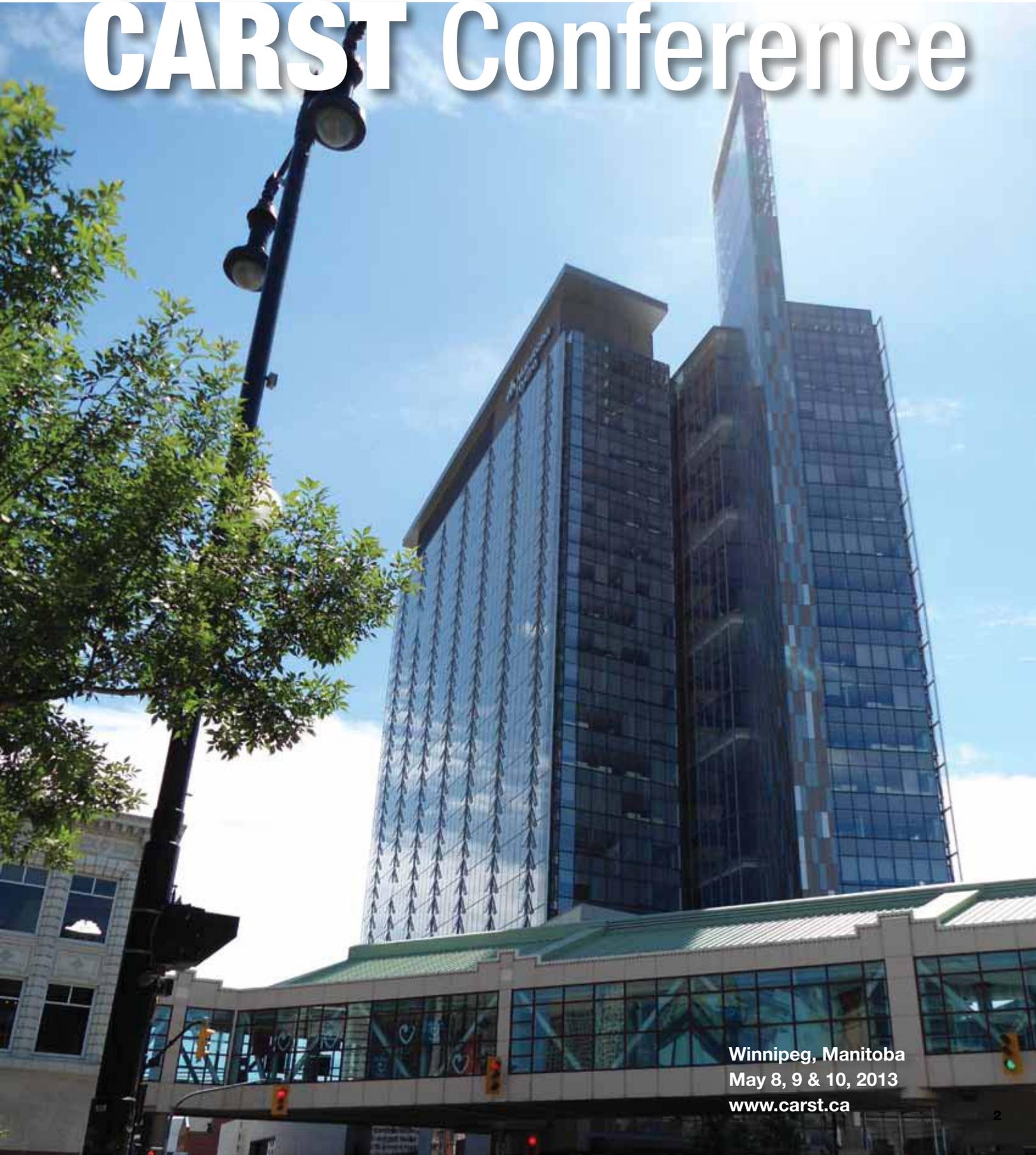




# 2nd Annual **CARST** Conference



Winnipeg, Manitoba  
May 8, 9 & 10, 2013  
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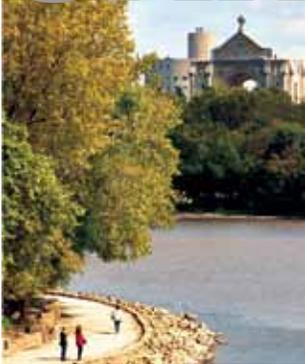
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## *About Radonmatters*

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# CARST Conference



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*Cover:* LEED Platinum-certified Manitoba Hydro Building, photo by Interlaker. *This page, clockwise from top left:* Assiniboine Riverwalk by Wpg guy, Millennium Library by Dan McKay, Esplanade Riel by Cayla, and Main Street Bridge by Dan McKay.

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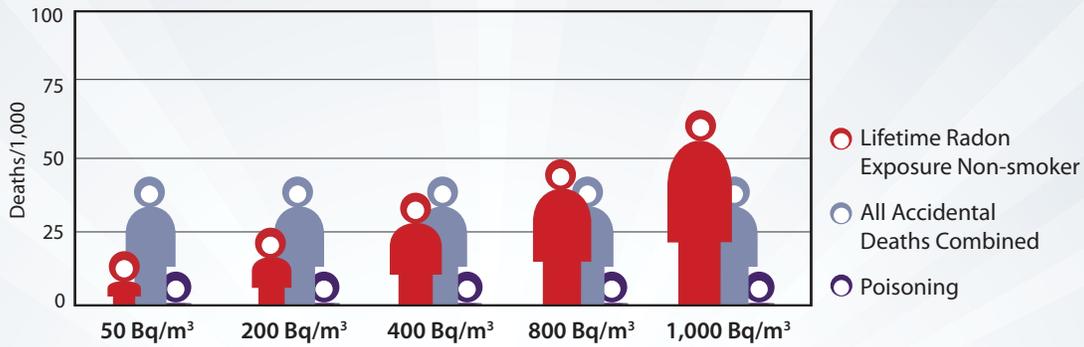
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## PRESIDENT'S MESSAGE **Bob Wood**



I want to welcome you all to the second annual conference of the **Canadian Association of Radon Scientists and Technologists**. It is exciting to see the growth this year!

Not only has our membership grown by almost 50%, you can feel the enthusiasm increase amongst Canadian radon professionals over the years.

This year's conference theme of "Working Together to Save More Lives" will be an incubator in that continued growth and enthusiasm.

I want to welcome our presenters who have taken time out of their busy schedules to provide you with the results of their research, insights and experiences.

I hope that as a result of the conference you come away with new ideas and information, and that the conversations in the hallways and over meals boosts your knowledge and interest for this industry, where we get to **save lives** through research, outreach, testing and mitigation.

It is my hope that this conference will enable those in the industry to build on new and existing relationships in ways which encourage discussion and collaboration. I believe, by working together we will be a strong and effective voice to Canadians.

So again, I welcome you to the **2nd Annual CARST Conference**, and I am delighted that you are joining us in this pioneering task, to protect Canadians from the health risks of radon exposure.

Robert (Bob) Wood **President**

Je vous souhaite la bienvenue à la deuxième conférence annuelle de **l'Association Canadienne des Scientifiques et Technologues du Radon**. C'est excitant de voir la croissance cette année!

Le nombre de membre dans l'association a non seulement augmenté de près de 50%, mais aussi vous pouvez sentir l'enthousiasme parmi les professionnels de radon augmenté au cours des années.

Le thème de la conférence de cette année de «Travailler ensemble pour sauver plus de vies" aidera à poursuivre cette croissance et enthousiasme.

Je souhaite la bienvenue à nos présentateur et présentatrice qui ont pris le temps de leur horaire chargé pour vous fournir les résultats de leurs recherches, idées et expériences.

J'espère qu'à la suite de la conférence, vous repartirez avec de nouvelles idées et d'informations, et que les conversations dans les couloirs et pendant les repas stimule votre connaissance et l'intérêt pour cette industrie, où nous arrivons à **sauver des vies** grâce à la recherche, la sensibilisation, les tests et l'atténuation.

C'est mon espoir que cette conférence permettra à ceux de l'industrie à construire de relations nouvelles et existantes parmi des moyens qui favorisent la discussion et la collaboration. Je crois que, en travaillant ensemble, nous serons une voix forte et efficace pour les Canadiens.

Encore une fois, je vous souhaite la bienvenue à la **2e Conférence annuelle de CARST**, et je suis ravi que vous nous rejoindrez dans ce travail de pionnier, à protéger les Canadiens contre les risques de la santé liés à l'exposition au radon.

Robert (Bob) Wood **président**



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# A CANADIAN ASSOCIATION



CARST is a Canadian association dedicated to helping Canadians understand and reduce radon gas exposure in their homes and workplaces. Our goals for 2013 are to:

- **Promote** public awareness of radon measurement, radon mitigation and new construction radon reduction techniques;
- **Ensure** quality standards are developed and adopted in radon measurement, radon mitigation and in construction of new radon reduction techniques;
- **Provide** a community for education, sharing of ideas, resources and research; and
- **Facilitate** an effective partnership between radon professionals in the field and other interested public and private organizations (such as Health Canada, Canada Mortgage and Housing Corporation, and others).

## MEMBERS OF THE BOARD

### Bob Wood **President**

Bob Wood holds a Bachelor of Education, a BA in Adult Education, and an Associate's Degree in Industrial Training. Bob is a NEHA-NRPP certified radon mitigator and residential measurement technician. He spent 30 years in the commercial/industrial sector as a plumber and in other management roles.

Bob also teaches exam prep courses for both radon placement technicians and mitigators. He provides radon courses to real estate boards, has qualified for the National Speakers List on radon and is a popular speaker at conventions. Bob owns Mr. Radon®.

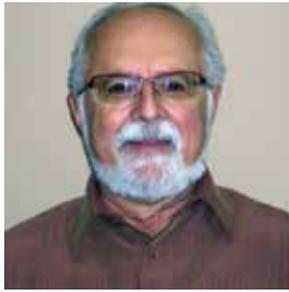


### Marcel Brascoupe **Vice President**

Marcel Brascoupe is a general construction contractor with a background in electrical and building systems/HVAC, working in the province of Quebec, specializing in the installation of radon mitigation systems. He is certified with NEHA for both radon measurement and radon mitigation since February 2010 after receiving on-site training from the Canadian Mortgage and Housing Corporation, Mr. William Angell and Mr. Jack Bartholomew. Prior to that time, he had been supervising crews and installing radon mitigation systems since 2008. He has been an Assistant Community Service Director with the Algonquin First Nation community of Kitigan Zibi Anishinabeg, where he was responsible for the operations and management of new housing construction and renovation programs, and infrastructure management. Marcel has been instrumental in a project to train work crews in different First Nation communities across the province of Quebec and New Brunswick to identify and mitigate the radon issues they have encountered within their own communities.

Marcel is bilingual in both French and English, and he is a founding board member of CARST. Marcel is committed to promoting radon awareness across Canada.





## Michel Deschamps **Treasurer**

Michel Deschamps is a Radiation Protection Physicist with a masters degree from Université de Montréal. He is NEHA-NRPP certified for radon measurement and an advisor for Québec Radon Inc.

Québec Radon Inc. is a certified NEHA-NRPP laboratory for the measurement of radon. Our services are offered in houses, residential buildings and schools. We also give information sessions to real estate personnel and others on request.



## Alan Whitehead **Director**

Alan Whitehead is President and CEO of Radon Environmental Management Corporation, a private environmental health sciences company focused on reducing public exposure to radon gas. The company is a leader in raising radon awareness and education in Canada. Radon Environmental is an integrated provider of branded radon mapping products and services, together with radon measurement devices and innovative mitigation solutions.

Alan is committed to promoting the awareness of radon as a significant health risk in Canadian homes and buildings. In 2013 he is organizing a BC Radon Policy Coalition Group to develop a coordinated strategy with key stakeholders and engage policy makers to develop model bylaws and legislation to mandate radon testing and mitigation. He has been an active member of AARST since 2007 and is a founding board member of CARST.



## Rob Mahoney **Director**

Rob Mahoney is the sole proprietor of Radon Works. Rob has been doing radon remediation in the Ottawa-Gatineau region since 2007, when he was first asked to participate in a CMHC pilot project. The installation of that system has now become a Health Canada standard for radon remediation.

Rob has been in the commercial HVAC design and verification business for over 20 years. He is the Commercial Consultant and IAQ Manager for one of Ottawa's oldest HVAC companies. Operating rooms, clean rooms, computer rooms, commercial kitchen's ventilation and commercial ventilation system design and project management is his typical scope of work. Rob graduated from the first gold seal certification course held by the Ottawa chapter of the Mechanical Contractor's Association. Previous to design and project management, he was a tradesman, mechanic and commercial real estate agent.

Rob's initial foray into radon gas consisted of a sub slab depressurization system installed under direct supervision of Arthur Scott (author of Canadian Guide for Professional Contractors.) This was a simple adaptation of the methane reduction systems that Rob had designed and implemented for years in developments built on old landfill sites.



## MEMBERS OF THE BOARD

### Gordon Melvin **Director**

Gordon Melvin is the founder and owner of Meltech Thermal Imaging Inc., a New Brunswick based company that specializes in a variety of construction and building maintenance services that assists and helps people to not only build, but to also maintain their buildings and investments. Gordon is a Certified Engineering Technologist (CET) and a member in good standing of the New Brunswick Society of Certified Engineering Technicians and Technologists (NBSCETT). He has a Civil Engineering Technologist Diploma from the New Brunswick Community College (NBCC) Moncton Campus and is a Gold Seal Certified Project Manager (GSC) with the Canadian Construction Association. Gordon is also a member in good standing with AARST and is certified with NEHA-NRPP. Gordon is also a certified Level 2 Thermographer with ITC Canada and is BOMA certified in Floor Measurements as well as a member of BOMA New Brunswick.



Gordon is also a member of the Canadian Home Builders Association and sits on the Board of Directors for the New Brunswick Home Builders Association. He has over 22 years of experience specializing in Construction Project Management, Design/Drafting, Estimating, Supervision and Inspections within a variety of engineering disciplines and construction projects ranging from residential, industrial and commercial building settings to earthwork, concrete and road building projects.

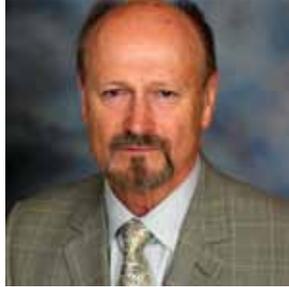
### Scott Cryer **Director**

Scott Cryer is an Operations Manager with the Hazardous Materials group at Pinchin Environmental's Mississauga, Ontario office. A Professional Geoscientist (PGeo) since 2004, Scott has over 25 years of experience dealing with environmental, health and safety issues. His experience includes the assessment and management of surface and sub-surface soil and groundwater contamination, asbestos, lead, mould and radon.



Scott is certified with the National Environmental Health Association – National Radon Proficiency Program (NEHA-NRPP) and the Canadian National Radon Proficiency Program (C-NRPP) as a radon measurement and mitigation provider.

Scott is one of the Pinchin Group of Companies experts on Radon, and provides consulting services to clients nationally regarding radon issues.



## Victor Nowicki **Director**

Victor Nowicki graduated from the University of London, England with a Bachelors' degree in Geology in 1969. He then attended the University of Waterloo and obtained a Masters' Degree in Earth Sciences/Hydrogeology.

Over the following 40 years he has worked both for government and the private sector including many years as an environmental contractor. He is a Professional Geoscientist and a Fellow of Engineers Canada and is presently the Chair of the Canadian Environmental Certification Approvals Board.



## Pam Warkentin **Secretary**

Pam Warkentin, following graduation with an honours degree in Commerce from the University of Manitoba, partnered with Harry Johnson in his desire to start Radonmatters in 2006. Pam successfully completed training through the US-EPA radon program at the MidWest Universities Radon Consortium, University of Minnesota, and holds the certification in radon measurement through the National Environmental Health Association (NEHA). Pam has experience conducting radon tests in residential and commercial buildings in Winnipeg, and has conducted research to study the effectiveness and accuracy of various durations of radon tests. She is listed as a certified radon service provider on the listings maintained by the Canadian Radiation Protection Association, Health Canada, and the NEHA.

She is motivated by her focus on public health and her desire to see a healthy radon industry grow in Canada, as an aspect of cancer prevention. Pam lives in Winnipeg with her husband and three children.

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CARST is a proud supporter of Cancer Survivors Against Radon (CanSAR). Please visit their website [www.cansar.org](http://www.cansar.org) to find out how you can join in.



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# CONFERENCE PROGRAM

## Wednesday, May 8<sup>th</sup>

### EVENING WINE & CHEESE

Manitoba Hydro Building

1700 – 1800	Tours of the LEED Platinum Certified Building	
1830 – 1845	President's Opening Remarks	<i>Bob Wood</i>
1845 – 1855	Greeting From Health Canada	<i>Kelley Bush</i>
1855 – 1930	Diagnosis and Treatment of Lung Cancer	<i>Dr. T. Fatoye</i>

## Thursday, May 9<sup>th</sup>

### WORKSHOPS & SPEAKERS "WORKING TOGETHER TO SAVE LIVES"

Inn at the Forks

0800 – 0830	Registration	
0830 – 0850	Health Canada: Radon Education and Awareness Update	<i>Kelley Bush</i>
0850 – 1010	<b>Radon Measurement</b> Radon in Water Short Term and Long Term Analysis DISCUSSION of Long Term Preference Real Estate Perspective on Testing	<i>Victor Nowicki</i> <i>Pam Warkentin</i> <i>Lorne Weiss</i>
1010 – 1030	PANEL DISCUSSION on Short Term and Long Term Testing	
1030 – 1045	Break	
1045 – 1145	<b>Radon Ready New Construction</b> Contractors' Perspective Experiences with 2010 NBC DISCUSSION	<i>Tod Boss</i> <i>Sandy Hutchison</i>
1145 – 1300	Lunch & AGM	
1300 – 1320	Community Partnerships: B.U.I.L.D	<i>Erica Phipps</i>
1320 – 1345	Comparison of Lateral Above Ground Level Discharge and Vertical Above Roof Level Discharge	<i>Mathieu Brossard</i>
1345 – 1425	Mitigation Issues	<i>Rob Mahoney</i> <i>Jack Bartholomew</i>
1425 – 1500	DISCUSSION	
1500 – 1515	Break	
1515 – 1545	Update on C-NRPP Exams and Training Programs	<i>Peter Hendrick</i> <i>Deepti Bijlani</i>
1545 – 1630	Measurement to Mitigation	<i>Anne-Marie Nicol</i>

# Friday, May 10<sup>th</sup>

## WORKSHOPS & SPEAKERS "WORKING TOGETHER TO SAVE LIVES"

Inn at the Forks

0830 – 0930	<b>Presentations of Current Initiatives to Educate Canadians on Radon</b> Manitoba Lung Association Canadian Cancer Society Regional Outreach in the Keystone Province	<i>Sheila McIntosh Erin Crawford Sandy Hutchison</i>
0930 – 1130	ROUND TABLE DISCUSSION on Working Together	
1130 – 1145	Final Summation	<i>Pam Warkentin</i>

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## EDUCATIONAL OPPORTUNITIES

# Radon Mitigation Course for Schools

The Radon Mitigation Course for Schools is offered from May 10th to May 13th, 2013  
Presented by William Angell

Four day course starts May 10th at 12pm

Fee: \$750, limited spaces

Please note: pre-registration is required for this course



William J. Angell is Professor of Housing, University of Minnesota, and Director of the Midwest Universities Radon Consortium, a US EPA founded Regional Radon Training Center. He is Chair of the World Health Organization's International Radon Project's Prevention and Mitigation Working Group and Past President of AARST.

Since 2007, he has been a lead advisor to Health Canada on the development training, proficiency examinations, and mitigation guidance. He has also delivered more than 15 training courses in Canada, lead two First Nation's radon mitigation demonstration and training project, and has been instrumental in the formation of the Canadian Association of Radon Scientists and Technologists.

# PROGRAMME DE LA CONFÉRENCE

## Mercredi le 8 mai

### SOIRÉE VIN ET FROMAGE

Immeuble Manitoba Hydro

1700 – 1800	Tournée de l'immeuble environnementale	
1830 – 1845	Remarques d'ouverture du président	<i>Bob Wood</i>
1845 – 1855	Salutation de Santé Canada	<i>Kelley Bush</i>
1855 – 1930	Diagnostic et traitement du cancer du poumon	<i>Dr. T. Fatoye</i>

## Jeudi le 9 mai

### ATELIER ET ORATEURS "TRAVAILLER ENSEMBLE POUR SAUVER LES VIES"

Inn at the Forks

0800 – 0830	Inscription	
0830 – 0850	Mise à jour par Santé Canada: Education et sensibilisation du radon	<i>Kelley Bush</i>
0850 – 1010	<b>Mesure du radon</b> Radon dans l'eau Analyse des tests long et à court terme DISCUSSION sur la préférence du test à long terme Perspective d'immobilier sur le testing	<i>Victor Nowicki</i> <i>Pam Warkentin</i>  <i>Lorne Weiss</i>
1010 – 1030	DISCUSSION OUVVERTE sur la mesure à court et à long terme	
1030 – 1045	Pause	
1045 – 1145	<b>La nouvelle construction et le radon</b> Perspective d'un entrepreneur Expériences avec le CNB 2010 DISCUSSION	<i>Tod Boss</i> <i>Sandy Hutchison</i>
1145 – 1300	Lunch & AGA	
1300 – 1320	Partenariat communautaire: B.U.I.L.D	<i>Erica Phipps</i>
1320 – 1345	Comparaison du débit au niveau du sol au-dessus de la décharge latérale et vertical au-dessus du niveau du toit	<i>Mathieu Brossard</i>
1345 – 1425	La mitigation en question	<i>Rob Mahoney</i> <i>Jack Bartholomew</i>
1425 – 1500	DISCUSSION	
1500 – 1515	Pause	
1515 – 1545	Mise à jour: Examen PNCR-C et programmes de formation	<i>Peter Hendrick</i> <i>Deepti Bijlani</i>
1545 – 1630	La mesure et mitigation	<i>Anne-Marie Nicol</i>

# Vendredi le 10 mai

ATELIER ET ORATEURS "TRAVAILLER ENSEMBLE POUR SAUVER LES VIES"  
Inn at the Forks

0830 – 0930	<b>Présentations sur les initiatives actuelles visant à sensibiliser les Canadiens sur le Radon</b> L'Association pulmonaire du Manitoba Société canadienne du cancer Outreach régional dans la "Keystone Province"	<i>Sheila McIntosh Erin Crawford Sandy Hutchison</i>
0930 – 1130	TABLE RONDE "Travailler ensemble"	
1130 – 1145	Récapitulatif final	<i>Pam Warkentin</i>



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# KEYNOTE SPEAKERS

## Anne-Marie Nicol

Anne-Marie Nicol, an Environmental Health Scientist, began her academic career in the social sciences at SFU (Communications BA), and then developed a strong interest in environmental and occupational health during her Master's degree at York University (MES). She completed her PhD in Epidemiology at UBC where she currently teaches Risk Assessment and Toxicology in the School of Population and Public Health.

Her areas of research span the diverse subjects of human health risk assessment, environmental health and knowledge translation. In particular, she investigates how to improve the communication methods that are used to describe population level exposures to cancer-causing substances, specifically using techniques such as geographic information systems (GIS) and data visualization. Anne-Marie has also produced a number of short videos to promote awareness of environmental hazards such as pesticides (Wash with Care) and tick-borne diseases (the Tick Talk). At the NCCEH, she is excited to be working with like-minded people in the areas of risk assessment and risk communication.

## Kelley Bush

Kelley Bush is the Section Head responsible for Radon Education and Awareness (E&A) at the Radiation Protection Bureau in Health Canada. The Radiation Protection Bureau has a mandate to promote and protect the health of Canadians by assessing and managing the risks posed by radiation exposure in living, working and recreational environments. Following the announcement of a revised radon guideline in 2007 Health Canada developed and implemented a National Radon Program, Kelley Bush is responsible for the education and outreach component of this program.

Prior to joining Health Canada Kelley worked in the private sector as a marketing and sales professional. With over 15 years of progressively more senior management and leadership roles she has a strong acumen for converting ideas into practical proposals and ensuring their successful execution. Kelley holds a Bachelor of Commerce with honours in Marketing from Concordia University.



Photo: Portage Avenue by Wpg guy.



## Dr. T. Fatoye

Dr. Fatoye is currently an Academic Family Physician and Assistant Professor at the Department of Family Medicine at the University of Manitoba and a General Practice Oncologist with Cancer Care Manitoba.

His areas of practice include lung, bowel and breast cancer. In addition he has a full spectrum family practice that includes intra partum obstetrics, hospital care and out-patient clinics. He is also married with two children.

## Sheila McIntosh

Sheila McIntosh is the Director of Health Initiatives at the Manitoba Lung Association after joining them 5 years ago as Manager of the Occupational Lung Program. She has a nursing background and when a chronic health condition interfered with performing active nursing duties, Sheila pursued opportunities in health promotion and education.

She has since gained experience; in disease prevention, health promotion and education, working with provincial and national partners and media; co-authored educational materials and health care standards; collaborated with partners in advocacy and government relations; for the benefit of people who live with chronic disease including heart disease and stroke, arthritis and currently lung health, and to help prevent others from developing chronic disease. It is with this passion that Sheila keeps working with her organization and partners to ensure that Manitobans are aware of the risks to their lung health at home, work and play.

## Tod Boss

Tod Boss is a site superintendent for a custom homemade builder, board member for Habitat for Humanity, Springfield, and most recently a member of CARST. With over 15 years of experience working in the residential construction industry, Tod has a firm understanding of the residential building codes and practices.

With a keen interest in green building practices, Tod has a vested interest in radon mitigation in both new home construction and renovations as another tool in his quest to create healthy homes for all people.

## Peter Hendrick

Peter Hendrick, with nearly four decades of experience in the environmental services sector, has been the Executive Director of the American Association of Radon Scientists and Technologists (AARST) for over a decade. Peter began his professional career working in the early 1970's as a VISTA volunteer working with the elderly poor in the United States, and he began his environmental career in the waste industry in 1978. Since joining AARST in 2001, he has focused the association's work on accreditation and standards development.

AARST is an ANSI accredited, standards writing organization, and has operated the National Radon Proficiency Program (NRPP) since 2005.

## Deepti Bijlani

Deepti Bijlani holds a Masters degree in Microbiology from the University of Bombay, India. Her career spans working in the pharmaceutical and biotechnology sector for many years leading projects in the area of quality control for pharmaceutical drugs and medical isotopes. She has conducted research studies on broad based disinfectants at the University of Ottawa.

Since 2010, Deepti is at the Radiation Protection Bureau in Health Canada as a Senior Radon Project Manager. She has participated in several projects with the radon technical operations group and has been instrumental in the development of the Canadian certification program with the AARST and NRPP organizations.

## Sandy Hutchison

Sandy Hutchison is Health Canada's Regional Radiation Specialist for Manitoba and Saskatchewan. The Environmental Health Program focuses on taking a pro-active approach to minimizing environmental risks to human health. Radon gas is the second leading cause of lung cancer, first among non-smokers.

Sandy has been working to raise awareness of the health effects of radon since 2008.

# KEYNOTE SPEAKERS

## Erica Phipps

Erica Phipps serves as Partnership Director for the Canadian Partnership for Children’s Health and Environment ([www.healthyenvironmentforkids.ca](http://www.healthyenvironmentforkids.ca)), a multi-sectoral collaboration of organizations that are working together to protect children’s health from environmental exposures to toxic chemicals and pollutants. She has worked on environmental health and toxics issues for nearly 20 years, including for the Montreal-based North American Commission for Environmental Cooperation, the United Nations, the US Environmental Protection Agency, and as an environmental health consultant for various clients including Health Canada and the World Health Organization.

Erica has a masters’ degree in public health from the University of Michigan, where she specialized in environmental health and public policy.

## Mathieu Brossard

Mathieu Brossard has worked as a Quebec regional radiation specialist at Health Canada in the Environmental Health Program since 2008. He holds baccalaureate and master degrees in biochemistry. During his studies, he was author or co-author of scientific articles on the effects of the nutraceuticals on chemotherapy resistance mechanisms of cancer to and on tumor invasion mechanisms.

Professionally, he conducted research on diabetes, cancer and bone diseases, which allowed him to specialize in the use of radioisotopes and radiation safety. At Health Canada, he became involved in the measurement of radon in federal buildings, in the development of the Health Canada mitigation guide for professional contractors, in mitigation research, standards development and also provides advice, lectures and interviews on radon at different instances.

## Radon Standards

Below are the actionable concentrations of radon recommended by different organizations. These organizations recommend that you speak to a radon professional if your home or workplace tests at or above these levels.

Organization	Bequerel per cubic metre	Picocuries per liter
World Health Organization	100 Bq/m <sup>3</sup>	2.7 pCi/L
Environmental Protection Agency	150 Bq/m <sup>3</sup>	4.0 pCi/L
Health Canada	200 Bq/m <sup>3</sup>	5.4 pCi/L



Photo: Looking down an historic street towards Old Market Square by Interlaker.

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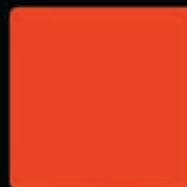


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