



Zelt Professional Services Inc.
Box 1469
Okotoks, Alberta, CANADA T1S 1B4

t:403.995.2122
f:403.995.2122

info@zeltpsi.com
www.zeltpsi.com

Brian W. Zelt

Brian Zelt is a professional engineer with a Ph.D. in mechanical engineering in air dispersion modeling and the time series analysis of concentrations fluctuations. He has strong academic fundamentals in turbulence, dispersion, probability distributions of concentration fluctuations, numerical analysis, time series analysis and digital filtering, meteorology, climate, heat transfer, thermodynamics, boundary layer theory and of random processes which form a valuable background to his assessment of data sets and problem solving.

He has more than twelve years of industrial applied experience in the fields of air quality modelling, surface water quality modelling, exposure assessment, environmental and human health risk assessment, report writing and project management. He also has strong computing skills and has developed many private and public applications in DOS, Windows and Unix in Basic, Fortran, C/C++ and assembler. He has also developed specialty applications in VisualBasic for Access database and Excel spreadsheet including: environmental inspection and management systems, water quality dispersion model, project management, air quality windrose graphics. His technical background is combined with graphics art background in the development of intuitive and user-friendly interfaces to his programs.

Dr. Zelt has three principle areas of application in his consulting practice: air quality, water quality and risk assessment:

- His air quality experience includes: modelling using Alberta Environment or USEPA dispersion models for environmental impact assessments (EIA) for Oil Sands, oil and gas, pulp and paper, landfill, fugitive dust and hazardous/toxic gas applications; EIA management; EIA air quality report writing; peer review; fugitive dust dispersion modelling; greenhouse gas estimates; training and presentations. Dr. Zelt's strong academic fundamentals are also applied to the estimation of air quality emissions, an important aspect of the air quality modelling, which includes monitoring data assessment, thermodynamics and estimation techniques.
- His surface water quality modelling experience includes: development of methodology and computer programs to determine mixing zones; combined seepage, stream and river mixing; municipal mixing zone assessment; EIA surface water quality modelling; probabilistic and stochastic assessments, and sediment transport.
- His risk assessment experience includes the above air quality and water quality modelling in the application of exposure estimates to: bioaccumulation; bioconcentration; aquatic health; terrestrial wildlife health; human health; probabilistic (@Risk, Crystal Ball, and code developed personally) assessments; and expert testimony. Applications range: from ice loading of the Confederation Bridge; decision analysis; contaminated sites including super fund sites; Oil Sands landscape impacts on wildlife and human health; oil and gas developments on human health; and to fugitive dust exposures.

Brian W. Zelt

Education

PhD, Mechanical Engineering, University of Alberta, 1992
BSc, Mechanical Engineering, University of Alberta, 1984

Affiliations

Professional Engineer, Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA)
Air and Waste Management Association (AWMA)
Canadian Prairie and Northern Section of AWMA

Awards

Gilpin Award for Research Excellence
Alberta Oil Sands Technology and Research Authority Scholarship
Gulf Canada Ltd. Graduate Scholarship
NSERC Undergraduate Summer Research Award
Dean's Research Award

Experience

2002-	Zelt Professional Services Inc. <i>President</i>	Calgary, Alberta
	Air quality modelling and assessment; exposure modelling; risk assessment; computer programming; probabilistic model formulation; communication of technical information, business graphics and presentation development.	
1998-2001	E2 Environmental Alliance Inc. <i>Director, Air Quality Services</i>	Calgary, Alberta
	Air quality modelling and assessment; human and ecological risk assessment; surface water quality modelling; probabilistic model formulation; statistical analysis, time series analysis; Windows C++ computer programming.	
1993-1998	Golder Associates Ltd. <i>Ecological and Human Health Risk Assessment, Exposure Modelling Specialist</i>	Calgary, Alberta
	Water quality modelling; atmospheric dispersion modelling; risk assessment; environmental noise modelling; probabilistic model formulation; statistical analysis; time series analysis; computer programming; industrial graphics art;	
1992	Spicer Corp. (contract)	Kitchener, Ontario
	Design/Program user interface for retail version of graphics software	
1992	Toxcon Consulting Ltd (contract)	Edmonton, Alberta
	Health risk assessment modelling for Edmonton Water Treatment plant	
1992	University of Alberta (contract)	Edmonton, Alberta
	Developed a three-dimensional flexible linkage robot simulation program	
1990	Toxcon Consulting Ltd (contract)	Edmonton, Alberta
	Toxic gas dispersion modelling for new landfill	