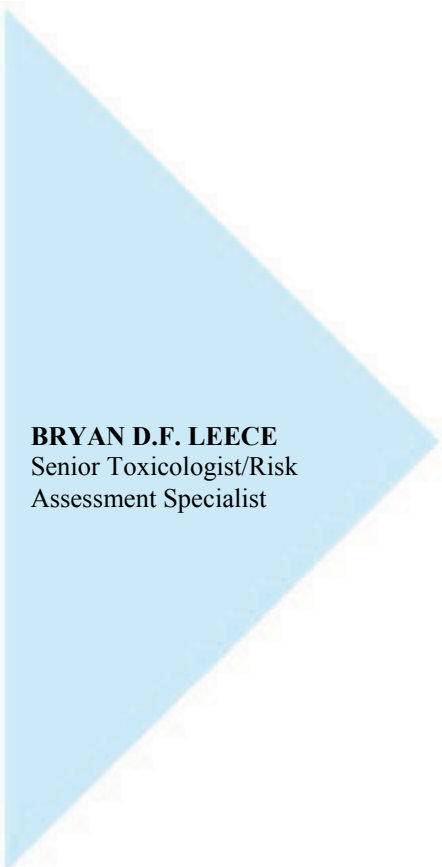




**BRYAN D.F. LEECE**  
Senior Toxicologist/Risk  
Assessment Specialist

**Education**

Ph.D. (Biochemistry), University of  
Guelph, 1986  
Thesis: Biological Activity of  
Polychlorinated Biphenyls and  
Selected Organochlorine Pesticides  
B.Sc. (Honours Biochemistry),  
University of Guelph, 1981

**Affiliations**

American Chemical Society,  
Member Since 1978

**Language**

English

***EXPERIENCE***

**2004-** Senior toxicologist and project lead for a human health risk assessment dealing with PCB contaminated stream sediments. This on-going project is looking at potential exposures to PCB in a stream running through a residential community. The study considers exposures from multiple sources including, drinking water, sediment, locally fish and other country foods, home grown produce and other sources. The results of study will be used, in conjunction with the results of a parallel ecological risk assessment, to develop a remediation plan for the PCB contaminated sediments.

Senior toxicologist and project lead for the provision of peer review services to the Ontario Ministry of the Environment (MOE). Since 2000 more than 50 peer reviews of human health and ecological risk assessments have been conducted on behalf of the MOE. The reviews determine the scientific adequacy of risk assessment reports submitted to the MOE. The reviews also establish whether the reports meet the regulatory requirements for risk assessments in Ontario. The reviews are used by the MOE to accept or reject risk assessments for contaminated sites in Ontario.

**2003-** Senior toxicologist and project lead for five human health screening level risk assessments for Defence Construction Canada using the recent Health Canada guidelines for screening level risk assessments. This project involved the completion of screening levels risk assessments for 5 sites (DEW-Line and Northern Canadian Forces Bases). The risk assessments considered exposures for base employees and native populations, including the consumption of wild game and fish. The work included the review of numerous environmental reports for each site, the identification of data gaps, the assessment of potential human health risks and the development of remedial action recommendations. This work also involves the provision of on-going assistance to Health Canada in the further development of the screening level risk assessment process.

Senior toxicologist providing expert risk assessment support to the Nunavut Water Board. This project involved the detailed review of a human health and ecological risk assessment produced to aid in the development of a mine-site closure plan. Recommendations arising from the review were used to modify the site-remediation plan to ensure adequate protection of human health and the environment.

Senior toxicologist and technical lead for human health and ecological risk assessment for 14 Wing Greenwood. This project involved a quantitative human and ecological risk assessment that was used for the development of site-specific target limits (SSTLs) for seven inter-related sites within the grounds of CFB Greenwood, in Greenwood Nova Scotia. SSTLs were developed for several different future land-use scenarios including commercial, recreational and residential development. The results of the study are being used to plan future redevelopment activities on the base.

**2001-2002 -** Senior toxicologist for the risk assessments in residential communities surrounding the coke oven and tar ponds sites in Sydney Nova Scotia for Public Works and Government Services Canada. This project involved the completion of over 100 individual property specific human health risk assessments for a residential community located in the immediate vicinity of the coke oven operation of Sysco Steel in Sydney Nova Scotia. The study considered a wide range of contaminants including arsenic, lead, polycyclic aromatic hydrocarbons and volatile organic compounds. The project assessed individual risks associated with exposures for residents of the community and made risk management recommendations regarding the potential remediation options for controlling identified risks.

Senior toxicologist and risk assessment lead for the development of site-specific





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target levels (SSTLs) for PAH for the Ontario Ministry of the Environment. This project involves the development of SSTLs for PAH in a residential community that has coal and roofing tar particles in residential soil. The project is using a novel approach to assess the potential bioaccessibility of PAH to refine the exposure estimates and provide a more accurate picture of actual residential exposures and risks. This data is being used to set community specific SSTLs.

**2002** - Senior toxicologist and risk assessment specialist for the completion of human health risk assessment for the Sysco Steel Coke Oven site in Sydney Nova Scotia. This project involved the assessment of potential risk associated with exposure to several heavy metals including arsenic and lead and a wide range of organic contaminants. The project is being used to determine the scope of remediation required to allow redevelopment of the industrial land for commercial or recreational use.

**2002** - Senior toxicologist and risk assessment specialist for the completion of a human health risk assessment for the Muggah Creek Estuary (Sydney Tar Ponds) in Sydney Nova Scotia. This project assessed the potential human health risks associated with exposures to heavy metals (arsenic and lead) and to polycyclic aromatic hydrocarbons and PCBs in the water and the sediment of the Sydney Tar Ponds. The assessment is being used to determine remediation options for the ponds.

Risk Assessment Specialist for an Industrial Tank Farm Site in St John's Newfoundland. The project involved the assessment of on and off-site human health risks associated with petroleum hydrocarbon, lead and arsenic contaminants in the soil and groundwater.

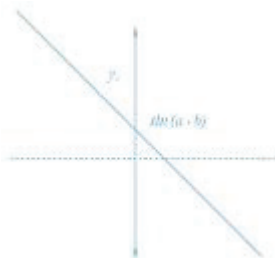
Senior toxicologist providing toxicology guidance to the Ontario Ministry of the Environment on the development of ambient air quality standards. This project involved the collection and assessment of air standard information from regulatory agencies world wide as well as detailed reviews of recent toxicological information for 25 organic and inorganic chemicals. The information is being used to support the development of ambient air quality standards in Ontario.

Risk Assessment Specialist/Chief Toxicologist providing risk assessment guidance and toxicological support to the Ontario Ministry of the Environment. This project involves the on-going provision of risk assessment guidance to the MOE as part of a standing offer fee-for-service contract. The work also involves review of third party site-specific risk assessments on behalf of the MOE.

**1999-Date** - Risk Assessment Specialist providing technical assistance to the Smithville Phase IV Bedrock Remediation Program. This project involves the on-going provision of risk assessment expertise in the development and implementation of a comparative risk assess that forces on the associated with PCB in groundwater in fractured bedrock in Smithville, Ontario. The risk assessment is being used to set risk-based remediation targets that will be used to aid in the selection of the final remediation plan.

**1999-Date** - Risk Assessment of PCB Oil mists (Confidential Client). This project involved the assessment of human health risks for residents living near a facility that releases oil mists which contain PCB. The project considered the direct inhalation exposures to PCB as well as ingestion and dermal contact exposures resulting from PCB accumulation in soil.

**1999-Date** - Risk Assessment Specialist for a Site-Specific Risk Assessment for the Kanmet Foundry. This project involved the evaluation of human health and



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ecological risks associated with the re-development of an abandoned foundry site for use as a mixed commercial/parkland in Cambridge, Ontario. Risks associated with exposures to various heavy metals, volatile organic compounds were assessed and risk management plan was provided to the client.

**1999-Date** - Risk Assessment Specialist for a Site-Specific Risk Assessment of a Former Gas Station. This on-going project involves the assessment of risk associated with a site heavily contaminated with petroleum hydrocarbons. Vapour migration from groundwater and soil to indoor air are being assessed to estimate risks for workers in the buildings on-site.

**1999-Date** - Risk Assessment Specialist for a Site-Specific Risk Assessment for Industrial Site. (Confidential Client). This on-going project involves the risk assessment associated with off-site contamination to aid in the development of clean-up objectives for on and off-site contaminants.

**1999-Date** - Risk Assessment Specialist for a Site-Specific Risk Assessment for a Canadian Forces Base Site. This project involved the assessment of potential human health and ecological risks associated with soil and groundwater contaminants to determine if immediate remedial action was required. The assessment was also used to set remediation goals for the redevelopment of the site as a residential area.

**1999-Date** - Risk Assessment Specialist for an Industrial Tank Farm in St. John's, Newfoundland. The project involved the assessment of on and off-site human health risks associated with the petroleum hydrocarbon, lead and arsenic contaminants in the soil and groundwater.

**1999-Date** - Risk Assessment/Human Health Specialist for the Port Hope Community Health Concerns Committee this work involves the provision of risk assessment and human health expertise to the Port Hope Community Health Concerns Committee (PHCHCC). The PHCHCC is striving to develop and implement a community health study to address concerns over community exposure to nuclear processing waste as a result of historic and on-going nuclear fuel processing in the community.

**1990-1998** - Detailed human health risk assessment for PCB contaminated soil, sediment, groundwater and surface water at numerous sites in Ontario.

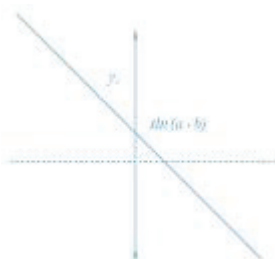
**1990-1998** - Detailed technical review of the human health risk assessments from the environmental assessments for the Interim Waste Authority Metro Toronto landfill selection process and the Laidlaw Hazardous Waste Landfill Extension and PCB Rotary Kiln Environmental Assessments.

**1990-1998** - Prepared a Site-Specific Risk Assessment for the City of Port Colborne to address community concerns about human health effects resulting from exposure to nickel, copper and cobalt contaminants in local soils.

**1990-1998** - Detailed review of third party site-specific risk assessments for numerous sites throughout Ontario.

**1990-1998** - Co-ordinated a Ministry of Environment staff review of site-specific risk assessments to ensure that Ministry responses were consistent with the Ministry's Decommissioning Guidelines, that all sites were treated in a consistent and defensible manner, and that delivery time tables satisfactory to all parties were met.

## **PROVINCIAL GUIDELINES/STANDARDS**



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Assessment Specialist

**1990-1998** - Responsible for the development of ambient air quality criteria for uranium and uranium compounds at the request of the Eastern Region of the Ministry of the Environment to address community concerns over emissions of uranium from the Cameco nuclear refining operations in Port Hope. Standards will be used throughout the Province of Ontario to regulate uranium emissions.

**1990-1998** - Involved in the development of the scientific rationale for establishing human health based on exposure limits for polycyclic hydrocarbons.

**1990-1998** - Prepared and provided complex scientific and technical advice documents on human health and environmental effects to senior management, Approvals Branch, Regional and District Offices. These documents are used to formulate Ministry of Environment program and policy decisions when responding to community concerns for human and environmental effects resulting from exposure to environmental contaminants.

**1990-1998** - Provided project co-ordination and technical guidance as Ministry of the Environment liaison to the Port Hope Community Health Concerns Committee on the development and implementation of a community health study.

### ***EMPLOYMENT HISTORY***

|           |                                                                                                       |
|-----------|-------------------------------------------------------------------------------------------------------|
| 1999-Date | <b><i>Dillon Consulting Limited</i></b><br>Senior Toxicologist                                        |
| 1990-1999 | <b><i>Ministry of Environment</i></b><br>Senior Regulatory Toxicologist, Standards Development Branch |
| 1988      | Assistant Regulatory Toxicologist, Hazardous Contaminants Co-ordination Branch                        |
| 1986-1987 | <b><i>Brock University</i></b><br>Post Doctoral Fellow                                                |

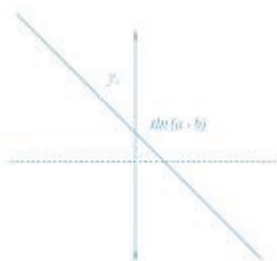
### ***COMMUNITY INVOLVEMENT***

|           |                                                              |
|-----------|--------------------------------------------------------------|
| 2000-Date | Group Committee Chair, Hamilton 58 <sup>th</sup> Scout Group |
| 1995-Date | Treasurer of Wesley United Church, Stoney Creek, Ontario     |
| 1994-1998 | Coaching Assistant, Stoney Creek Soccer Association          |
| 1996-1998 | Member SWARU Community Liaison Committee                     |
| 1995-1997 | Council Chair, Glen Echo School                              |
| 1996-1998 | Bingo Fundraising Chair, Glen Echo Home & School Association |

### ***TECHNICAL PAPERS***

Establishing Polycyclic Aromatic Hydrocarbon Potencies for Use In Human Health Risk Assessments. Polycyclic Aromatic Hydrocarbon Sampling and Analysis Workshop. Ontario Ministry of the Environment, October 1998

Ontario's Guidelines for use at Contaminated Sites In Ontario: A Practical Application of Site Specific Risk Assessment. Ryerson Polytechnic, April 1998



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Common Problems in Applying Site-Specific Risk Assessment to Site Decommissionings. McMaster University, April 1998

Towards a Standardized Nomenclature for Polycyclic Aromatic Hydrocarbons. Nomenclature Breakfast Address; Thirteenth International Symposium on Polynuclear Aromatic Hydrocarbons, Bordeaux, France, 1991

Polychlorinated Biphenyls (PCB): In Vivo Quantitative Structure-Activity Relationships (QSARs), and Interactive Effects. American Society of Biological Chemists Meeting, Philadelphia Pa., USA, 1987.

Polychlorinated Biphenyls (PCB): In Vivo and In Vitro Quantitative Structure-Activity Relationships (QSARs). CFBS Meeting, Guelph, Ont., Can., 1986.

Polychlorinated Biphenyls (PCB): Interactive Effects. CFBS Meeting, Guelph, Ont., Can., 1986.

Polychlorinated Biphenyl Pharmacokinetics in Mice: Structure-Activity Relationships. CFBS Meeting, Toronto Ont., Can., 1985.

Polychlorinated Biphenyl (PCB) Modulation of Rat Hepatic Cytosolic Receptor Levels: Structure-Activity Relationships (SARs). CFBS Meeting, Toronto, Ont., Can., 1985.

Reconstituted Halogenated Hydrocarbon Pollutants in Human Breast Milk Samples: Biologic and Toxic Effects. Society of Toxicology Meeting, Atlanta, Ga., USA, 1984.

Polychlorinated Terphenyls as Inducers of Hepatic Drug-Metabolizing Enzymes. Society of Toxicology Meeting, Atlanta, GA., USA, 1984.

Polychlorinated Benzene and Phenol Congeners as Inducers of Rat Hepatic Drug-Metabolizing Enzymes in the Immature Male Wistar Rat. CFBS Meeting, Ottawa, Ont., Can. 1983.

Combined Effects of Halogenated Hydrocarbon Pollutants Identified in Human Breast Milk. Canadian Federation of Biological Societies (CFBS) Meeting, Ottawa, Ont., Can., 1983.

8-September-2004

