

*bringing water research to life*  
CANADIAN WATER NETWORK



ANNUAL REPORT  
2010-2011

## *contents*



CWN Mission and Vision.....	1
A Message from the Chair and Scientific Director.....	2
Board of Directors .....	4
Scientific Advisory Committee.....	5
Program Management Committee.....	6
Research Projects and Leaders.....	8
Funded Researchers .....	10
Partners.....	12
Independent Auditors' Report .....	15
Statement of Financial Position.....	16
Statement of Operations and Net Assets.....	16
Statement of Cash Flows.....	17
Notes to the Financial Statements.....	18
Reporting Responsibility.....	21
Acknowledgements.....	back cover

## *cwn mission and vision*

Established in 2001 and hosted by the University of Waterloo, the Canadian Water Network was created by the Networks of Centres of Excellence Program to connect Canadian and international water researchers with decision-makers engaged in priority water management issues.

CWN plays a vital role in ensuring that Canada benefits from its investments in research to manage our water resources more effectively and becomes a world leader in water management.

CWN is the conduit that connects researchers with water practitioners, implementers and policy-makers, pooling their resources and uniting expertise to respond to water challenges and contribute to a prosperous and healthy future for generations of Canadians.

*The essence of CWN is to bring water research to life.*

CWN does this by establishing and supporting multidisciplinary communities of practice that address key challenges in water management across three broad areas – protecting Canada’s watersheds and ecosystems, protecting the health of Canadians, and ensuring that Canada has sustainable water infrastructure.

Development of our research programs begins by articulating the needs of end users, so our research is relevant and outcomes are implemented. Our work influences the national debate on water and our network’s expertise is sought to inform water policy and improve water management and stewardship across Canada.

Annually, our initiatives engage more than 100 researchers and 200 students across 37 Canadian universities and connect them with more than 100 partners from industry, government and non-governmental organizations.

To nurture national partnerships that mobilize multidisciplinary research excellence, catalyzing innovation that provides practical, implementable solutions to complex water resource management issues

— CWN MISSION

The Canadian Water Network is a highly sought after mobilizer of multidisciplinary water research and knowledge resources from across Canada

— CWN VISION



*a message*  
**FROM THE CHAIR AND SCIENTIFIC DIRECTOR**

We offer our sincere thanks to Dr. Mark Servos, who stepped down from the position of Scientific Director on March 31, 2011. Mark provided exemplary service and leadership to the Canadian Water Network since 2003 and was instrumental in creating an innovative network and navigating it toward excellence in water research and practice.

CWN was created in 2001 to build a national network of water researchers and partners to connect and mobilize leading research to issues underlying the pivotal role water plays in our environment, health and economy. CWN was established at a turning point in awareness, regulation and management of water issues in Canada — in May 2000 bacterial contamination of Walkerton's municipal water supply caused seven deaths and afflicted 2,500 with serious gastrointestinal illness. A year later, an outbreak of waterborne cryptosporidiosis in North Battleford, Saskatchewan followed, afflicting some 6,200 residents.

In the decade since these tragedies, water issues have risen substantially in Canadian consciousness and public debate, but best policy and action have remained challenging because of the diffuse nature of water decision-making. Governance and water management are fractured across multiple departments and levels of government, decisions are subject to competing priorities, and effective mechanisms to coordinate knowledge and technology on solutions are in short supply.

Canadian researchers have the expertise to address these challenges, but mechanisms are needed to integrate their knowledge across disciplines and regions. Integration also requires better coupling of decisions to the implications and options that emerge from research. These are precisely the challenges that the Networks of Centres of Excellence program was established to address. CWN remains the only water-related organization of its kind in Canada and it is the focal point for national integration of water research capacity and collaboration.

During CWN's first seven years of NCE funding, we focused on connecting researchers separated widely by geography, habit and discipline to the diverse water management community, combining resources to support the complex challenge of water management. We embraced the broad user sector as integral partners in the process, ensuring that our research better underpinned water-management decisions.

Having established a core national network, CWN undertook during its second funding cycle to build upon this strong capacity base. We began a transformation to more fully meet the needs of the user community through an evolution from a researcher-based *push* on defining research needs to an end-user *pull*.

Over the three years of our second NCE funding cycle, our network has expanded to 40 research projects that involve more than 100 researchers, some 300 partners and over 600 students. Since inception, CWN's research program has been underpinned by the next generation of outstanding young leaders. The network continues to deliver a program that exposes young researchers to a wider array of perspectives and a broader understanding of water management. Our training has included intensive workshops that immerse students in holistic study of watersheds and water-management challenges, providing real-world experience and integrated understanding to solve problems that span jurisdictions, disciplines and time. As they have graduated, our students have secured meaningful employment in industry, government and academia, where they continue to make discoveries, foster innovation and improve water management and policy decisions.

Looking forward, CWN will structure efforts to further develop our research consortia to create communities of practice around critical water issues. Our consortia employ a unique approach to research management that integrates end users and water researchers in a structured development of research programs and reporting of research results that improves communication, awareness and uptake of findings. It ensures the right questions are posed, that research is practicable, implementable knowledge is generated, findings are integrated into policy and practice, and co-investment in research increases. This model has radically advanced end-user involvement in our research and CWN has become a recognized leader in knowledge translation and brokering as a result.

While helping to solve Canada's water management challenges, CWN is creating opportunities to affirm Canada's leadership in water research and management, applying expertise and technology to issues and markets around the globe. We are a vibrant national network well positioned to deliver value to Canadians and to create a sustainable entity that continues to bring water research to life.



PETER STEBLIN  
Chair of the Board  
Canadian Water Network



KELLY MUNKITTRICK  
Scientific Director  
Canadian Water Network

## board of directors

The Canadian Water Network has been fortunate to attract a broad cross-section of exceptional Canadians to guide the organization. The Board of Directors, the Scientific Advisory Committee and the Program Management Committee have been instrumental in helping CWN build on its successful origins to create an integrated national innovation knowledge network that embraces strong partnerships as the key to success.

### CHAIR

PETER STEBLIN, PEng, City Manager, City of Coquitlam

### VICE CHAIR

RICK FINDLAY, PEng, (retired), Director, Water Programme, Pollution Probe

### MEMBERS (2010–11)

WILLIAM BORLAND, Vice President, Canadian Federal Programs, AMEC Earth and Environmental Limited

MARGARET CATLEY-CARLSON, Patron, Global Water Partnership

LOU DI GIRONIMO, BA, General Manager, Toronto Water

D. GEORGE DIXON, PhD, Vice President, University Research, University of Waterloo

DIANE DUPONT, PhD, Professor, Economics Department, Brock University

IRVING LEBLANC, PEng, Water Specialist, Assembly of First Nations

DAVID MARSHALL, PEng, Executive Director, Fraser Basin Council

STEPHEN MORAN, PhD, Affiliate of Innovation Expedition, Energy Futures Network

CHANTAL MORASSE, MSc, Vice President, Water & Community Infrastructures, AECOM

RON NIELSEN, PEng, General Manager, Global Sustainability, Cliff's Natural Resources

ROBERT PAGE, PhD, TransAlta Professor of Environmental Management and Sustainability, University of Calgary

GILLES PATRY, PEng, PhD, President and CEO, Canada Foundation for Innovation

DONALD PEARSON, MPA, General Manager, Conservation Ontario

MARK SERVOS, PhD, Scientific Director, Canadian Water Network

LINDA VAN GASTEL, PEng, FCAE, ASRA, Alberta Water Council, Alberta Water Research Institute

DAN WICKLUM, PhD, Director General, Water Science & Technology Directorate, Environment Canada

FRED WRONA, PhD, Director, Aquatic Ecosystem Impacts Research Division, Environment Canada

### EX OFFICIO MEMBERS

BERNADETTE CONANT, MSc, Executive Director, Canadian Water Network

TIA MOFFAT, PhD, Senior Program Manager, Networks of Centres of Excellence



*scientific advisory*  
COMMITTEE

WALTER GIGER, PhD, Swiss Federal Institute  
for Environmental Science and Technology

TIMOTHY HENNESSEY, PhD, Professor, Political Science,  
Department of Marine Affairs, University of Rhode Island

JOAN ROSE, PhD, Professor, Homer Nowlin Chair in Water  
Research, Michigan State University

WARREN WILBUR WOOD, PhD, John Hannah Professor  
of Integrative Studies, Michigan State University



## program management COMMITTEE (2010-11)

### COMMITTEE CO-CHAIRS

**MARK SERVOS**, PhD, Committee Chair, Scientific Director, Canadian Water Network, Canada Research Chair in Water Quality and Protection, and Professor, Department of Biology, University of Waterloo

**GRAHAM DABORN**, PhD, Committee Co-chair, Honorary Research Associate, Acadia Centre for Estuarine Research and Adjunct Professor, Department of Biology, Acadia University

### PROTECTING WATERSHEDS AND ECOSYSTEMS

**MONIQUE DUBÉ**, PhD, Canada Research Chair in Aquatic Ecosystem Health Diagnosis and Associate Professor, School of Environment and Sustainability, University of Saskatchewan

**BARBARA VEALE**, PhD, Coordinator of Policy Planning and Partnerships, Grand River Conservation Authority

### PROTECTING PUBLIC HEALTH

**VICTORIA EDGE**, PhD, Senior Epidemiologist, Office of Public Health Practice, Public Health Agency of Canada

**ANDRIA JONES**, PhD, Assistant Professor, Department of Population Medicine, University of Guelph

### ENSURING SUSTAINABLE WATER INFRASTRUCTURE

**SUSAN ANDREWS**, PhD, Associate Professor, Department of Civil Engineering, University of Toronto

**GRAHAM GAGNON**, PhD, PEng, NSERC/Halifax Regional Water Commission Industrial Research Chair, Canada Research Chair in Water Quality and Treatment, and Professor, Department of Civil and Resource Engineering, Dalhousie University

### MEMBERS

**WILLIAM CAIRNS**, PhD, Chief Scientist, Trojan Technologies Inc.

**BERNADETTE CONANT**, MSc, Executive Director, Canadian Water Network

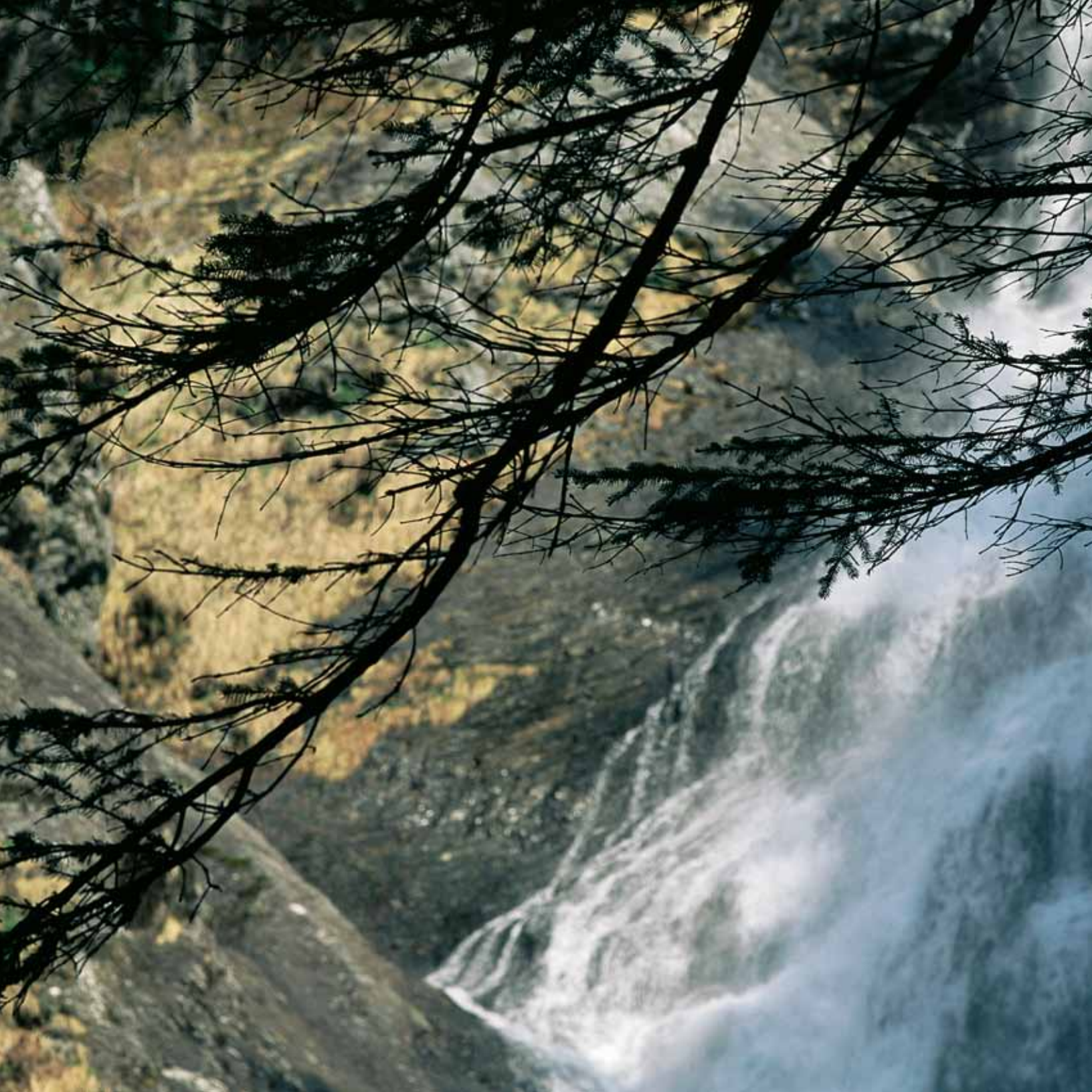
**JACK HULL**, MBA, PEng, General Manager, Water Services, Capital Regional District, Victoria, BC

**JIRI MARSALEK**, DSc, Project Chief, Urban Water Management, National Water Research Institute

**KELLY MUNKITTRICK**, PhD, Canada Research Chair in Ecosystem Health Assessment, Associate Director of the Canadian Rivers Institute, and Professor, Department of Biology, University of New Brunswick

### NON-MEMBER OBSERVER

**TIA MOFFAT**, PhD, Program Manager, Networks of Centres of Excellence





## research projects and leaders

### **PROTECTING WATERSHEDS AND ECOSYSTEMS**

- » Developing a Canadian water security framework as a tool for assessing cumulative impacts and improving watershed governance  
[KAREN BAKKER](#), University of British Columbia
- » Governance for watershed-based source water protection in Canada: a national assessment  
[ROB DE LOË](#), University of Waterloo
- » Surface and groundwater management in the oil sands industry  
[D. GEORGE DIXON](#), University of Waterloo
- » Development of The Healthy River Ecosystem Assessment System (THREATS) for assessing and adaptively managing the cumulative effects of man-made developments on Canadian freshwaters  
[MONIQUE DUBÉ](#), University of Saskatchewan
- » Towards economic and environmental sustainability in agriculture through the implementation of combined beneficial management practices and remedial approaches designed to minimize impacts to water quality  
[DAVID RUDOLPH](#), University of Waterloo
- » Modelling the impact of climate change on Canadian water resources  
[EDWARD SUDICKY](#), University of Waterloo

### PROTECTING PUBLIC HEALTH

- » Priority toxic elements (vanadium, antimony and arsenic) — source water protection and drinking water treatment  
X. CHRIS LE, University of Alberta
- » Water innovation, surveillance and toxicity ranking tools for characterization and prioritization of drinking water disinfection by-products and contaminants  
XING-FANG LI, University of Alberta
- » Assessing waterborne health risks through quantitative risk assessment models  
PIERRE PAYMENT, INRS-Institut Armand-Frappier

### ENSURING SUSTAINABLE WATER INFRASTRUCTURE

- » More value from the same water: maximizing water's sustainable contribution to the Canadian economy  
DIANE DUPONT, Brock University
- » Strategies for managing the effects of climate change on microbial contamination of surface water supplies in small and Aboriginal communities  
GORDON HUANG, University of Regina
- » Assessment and management of environmental risks associated with decentralized rural wastewater management systems  
ROB JAMIESON, Dalhousie University
- » Developing a comprehensive strategy to reduce lead at the tap in Canada  
MICHÈLE PRÉVOST, École Polytechnique de Montréal

### CANADIAN MUNICIPAL WATER CONSORTIUM

- » Assessing the impacts on aquatic organisms exposed to emerging contaminants in wastewater discharges  
CHRIS METCALFE, Trent University
- » Determining the efficacy of emerging contaminant removal within existing treatment trains relevant to Canadian conditions through chemical and toxicological assessments  
WAYNE PARKER, University of Waterloo
- » Managing uncertainty in the provision of safe drinking water  
STEVE HRUDEY, University of Alberta

### INNOVATIVE WATER TREATMENT TECHNOLOGIES

- » Development of new membrane materials that incorporate novel nano-materials with functionalities that can oxidize NOM and inactivate pathogens  
PIERRE BÉRUBÉ, University of British Columbia
- » Hydrodynamic particle breaking for improved disinfection  
STEVEN LISS, Queen's University
- » Molecularly imprinted and non-imprinted polymer nanoparticles for removal of EDCs and PPCPs from water and wastewater  
BANU ÖRMECI, Carleton University
- » Degradation of emerging pollutants by TiO<sub>2</sub> nanowire membranes during water treatment  
NORMAN ZHOU, University of Waterloo

### STRATEGIC OPPORTUNITIES PROJECTS

- » Success factors for sustainable small drinking water systems  
GRAHAM GAGNON, Dalhousie University
- » The contribution of water to the Canadian economy  
STEVEN RENZETTI, Brock University

## *funded researchers*

### ACADIA UNIVERSITY Graham Daborn

BROCK UNIVERSITY  
Mohammed Dore  
Diane Dupont  
Ryan Plummer  
Steven Renzetti

CARLETON UNIVERSITY  
Edward Lai  
Banu Örmeci

DALHOUSIE UNIVERSITY  
Peter Duinker  
Graham Gagnon  
Rob Jamieson  
Craig Lake

ÉCOLE POLYTECHNIQUE DE MONTRÉAL  
Benoit Barbeau  
Michèle Prévost

INRS-INSTITUT ARMAND-FRAPIER  
Daniel Cyr  
François Gagné  
Pierre Payment

MCGILL UNIVERSITY  
Chandra Madramootoo  
Nathalie Tufenkji

McMASTER UNIVERSITY  
Ian Droppo

QUEEN'S UNIVERSITY  
Steven Liss

ROYAL MILITARY COLLEGE OF CANADA  
Kenneth Reimer

SIMON FRASER UNIVERSITY  
Diana Allen

TRENT UNIVERSITY  
Chris Metcalfe

UNIVERSITÉ LAVAL  
Patrick Levallois  
René Therrien  
Peter Vanrolleghem

UNIVERSITY OF ALBERTA  
Kevin Devito  
Phillip M. Fedorak  
Mohamed Gamal El-Din  
Greg Goss  
Steve Hrudehy  
Gary Kachanoski  
X. Chris Le  
Xing-Fang Li  
Jonathan Martin  
Carl Mendoza  
Dave Segó

UNIVERSITY OF BRITISH COLUMBIA  
Karen Bakker  
Pierre Bérubé  
William Cullen  
Eric Hall  
Judy Isaac-Renton  
Frank Ko  
Ulrich Mayer  
Hans Schreier  
Kay Teschke  
Reza Vaziri

UNIVERSITY OF CALGARY  
Edwin Cey  
Ted Horbulyk  
Leland J. Jackson  
Norman Neumann  
Cathy Ryan

UNIVERSITY OF GUELPH  
Khosrow Farahbakhsh  
Robert Gordon  
Doug Joy  
Chris Kinsley  
Ed McBean  
Gary Parkin  
Glen Van Der Kraak  
Hongde Zhou

UNIVERSITY OF LETHBRIDGE  
Henning Bjornlund  
Kurt Klein

UNIVERSITY OF MANITOBA  
John Sinclair  
Ronald Stewart  
Al Woodbury

UNIVERSITY OF NEW BRUNSWICK  
Karen Kidd  
Kelly Munkittrick

UNIVERSITY OF OTTAWA  
Tom Moon  
Michel Robin  
Vance Trudeau

UNIVERSITY OF REGINA  
Gordon Huang

UNIVERSITY OF SASKATCHEWAN  
Monique Dubé  
Jim Hendry  
Bram Noble  
Cherie Westbrook



UNIVERSITY OF TORONTO

Robert C. Andrews  
Susan Andrews  
Ramin Farnood  
Ron Hofmann  
William Richard Peltier

UNIVERSITY OF VICTORIA

Caren Helbing  
Michael M'Gonigle

UNIVERSITY OF WATERLOO

Jim Barker  
Jean Birks  
Niels Bols  
Rob de Loë  
D. George Dixon  
Monica Emelko  
Mark McMaster  
Wayne Parker  
Janusz Pawliszyn  
Michael Power  
Jonathan Price  
Will Robertson  
Martin Ross  
David L. Rudolph  
Mark Servos  
Edward A. Sudicky  
Jon F. Sykes  
Neil Thomson  
Norman Zhou

UNIVERSITY OF WINDSOR

Jan Ciborowski

WILFRID LAURIER UNIVERSITY

Lucy Lee





## partners

The Canadian Water Network thanks its partners in government, industry, academia and the nongovernmental and not-for-profit sectors for their generous cash and in-kind contributions in support of excellence in water research and resource management.

### **CANADIAN FEDERAL DEPARTMENTS AND AGENCIES**

Agriculture and Agri-Food Canada  
Agassiz, British Columbia / Brandon, Manitoba /  
Fredericton, New Brunswick / Kentville, Nova Scotia

Canada Foundation for Innovation  
Ottawa, Ontario

Environment Canada  
Burlington, Ontario / Dartmouth, Nova Scotia /  
Gatineau, Québec / Hull, Québec / Montréal, Québec /  
North Vancouver, British Columbia / Vancouver, British  
Columbia / Yellowknife, Northwest Territories

Environment Canada, Aquatic Ecosystems Protection  
Research Division, Water Science & Technology  
Directorate  
Burlington, Ontario

Environment Canada, Climate Process Section,  
Climate Division  
Saskatoon, Saskatchewan

Environment Canada, Wastewater Technology Centre  
Burlington, Ontario

Fisheries and Oceans Canada  
Winnipeg, Manitoba

Health Canada  
Ottawa, Ontario

Health Canada, Water, Air and Climate Change Bureau  
Ottawa, Ontario

National Roundtable on the Environment and the  
Economy  
Ottawa, Ontario

National Research Council Canada, Centre for  
Sustainable Infrastructure Research  
Regina, Saskatchewan

Natural Resources Canada, Geological Survey of  
Canada  
Québec City, Québec

Natural Sciences and Engineering Research Council  
Ottawa, Ontario

Public Health Agency of Canada, Laboratory for  
Foodborne Zoonoses  
Guelph, Ontario

Public Health Agency of Canada, St-Hyacinthe Unit  
Saint-Hyacinthe, Québec

Social Sciences and Humanities Research Council  
Ottawa, Ontario

**PROVINCIAL DEPARTMENTS  
AND AGENCIES**

Alberta Environment  
Calgary, Alberta

Alberta Geological Society  
Edmonton, Alberta

Alberta Health and Wellness  
Edmonton, Alberta

Alberta Provincial Laboratory for Public Health  
(ProvLab)  
Edmonton, Alberta

Alberta Water Research Institute  
Edmonton, Alberta

British Columbia Centre for Disease Control  
Vancouver, British Columbia

Institut national de santé publique du Québec  
Québec City, Québec / Saint-Anne-de-Bellevue,  
Québec

Manitoba Water Stewardship  
Winnipeg, Manitoba

Ministère du Développement durable,  
de l'Environnement et des Parcs  
Québec, Québec

Newfoundland Ministry of Environment and  
Conservation  
St. John's, Newfoundland and Labrador

Nova Scotia Environment  
Halifax, Nova Scotia

Ontario Ministry of Agriculture, Food and Rural Affairs  
Guelph, Ontario

Ontario Ministry of the Environment  
Toronto, Ontario

Ontario Ministry of the Environment, Standards  
Development Branch  
Toronto, Ontario

Ontario Ministry of Research and Innovation  
Toronto, Ontario

Saskatchewan Ministry of the Environment  
Regina, Saskatchewan

**LOCAL GOVERNMENTS**

City of Abbotsford  
Abbotsford, British Columbia

City of Calgary  
Calgary, Alberta

City of Calgary Water Services  
Calgary, Alberta

City of Ottawa, Drinking Water Services  
Ottawa, Ontario

County of Oxford  
Woodstock, Ontario

District Municipality of Muskoka  
Bracebridge, Ontario

Eastern Ontario Water Resources Committee  
Village of Finch, Ontario

Frog Lake First Nation  
Frog Lake, Alberta

Halifax Regional Water Commission  
Halifax, Nova Scotia

Regional Municipality of Waterloo  
Kitchener, Ontario

Region of York  
Newmarket, Ontario

Robert O. Pickard Environmental Centre  
Regional Municipality of Ottawa Carleton,  
Ontario

Royal Planning District Commission  
Sussex, New Brunswick

Town of Neepawa  
Neepawa, Manitoba

Town of Oliver  
Oliver, British Columbia

Township of Langley  
Langley, British Columbia

Ville de Laval  
Laval, Québec

Ville de Montréal  
Montréal, Québec

Ville de Montréal, Division des eaux  
Montréal, Québec

Ville de Repentigny, Division des eaux  
Repentigny, Québec

Ville de Rosemère, Hygiène du milieu  
Rosemère, Québec

Ville de Victoriaville, Service de  
l'environnement  
Victoriaville, Québec

**INDUSTRY**

Brookfield Concrete Products Ltd.  
Brookfield, Nova Scotia

Clearford Industries Inc.  
Ottawa, Ontario

Conestoga-Rovers & Associates  
Waterloo, Ontario

Cumulative Environmental Management  
Association  
Fort McMurray, Alberta

EPCOR Water Services Inc.  
Edmonton, Alberta

GE Water & Process Technologies  
Burlington, Ontario / Oakville, Ontario

Klohn Crippen Berger Ltd.  
Calgary, Alberta

Solinst Canada Ltd.  
Georgetown, Ontario

Syncrude Canada Ltd.  
Edmonton, Alberta

Trojan Technologies Inc. (Trojan UV)  
London, Ontario

Waste Water Nova Scotia Society  
New Glasgow, Nova Scotia

**NGOs, NOT-FOR-PROFITS  
AND ASSOCIATIONS**

Alberta Irrigation Projects Association  
Lethbridge, Alberta

Assembly of First Nations  
Ottawa, Ontario

Bow River Basin Council  
Calgary, Alberta

Centre for Indigenous Environmental  
Resources  
Winnipeg, Manitoba

Cornwallis Headwaters Society  
Berwick, Nova Scotia

Grand River Conservation Authority  
Cambridge, Ontario

GreenCentre Canada  
Kingston, Ontario

Institut de recherche et de développement  
en agroenvironnement (IRDA)  
Saint-Hyacinthe, Québec

Kennebecasis Watershed Restoration  
Committee  
Sussex, New Brunswick

Manitoba Eco-Network  
Winnipeg, Manitoba

Oldman Watershed Council  
Lethbridge, Alberta

Ontario Pork  
Guelph, Ontario

POLIS Project on Ecological Governance  
Victoria, British Columbia

Six Nations Eco-Centre  
Ohsweken, Ontario

Southern Alberta Group for the Environment  
Lethbridge, Alberta

St. John River Society  
Fredericton, New Brunswick

Trout Unlimited Canada  
Guelph, Ontario

Wildsight  
Kimberley, British Columbia

**INTERNATIONAL**

Advanced Photon Source, Argonne National  
Laboratory  
Argonne, Illinois

Chinese Academy of Sciences  
Beijing, China

Comisión Nacional de Investigación  
Científica y Tecnológica (CONICYT)  
Santiago, Chile

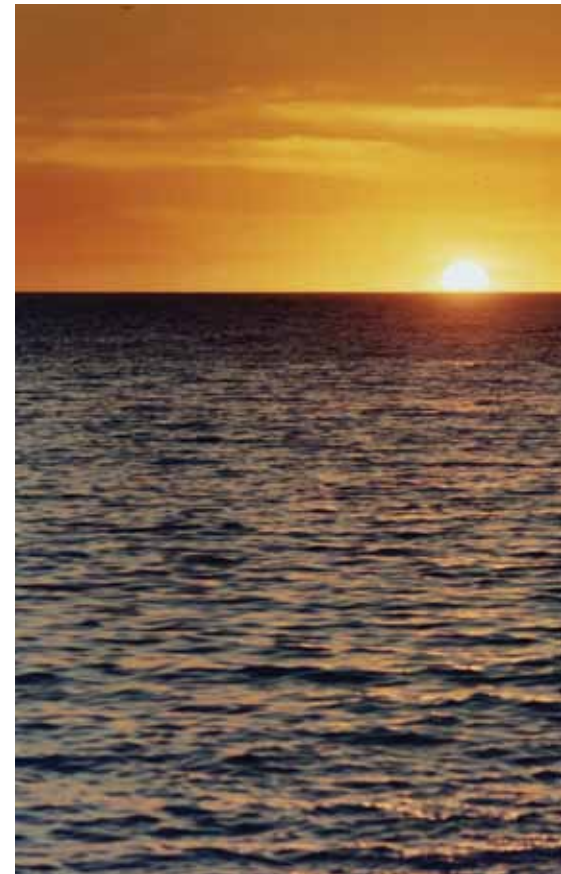
Helmholtz Centre for Environmental  
Research – UFZ  
Leipzig, Germany

Illinois State Geological Survey  
Champaign, Illinois

United States Environmental Protection Agency,  
National Exposure Research Laboratory  
Athens, Georgia

United States Environmental Protection Agency,  
Research Triangle Park  
Durham, North Carolina

University of Kansas  
Lawrence, Kansas



# independent auditors' report

To the Board of Directors of  
**Canadian Water Network Inc./Réseau canadien de l'eau Inc.**

We have audited the accompanying financial statements of the **Canadian Water Network Inc./Réseau canadien de l'eau Inc.**, which comprise the statement of financial position as at March 31, 2011 and the statement of operations, net assets and cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

## **Management's responsibility for the financial statements**

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

## **Auditors' responsibility**

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with Canadian generally accepted auditing standards. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained in our audit is sufficient and appropriate to provide a basis for our audit opinion.

## **Opinion**

In our opinion, these financial statements present fairly, in all material respects, the financial position of **Canadian Water Network Inc./Réseau canadien de l'eau Inc.** as at March 31, 2011 and the results of its operations, net assets and cash flows for the year then ended in accordance with Canadian generally accepted accounting principles.

*Ernst & Young LLP*

Kitchener, Canada  
June 24, 2011

Chartered Accountants  
Licensed Public Accountants

## statement of financial position

AS AT MARCH 31

	2011 \$	2010 \$
<b>ASSETS</b>		
<b>Current</b>		
Funds held by the University of Waterloo	4,016,842	3,001,882
Accounts receivable	120,813	61,767
Prepaid expenses	8,438	8,372
<b>Total current assets</b>	<b>4,146,093</b>	3,072,021
<b>LIABILITIES AND NET ASSETS</b>		
<b>Current</b>		
Accounts payable	372,078	58,478
Deferred contributions <sup>[note 3]</sup>	3,167,252	2,460,711
<b>Total current liabilities</b>	<b>3,539,330</b>	2,519,189
<b>Net assets</b>		
Unrestricted	606,763	552,832
<b>Total current liabilities and net assets</b>	<b>4,146,093</b>	3,072,021

See accompanying notes

## statement of operations and net assets

YEAR ENDED MARCH 31

	2011 \$	2010 \$
<b>REVENUE</b>		
Amortization of Network Centres of Excellence grants and restricted grants	4,669,977	4,206,113
Other grants, conference fees and financial management fees <sup>[note 5 [d]]</sup>	152,817	77,286
	<b>4,822,794</b>	4,283,399
<b>EXPENSES</b>		
Research projects, net <sup>[note 4]</sup>	3,091,173	2,544,601
Partnership development	263,190	386,859
Networking and partnerships	542,744	318,003
Training of highly qualified personnel	358,689	151,662
Technology knowledge transfer	35,853	205,985
Network management	477,214	731,247
	<b>4,768,863</b>	4,338,357
<b>Excess (deficiency) of revenue over expenses for the year</b>	<b>53,931</b>	(54,958)
Net assets, beginning of year	552,832	607,790
<b>Net assets, end of year</b>	<b>606,763</b>	552,832

See accompanying notes

## statement of cash flows

YEAR ENDED MARCH 31

	2011 \$	2010 \$
<b>OPERATING ACTIVITIES</b>		
Excess (deficiency) of revenue over expenses for the year	53,931	(54,958)
<b>Deduct non-cash item</b>		
Amortization of Network Centres of Excellence grants and restricted grants	(4,669,977)	(4,206,113)
	(4,616,046)	(4,261,071)
<b>Changes in operating assets and liabilities</b>		
Decrease (increase) in funds held by the University of Waterloo	(1,014,960)	(1,246,927)
(Increase) decrease in accounts receivable	(59,046)	247,203
(Increase) decrease in prepaid expenses	(66)	20,296
Increase (decrease) in accounts payable	313,600	(287,735)
Increase in deferred contributions <sup>[note 3]</sup>	5,376,518	5,528,234
<b>Cash provided by operating activities</b>	-	-
<b>Net change in cash during the year</b>		
Cash, beginning of year	-	-
<b>Cash, end of year</b>	-	-

See accompanying notes



## notes to the financial statements

MARCH 31, 2011

### 1. DESCRIPTION

Canadian Water Network Inc./Réseau canadien de l'eau Inc. ["CWN"] commenced operations on March 1, 2001 and was incorporated under the Canada Corporations Act on August 7, 2003.

CWN is one of 14 research networks funded by the Canadian Network Centres of Excellence ["NCE"] program. CWN's mission is to ensure Canada's leadership role in the management and sustainable use of water resources, in the protection of human and aquatic ecosystem health and in sustaining economic growth in the technology and services sector. CWN fulfils its mission by developing, supporting and publicizing research initiatives on water-related issues important to Canada. The research is carried out by university investigators at numerous Canadian universities; financial support for the research is transferred from the Administrative Centre, based at the University of Waterloo, to the investigators' universities. Prior to August 7, 2003, CWN was not incorporated as a separate legal entity, but functioned as a unit within the University of Waterloo. CWN does maintain separate reporting and management functions from the University of Waterloo, but continues to use the University of Waterloo's accounting processes.

CWN develops and supports diverse, multi-disciplinary research projects addressing critical water issues. Research undertaken by CWN is grouped into three Water Innovation Programs: Protecting Public Health, Protecting Watersheds and Ecosystems, and Ensuring Sustainable Water Supply and Infrastructure. There is an emphasis on the importance of considering the socio-economic aspects of water management in conjunction with scientific research.

### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The following is a summary of the significant accounting policies followed in the preparation of the accompanying financial statements.

#### FUNDS HELD BY THE UNIVERSITY OF WATERLOO

CWN deposits its cash funds with the University of Waterloo. The funds are disbursed by the University of Waterloo on behalf of CWN. As well, administrative expenses are paid by the University of Waterloo. The net amount of funds received and funds paid out is presented as "Funds held by the University of Waterloo" in the statement of financial position. These funds bear no interest in accordance with the agreement between CWN and the University of Waterloo. The funds are readily available to CWN and are thus classified as cash for the purposes of the presentation of the statement of cash flows.

#### REVENUE RECOGNITION

CWN follows the deferral method of accounting for contributions, which include donations and NCE program grants. Unrestricted grants or fee contributions are recognized as revenue in the year when received or receivable, if the amount to be received has been committed in the year, can be reasonably estimated, and collection is reasonably assured. Restricted NCE grants and other restricted contributions are recognized as revenue in the year in which the related expenses are incurred.

#### EXPENSES

Research projects are recorded as an expense in the year that the funds are disbursed to the various research institutions, as approved by CWN's Board of Directors.

Partnership development expense represents costs associated with consortia development, such as development workshops, travel, promotional material and consultants.

Networking and partnerships expense represents costs of website design and maintenance, communications, annual general meetings and symposiums.

Training of highly qualified personnel expense represents costs of training and developing highly qualified personnel and includes such items as workshops, internships and initiatives targeted at training.

Technology knowledge transfer expense represents costs of knowledge and technology exchange and exploitation and includes the costs of knowledge transfer workshops and partnerships.

Network management expense represents costs related to managing CWN such as CWN research management committee meetings, Board of Directors' meetings, salaries, consulting fees and office overhead.

All expenses are recorded on an accrual basis of accounting.

**USE OF ESTIMATES**

The preparation of financial statements, in conformity with Canadian generally accepted accounting principles, requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

**CHANGES IN ACCOUNTING POLICIES**

The Accounting Standards Board approved the incorporation of the standards set out in Part III of the CICA Handbook — Accounting as the accounting standards for not-for-profit organizations. The effective date for the adoption of these standards within financial statements is applicable for year ends beginning on or after January 1, 2012. Earlier adoption is permitted. CWN has not yet assessed the impact of these standards on the financial statements.

**3. DEFERRED CONTRIBUTIONS**

	2011	2010
	\$	\$
<b>Balance, beginning of year</b>	<b>2,460,711</b>	1,138,590
Add		
Amounts contributed during the year	<b>5,376,518</b>	5,226,729
Less		
Amounts amortized to Network Centres of Excellence grants and restricted grants during the year	<b>(4,669,977)</b>	(4,206,113)
Amounts to be no longer refunded to Network Centres of Excellence	-	301,505
<b>Balance, end of year</b>	<b>3,167,252</b>	2,460,711

**[a] COMMITMENTS**

The following deferred contributions have been committed to specific projects to be paid in the following fiscal years:

	\$
2011 – 2012	2,922,660
2012 – 2013	288,850
<b>Total committed deferred contributions</b>	<b>3,211,510</b>

**[b] FUNDING**

NCE has committed funding to CWN subject to meeting NCE criteria during the following fiscal years:

	\$
2011 – 2012	5,000,000
<b>Total NCE commitment</b>	<b>5,000,000</b>

Additional funding of \$300,000 has been committed to CWN by the Alberta Water Research Institute in the fiscal year 2012. During fiscal 2011, \$270,000 was recognized as deferred contributions.

**[c] AMOUNTS CONTRIBUTED**

The following amounts have been added to deferred contributions during fiscal 2011:

	\$
Natural Sciences and Engineering Research Council	3,750,000
Social Sciences and Humanities Research Council	1,000,000
Canadian Institutes of Health Research	250,000
Alberta Water Research Institute	270,000
Other	106,518
<b>Total committed deferred contributions</b>	<b>5,376,518</b>

**4. RESEARCH PROJECTS**

During the fiscal year ended March 31, 2011, CWN distributed research funds in the amount of \$3,091,173 [2010 – \$2,544,601]. Funds were distributed in accordance with the Board of Directors' approval and CWN's program management committee's review and approval of research projects.



#### 5. RELATED PARTY TRANSACTIONS

[a] The University of Waterloo is party to the NCE funding agreement and functions as the network host for the purpose of the administration of the grant funding.

The University of Waterloo provides accounting and administrative support services as well as office space without charge to CWN. There has been no amount recorded in these financial statements for these in-kind services.

[b] CWN paid a total of \$755,840 [2010 — \$594,230] in research project grants to the University of Waterloo for approved research activities.

[c] As detailed in the funding agreement signed among CWN, the University of Waterloo and the NCE, external funds received by CWN are held in trust by the University of Waterloo.

[d] CWN and the University of Waterloo have an agreement in place covering the period from April 1, 2008 to March 31, 2015 in which the University of Waterloo has agreed to pay to CWN \$40,000 per year to support financial management. Therefore, this amount has been recorded as financial management fees for fiscal 2011.

#### 6. INCOME TAXES

CWN is a non-profit organization under Section 149 of the Income Tax Act (Canada) and is therefore exempt from income taxes.

#### 7. FINANCIAL INSTRUMENTS

CWN's financial instruments consist mainly of funds held by the University of Waterloo, accounts receivable and accounts payable. In accordance with CICA Section 3855, *Financial Instruments — Recognition and Measurement*, funds held by the University of Waterloo are classified as held-for-trading. Accounts receivable are classified as loans and receivables. Accounts payable are classified as other financial liabilities. As at March 31, 2011, there are no significant differences between the carrying amounts of the financial instruments and their estimated market values.

CWN is subject to liquidity risk. See note 8 for disclosure relating to how CWN mitigates this risk.

#### 8. CAPITAL MANAGEMENT

In managing capital and operating needs, CWN focuses on liquid resources available for operations. CWN's objective is to have sufficient liquid resources on hand to continue operating and to provide it with the flexibility to capitalize on opportunities to further support the community. The need for sufficient liquid resources is considered in the preparation of an annual budget and in the monitoring of cash flows and actual operating results compared to the budget. As at March 31, 2011, CWN has met its objective of having sufficient liquid resources to meet its current obligations.

## reporting responsibility

The accompanying financial statements and supporting schedules are the responsibility of the management of the Canadian Water Network (CWN). The financial statements have been prepared in accordance with Canadian generally accepted accounting principles.

Management of CWN, in furtherance of the integrity and objectivity of data in the financial statements, works with the University of Waterloo to develop and maintain a comprehensive system of internal accounting controls, which relate to CWN. Management believes that this system of internal accounting controls provides reasonable assurance that financial records are reliable and form a proper basis for preparation of financial statements and that assets are properly accounted for and safeguarded. Management exercises judgment in determining that a reasonable balance is maintained between the costs of such controls and the benefits to be derived from them. The financial statements necessarily include some amounts that are based on management's best estimates and judgments. The internal accounting control process includes management's communication to employees and researchers of policies, which govern ethical business practice.

The Board of CWN carries out its responsibility for the financial statements principally through its Finance and Executive Committees.



MARK SERVOS  
Scientific Director



BERNADETTE CONANT  
Executive Director

## acknowledgements

### **Canadian Water Network** Administrative Centre

University of Waterloo  
200 University Avenue West  
Waterloo, Ontario N2L 3G1  
519-888-4567, ext. 36367  
Fax: 519-883-7574  
info@cwn-rce.ca  
www.cwn-rce.ca

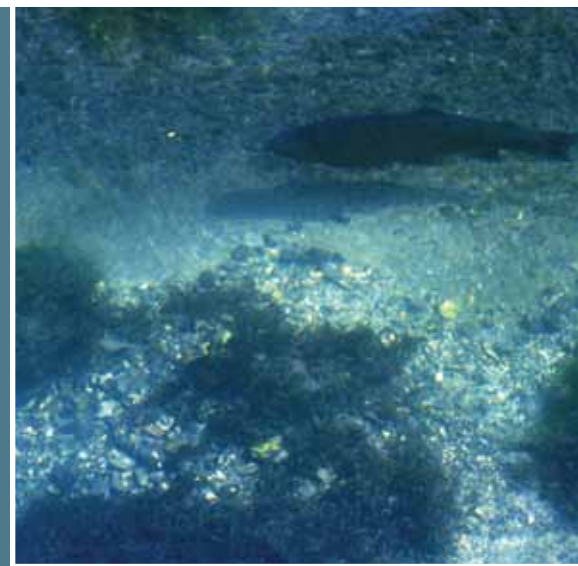


CANADIAN WATER NETWORK  
RÉSEAU CANADIEN DE L'EAU

CWN is funded by  
**The Networks of Centres of Excellence**  
NCE Program Directorate  
Jean-Claude Gavrel, Director  
Tia Moffat, Senior Program Manager



NCE RCE  
Networks of Centres of Excellence of Canada | Réseaux de centres  
d'excellence au Canada



CWN is hosted by  
**The University of Waterloo**  
Feridun Hamdullahpur, President

UNIVERSITY OF  
**WATERLOO**