

38th Central Canadian Symposium on Water Quality Research Program

February 10th and 11th, 2003

Canada Centre for Inland Waters, Burlington, Ontario

Monday, February 10th, 2003

Main Mall		
07:45	<ul style="list-style-type: none"> • Registration • Poster Installation 	
Plenary Session: Auditorium		
08:30	Welcome to the National Water Research Institute DR. JOHN CAREY, Director General, National Water Research Institute	
08:35	Opening Remarks: MIKE N. LYWOOD, President, Canadian Association on Water Quality	
08:45	Plenary: DR. JOHN LAWRENCE, Director, Aquatic Ecosystem Management Research Branch, National Water Research Institute “The Scope of the Challenge: Threats to Water Quality”	
Room	Session 1 - Auditorium	Session 2 - North/South Seminar Room
Theme	SURFACE WATER: ENVIRONMENTAL EFFECTS Chair: JOANNE L. PARROTT Research Scientist National Water Research Institute	GROUNDWATER: QUALITY, QUANTITY AND REMEDIATION Chair: NATHALIE ROSS Research Scientist National Water Research Institute
09:30	Overview of Fish and Wildlife Health Effects and Exposure Studies in Canadian AOCs <u>S.BROWN</u> , J. STRUGER AND G. FOX	Regional Scale Assessment of Groundwater Conditions Within the Great Lakes Basin A.R. PIGGOTT
09:55	Assessment of the Estrogenic Potency of Effluents from Petrochemical Facilities and a Petroleum Refinery in Ontario <u>J. SHERRY</u> , T. TREPANIER, C. TINSON, T. MORAN, T. KIERSTEAD AND S. MUNRO	City of Guelph Response to Ontario Regulation 459/00 – Drinking Water Protection Regulation P. BUSATTO, D. STENDAHL, <u>D. MUTTI</u> , E. EDWARDS AND C. KORN
10:20	National Assessment of Pulp and Paper Mill Environmental Effects Monitoring: Presence of Large-scale Response Patterns R.B. LOWELL, J.M. CULP, L.C. GRAPENTINE, <u>M.E. MCMASTER</u> , K.R. MUNKITTRICK AND S.C. RIBEY	Establishing GUDI Status and Quantifying the Level of Natural In situ Filtration: Microscopic Particulate Analysis (MPA) Used in Conjunction with Hydrogeology Principles by the Greater Cincinnati Water Works <u>J.L. CLANCY</u> AND W.D. GOLLNITZ
10:45 Health Break – Main Mall		
11:00	Physiological and Biochemical Responses of Small Fish Exposed to Athabasca Oil Sands Sediment <u>G.R. TETREULT</u> , M.E. MCMASTER, D.G. DIXON AND J.L. PARROTT	Contamination of Groundwater by DDT at Point Pelee National Park, and Potential Risks to Ecosystem and Human Health <u>R. MILLS</u> ,* A. CROWE AND J.E. SMITH
11:25	Changes in Growth, Secondary Sex Characteristics and Reproduction of Fathead Minnows Exposed for a Lifecycle to Bleached Sulphite Mill Effluent <u>J.L. PARROTT</u> , C.S. WOOD, P. BOUTOT, B. BLUNT, M. BAKER AND S. DUNN	Removal of Arsenic from Contaminated Water Using Coagulation Enhanced Microfiltration <u>K. VOLCHEK</u> , D. VELICOGNA, A. DUMOUCHEL, W.P. WONG AND C.E. BROWN

11:50	TerraQSAR™ - FHM, a Probabilistic Neural Network-Based PC Program to Estimate the Acute Toxicity of Chemicals to Fish <u>K.L.E. KAISER</u>	Ralgreen Restoration Project. A Brownfield Clean up in a Residential Neighbourhood <u>R. FEDY</u> , <u>P. GRAY</u> , R. BARNES AND J. WITMER
12:15 Lunch – Main Mall		
Room	Session 3 - Auditorium	Session 4 - North/South Seminar Room
Theme	SURFACE WATER: MODELLING AND MICROBES Chair: CHRIS MARVIN Research Scientist National Water Research Institute	SURFACE WATER: NUISANCE ALGAE Chair: BIN ZHU Research Scientist National Water Research Institute
13:15	Techniques and Protocol for Watershed-Level Calibration of an AnnAGNPS Simulation <u>G. PARKER</u> ,* <u>R.L. DROSTE</u> AND <u>K.J. KENNEDY</u>	<i>Cladophora</i> , an Alga Fouling Great Lakes Shorelines T. HOWELL
13:40	Pollution Studies on Surface Water of the South West Coastal Plain of the Caspian Sea Area: A Case Study of the Syahrood Watershed in Central Gilan, North of Iran A.H. CHARKHABI	<i>Cladophora</i> , an Alga Fouling Great Lakes Shorelines (continued)
14:05	Lake Sediment Structure and Evolution (LSSE) Research: Towards Predictive Reaction Transport Models <u>D.G. RANCOURT</u> , I. L'HEUREUX, S. KATSEV, B. GEORGE, C. McDONALD AND K. TELMER	Are Dreissenids Responsible for the Recent Increase of Potentially Toxic Cyanobacterial Species in Lake Erie? <u>A. GHADOUANI</u> AND R.E.H. SMITH
14:30 Health Break - Main Mall		
14:45	Estimation of Atrazine Loss through the Surface Runoff in the Lake Erie Basin <u>B. CHEN</u> ,* Y.F. LI, G.H. HUANG, B.Y. ZHANG AND S.M. WU	An Update on Analysis of Algal Toxins from Algae, Fish and Duck Species in and around Lake Winnipeg C.R. HERBERT, <u>H.J. KLING</u> AND M.P. STAINTON
15:10	Toxicity and Estrogenic Activity Reduction of Aqueous Solutions of Alkylphenols Using Peroxidase Enzyme M. WAGNER AND <u>J.A. NICELL</u>	Natural Transformation of <i>Pseudomonas</i> spp. Isolated from Water Samples B. ZHU
15:35	The Microbial Degradation of Common Plasticizers <u>O.HORN</u> ,* S. NALLI, D.G. COOPER AND J.A. NICELL	Method Development for Microcystins in Environmental Samples S.W.D. JENKINS, P.W. CROZIER AND <u>V.Y. TAGUCHI</u>
16:00	Photolysis of Naphthenic Acids in Natural Waters <u>D.W. McMARTIN</u> ,* J.V. HEADLEY, D.A. FRIESEN, K.M. PERU AND J.A. GILLIES	
16:25	Use of Dispersants for Oil Spills C.N. MULLIGAN	
16:30 Poster Social/Pre-meeting Break – Main Mall		
17:00 CAWQ Annual General Meeting – Auditorium		

* Competing for the Philip H. Jones Award.

Tuesday, February 11th, 2003

Main Mall		
07:30	• Registration	
Room	Session 1 - Auditorium	Session 2 - North/South Seminar Room
Theme	WASTEWATER TREATMENT Chair: MANO MANOHARAN Senior Specialist, Wastewater Standards Development Branch Ontario Ministry of the Environment	WET-WEATHER FLOW POLLUTION CONTROL Chair: JIRI MARSALEK Project Chief National Water Research Institute
08:00	Extracellular ATP: A New Early Warning Tool to Detect Stress in Activated Sludge Microorganisms <u>J. CAIRNS</u> , P.A. WHALEN AND P.J. WHALEN	Stormwater Control in a Flow Balancing and Wetland Treatment Facility <u>D.W. AVERILL</u> , T. VAN SETTERS, S. ORMONDE AND L. ARISHENKOFF
08:25	Study on Cell Agglomeration in Mixed Acidogenic and Mixed Methanogenic Cultures at Different Loading and Mixing Conditions <u>M. VERMA</u> , T.R. SREEKRISHNAN AND R.D. TYAGI	Pilot-Scale Investigations of High-Rate Stormwater Treatment <u>Q. ROCHFORT</u> , P. CHESSIE, M. YANG, S. ORMONDE, J. WOOD, J. MARSALEK AND P. SETO
08:50	Poly(3-Polyhydroxybutyrate) (PHB) Production Using Waste Activated Sludge as a Source of Microorganisms and Wastewater as a Source of Carbon <u>S. YAN*</u> AND R.D. TYAGI	Spill Management Planning in the Toronto AOC J. LI
09:15	Performance of Overland Flow System for Advanced Treatment of Plant Effluents <u>A.T. HARANDI*</u> , R.L. DROSTE AND H. GHODOSI-SHAHREZAI	Refinement of Hydraulic Operation of a Complex CSO Storage Facility by Numerical and Physical Modelling <u>C. HE</u> , J. MARSALEK, Q. ROCHFORT AND B.G. KRISHNAPPAN
09:40	Health Break – Main Mall	
10:00	New Treatment Scheme for Municipal Landfill Leachates <u>K. VOLCHEK</u> , B. WONG, D. VELICOGNA, A. ABENAUF, A. DUMOUCHEL, A. SOMERS, C.E. BROWN AND S.R. CATER	Coagulant Survey for Chemically Enhanced Settling of CSOs <u>K. EXALL</u> AND J. MARSALEK
10:25	Use of the Biosor™ Process to Treat Effluents from the Agri-Food Industry. Case Study: Wastewater from a Poultry Slaughtering Plant <u>R. DUBÉ</u> , G. BUELNA AND G. BELLEMARE	Development of a Numerical Simulation Model for High-Rate Retention Treatment Basins used in CSO Applications <u>O. SCHRAA</u> , B. GALL AND D.W. AVERILL
		Session 3 - North/South Seminar Room
Theme		DRINKING WATER QUALITY AND TREATMENT Chair: SUSAN B. WATSON Research Scientist National Water Research Institute
10:50	Anaerobic Treatment of a Beer Wastewater <u>C.N. MULLIGAN</u> AND P. LI	Inshore Areas: A Primary Source of Taste and Odour in the Upper Saint Lawrence River <u>J.J. RIDAL</u> , M. MAHABIR AND S.B. WATSON

11:15	In situ Remediation of Hexavalent Chromium with Pyrite Fines in Simulated Field Conditions <u>S. CATHUM</u> , C.E. BROWN, A. SOMERS AND W.P. WONG	Cyanobacteria and Drinking Water Odour: Within- and Among-Species Differences Re-Examined, Using Systematic Taxonomic, Experimental and Analytical Protocols <u>S.B. WATSON</u> , H. KLING AND G. IZAGUIRRE
12:00	Lunch - Main Mall	
Room	Session 3 - Auditorium	Session 4 - Guest Lounge
Theme	DRINKING WATER QUALITY AND TREATMENT Chair: SUSAN B. WATSON Research Scientist National Water Research Institute	WATERSHED AND WATER QUALITY ASSESSMENT Chair: ALICE DOVE Watershed Scientist Ecosystem Health Division Ontario Region, Environment Canada
13:00	Removal of Earthy/Musty Odour Compounds from Drinking Water by Biological Filtration <u>S. ELHADI</u> ,* P.M. HUCK AND R.M. SLAWSON	Towards a National Water Quality Monitoring Strategy for Canada J. MURRAY, A. BRADY, D. ANDERSEN, S. DE ROSEMOND AND <u>R. KENT</u>
13:25	N-Nitrosodimethylamine Formation from Amine-Based Polyelectrolytes used in Drinking Water Treatment <u>K.D. KOHUT</u> * AND S.A. ANDREWS	Facilitating Climate Change Impacts and Adaptation Research for Canadian Water Resources <u>B.B. MEHDI</u> AND C.A. MADRAMOOTOO
13:50	UV Inactivation of Floc-Associated MS-2 Coliphage <u>M. TEMPLETON</u> ,* R. HOFMANN, R. ANDREWS AND E. WHITBY	Application of the CCME CWQI for the Communication of Drinking Water Quality Data in Newfoundland and Labrador <u>A.A. KHAN</u> , R. PATERSON AND H. KHAN
14:15	Health Break - Main Mall	
	Session 5 - Auditorium	
Theme	Waterborne Pathogens Chair: SUSAN B. WATSON Research Scientist National Water Research Institute	
14:45	Microbial Source Tracking: Antibiotic Resistance Profiling and DNA Fingerprinting of <i>E. coli</i> Isolates for Determining Sources of Fecal Pollution <u>T. EDGE</u> AND S. HILL	Water Quality Strategy for the Credit River Watershed <u>A. HUMPHRIES</u> , H. BRETON AND I. HEATHCOTE
15:10	Microbial Source Tracking Using <i>Bacteroides</i> – <i>Prevotella</i> 16S rRNA Gene Targets T. MACMILLAN, T.A. GRAHAM AND <u>V.P.J. GANNON</u>	Method Development for the Analysis of Waterborne Carbamates, Phenyl Ureas and Organophosphates Pesticides C.Y. HAO, E. CHEN, M. AIELLO AND <u>P. YANG</u>
15:35	Development of a Dual Colour Flow Cytometric Method for the Simultaneous Detection of <i>Giardia</i> Cysts and <i>Cryptosporidium</i> Oocysts M. PARENTEAU, L. PARRINGTON, D. LECLAIR, J. BUSSEY AND <u>B. DIXON</u>	Selection of Inflow Parameters in the Design of Best Management Practices for the Removal of Suspended Sediments and Oil from Urban Runoff <u>P. WISNER</u> AND L. GERVAIS
16:00	Environmental Effects on Drinking Water, Waterborne Pathogens and Human Serological Response, the British Columbia Experience <u>J. ISAAC-RENTON</u> , J. PRIEST, A. LI, S. SHAY, C. ONG, M. KHAN AND P. LAMMIE	
16:15	Auditorium: Philip H. Jones Award and concluding remarks by M.N. Lywood	

* Competing for the Philip H. Jones Award.

**POSTER DISPLAYS
(MAIN MALL)**

Poster displays are available in the Main Mall on both Monday, February 10th and Tuesday, February 11th. The authors will be in attendance at their posters during the Poster Social on Monday, February 10th at 16:30.

Session Theme - GROUNDWATER: QUALITY, QUANTITY AND REMEDIATION

Sustainable Water Well Initiative: Evaluation of Electrokinetics to Control Water Well Biofouling
R. GLOBA AND H. ROHDE

Assessing the Impact of the Bioremediation of a Tetrachloroethylene-Contaminated Environment on Amphibian Larvae

T. MCDANIEL, P. MARTIN, N. ROSS, H. STEER, A.-M. IRWIN AND S. LESAGE

Evaluation of a Science-Based Alternative Management Practice for the Treatment of Farmyard Runoff and Milk House Washwater

T.L. MCMUNN, D.L. RUDOLPH, W.D. ROBERTSON AND C.J. PTACEK

Density Stratification of a Northern Manitoba Lake Induced by Acid Mine Drainage

M.C. MONCUR, C.J. PTACEK, D.W. BLOWES AND M. HAYASHI

Session Theme - SURFACE WATER: ENVIRONMENTAL EFFECTS

The Impact of Low-Moderate Anthropogenic Disturbance on Alpine Algal Communities

K. CHEEK AND S.B. WATSON

Advances in Genomics and the Environmental Fitness of Genetically Engineered Bacteria

T. EDGE

In-use Pesticide Concentrations in Canadian Tributaries of Lakes Ontario and Erie

J. STRUGER, P. MARTOS, B. RIPLEY, D. BOYD AND M. THORBURN

Session Theme - WATERSHED AND WATER QUALITY ASSESSMENT

Water Quality Hydrodynamic Modelling of Rideau River

S. ASIE, F. PICK AND R. FRENETTE

A Study for Integrated Water Resources Pollution Control in Central Area of Isfahan Province in Iran

A.T. HARANDI, M. KARAMOUZ AND R.L. DROSTE

The Watershed Report Card: A Functional Approach to Watershed Assessment

R.J. MILNE