

Ottawa, Ontario

Sheraton Ottawa Hotel

150 Albert Street

Ottawa, ON

1st Annual CARST Conference

April 27 & 28, 2012



Canadian Association of Radon Scientists and Technologists
Helping Canadians reduce radon risk

Radon is a reality for all of us.

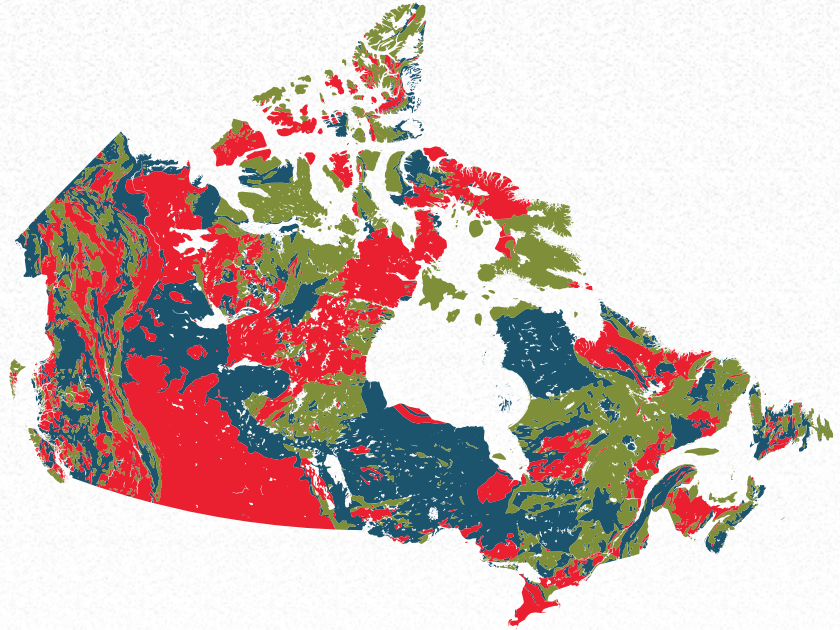
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We wish CARST every success in the coming years.
May the dedication that brought this new association to Canada
be met by a thriving radon community.



Alan Whitehead, President
Radon Environmental Management

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- Alpha Track Customer

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- RadStar Customer

"Durable, easy to use, lightweight, no waiting for lab result, and unobtrusive."

- RadStar Customer

Congratulations, CARST, for a successful inaugural year.
Félicitations, CARST, pour une année inaugurale réussie.



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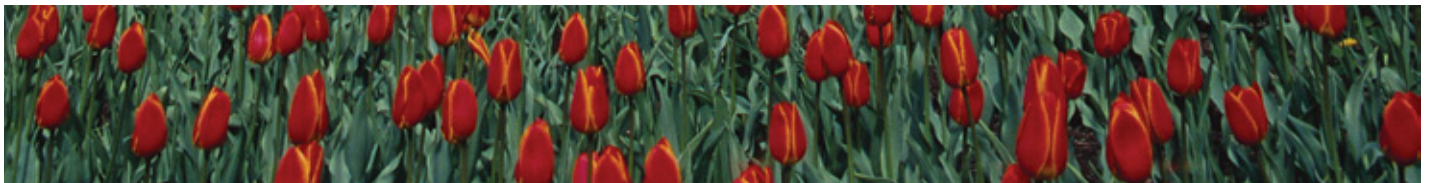
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The **Canadian Association of Radon Scientists and Technologists (CARST)** is excited to announce its first annual conference, a national educational and scientific meeting for the radon community. This year the conference is at the Sheraton Ottawa Hotel in Ottawa, Ontario, April 27 & 28, 2012. This first conference is designed to provide a place for education, sharing of ideas, resources and research.

Message from CARST President Pam Warkentin



I want to welcome you all to the first annual conference of the **Canadian Association of Radon Scientists and Technologists**. It is exciting to see our membership growing and, with it, the enthusiasm of radon professionals across Canada.

We have a proud history in Canada of radon research and technology. It is time that we started using that technology to benefit the health of Canadians!

The presentations during the conference will show you how this is already starting to happen in pockets across the country. I hope that this news will boost enthusiasm and encourage our members and conference attendees to further communicate and reinforce the importance of radon testing and radon remediation when required to all Canadians. I believe by joining together we can be a strong and effective voice to communicate with Canadians.

So again, I welcome you to the First Annual CARST Conference, and I am delighted that you are joining us in this pioneering task, to protect Canadians from radon induced lung cancer.

Sincerely,

A handwritten signature of Pam Warkentin in blue ink. The signature is written in a cursive, flowing style.

Pam Warkentin

President

CARST

Welcome to the 2012 inaugural meeting of the Canadian Association of Radon Scientists and Technologists.

CARST is a Canadian association dedicated to helping Canadians understand and reduce radon gas exposure in their homes and workplaces. Our goals 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;
- provide an effective partnership between radon professionals in the field and other interested public and private organizations.

Board of Directors

Pam Warkentin, President

Following graduation with an honours degree in Commerce from the University of Manitoba, Pam 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. Pam is listed as a certified radon service provider on the listings maintained by the Canadian Radiation Protection Association, Health Canada, and 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.

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. 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.

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. Rob Mahoney 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, Rob was a tradesman, mechanic and commercial real estate agent. His 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.

Gordon Melvin, Director

Gordon Melvin is the founder and owner of Meltech Thermal Imaging Inc., a New Brunswick based company specializing in a variety of construction and building maintenance services. He is a Certified Engineering Technologist and a member of the New Brunswick Society of Certified Engineering Technicians and Technologists. He has a Civil Engineering Technologist Diploma from the New Brunswick Community College Moncton Campus and is a Gold Seal Certified Project Manager with the Canadian Construction Association. Gordon is also a member with AARST and is certified with NEHA-NRPP. Gordon is a certified Level 2 Thermographer with ITC Canada and is BOMA certified in Floor Measurements as well as a member of BOMA New Brunswick. He is a member of the Canadian Home Builders Association and sits on the Board of Directors for the New Brunswick Home Builders Association. Gordon has over 22 years of experience specializing in Construction Project Management, Design/Drafting, Estimating, Supervision and Inspections.

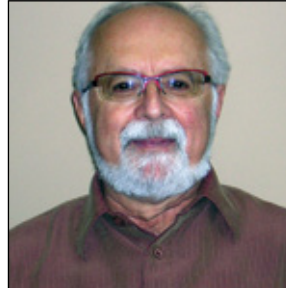


from the New Brunswick Community College Moncton Campus and is a Gold Seal Certified Project Manager with the Canadian Construction Association. Gordon is also a member with AARST and is certified with NEHA-NRPP. Gordon is a certified Level 2 Thermographer with ITC Canada and is BOMA certified in Floor Measurements as well as a member of BOMA New Brunswick. He is a member of the Canadian Home Builders Association and sits on the Board of Directors for the New Brunswick Home Builders Association. Gordon has over 22 years of experience specializing in Construction Project Management, Design/Drafting, Estimating, Supervision and Inspections.

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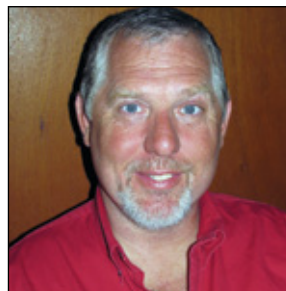
Michel Deschamps, Treasurer

Michel holds a masters degree in physics (biophysics) from Université de Montréal. From 1972 to 1982 he was a Radiation Protection Physicist for Université de Montréal, after which he became the owner and president of Radioprotection Inc. He is an adviser for Québec Radon Inc. (an emergence of Radioprotection Inc.). Michel is NEHA-NRPP certified for radon measurement and conducts measurement of radon in houses, residential buildings and schools.



Bob Wood, Secretary

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



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

Alan Whitehead, Director

Alan Whitehead is President & CEO of Radon Environmental Management Corporation, a company engaged in the research and development of solutions to mitigate radon gas and the effects of radioactive pollution. Alan is committed to promoting the awareness of radon as a significant health risk in Canadian homes and buildings. He has been an active member of AARST since 2007 and is a founding board member of CARST.



Conference Program

Day 1 Friday, April 27th

0845 – 0900	Opening Remarks	<i>CARST President Pam Warkentin</i>
0900 – 0930	Presentation An Update on Health Canada’s Radon Program and Highlights from the Cross-Canada Survey of Radon Concentrations in Homes	<i>Jeff Whyte</i>
0930 – 1000	Presentation NEHA-CNRPP Introducing the Canadian Version	<i>Angel Price</i>
1000 – 1030	Presentation First Radon Potential Map of Canada	<i>Alan Whitehead</i>
1030 – 1100	Break	
1100 – 1130	Presentation Radon Mitigation on the Tobique First Nation Reserve, New Brunswick	<i>Victor Nowicki</i>
1130 – 1200	Presentation Kitigan Zibi Anishinabeg Radon Testing and Mitigation Project	<i>Marcel Brascoupe</i>
1200 – 1300	Networking lunch	
1300 – 1430	Continuing Education CNRPP Canadian Transition Workshop	
1430 – 1445	Break	
1445 – 1645	Continuing Education CNRPP Supplemental Exam	

Day 2 Saturday, April 28th

0830 – 1000	Continuing Education (4 Category 1 hours) WHO Handbook Presentation	<i>William Angell</i>
1000 – 1015	Break	
1015 – 1215	Continuing Education (4 Category 1 hours) WHO Handbook Presentation	<i>William Angell</i>
1215 – 1330	Networking lunch	
1330 – 1430	Presentation Regional Updates	
1430 – 1445	Break	
1445 – 1630	Annual General Meeting All members Agenda TBD	

Abstracts

First Radon Potential Map of Canada

Alan Whitehead

Radon Environmental Management Corporation has completed the first Geologic Radon Potential Map of Canada. No national radon map currently exists for Canada, and the Company based its core methodology for development of the Canadian map on the US Geological Survey's approach for developing the Geologic Radon Potential Map of the USA. Radon Environmental created the Radon Potential Map of Canada to address an existing gap in the information available to the public about the potential radon risk areas of Canada. Every Canadian, from architects, construction companies, urban planners, government agencies, realtors, health care professionals and the general public, benefits from access to information regarding the presence of radon. Identifying radon prone areas, also means that resources can be targeted to those areas.

Radon Mitigation on the Tobique Reserve, New Brunswick

Victor Nowicki

Testing of public buildings and private houses in 2010 and 2011 on the Tobique Reserve showed a high incidence of radon presence in many buildings and houses. Subsequently, radon mitigation has been undertaken for many private houses and in one of the public buildings on the reserve. An overview of the testing undertaken and the resulting installation of radon systems in 25 residential homes and one large public building on the Tobique Reserve in New Brunswick will be presented. The paper will discuss testing and installation for radon systems together with the difficulties encountered and solutions proposed.

Kitigan Zibi Anishinabeg Radon Testing and Mitigation Project

Marcel Brascoupe

In the mid 1990s, a sample of homes were tested for radon levels by Health Canada in the First Nation community of Kitigan Zibi Anishinabeg. Back then, the actionable level recommended by Health Canada for radon gas remediation at the time was 800 Bq/m³. None of the homes tested at that time exceeded the set actionable level which at the time was 800 Bq/m³. This actionable level was consequently reduced to 200 Bq/m³ by Health Canada in June of 2007. Based on the sample testing that was undertaken in the mid 1990s, the community of Kitigan Zibi Anishinabeg knew back then that none of the homes exceeded the levels of 800 Bq/m³ but that there were a certain number of them that did exceed the new reduced levels of 200 Bq/m³. Based on that information, the Kitigan Zibi Anishinabeg First Nation Band Council decided in 2008 to test all the homes in the community to get an insight into how many homes now exceeded the new actionable level of 200 Bq/m³. The Kitigan Zibi Anishinabeg First Nation Band Council decided to fund this initiative themselves and mandated the Radiation Safety Institute of Canada to do long-term testing in all the homes in Kitigan Zibi

Anishinabeg during the winter months from December 2008 to March of 2009.

Of the 424 homes tested, 180 of the homes showed levels above 200 Bq/m³. Of these 180 homes, 32 of them had levels above 600 Bq/m³. Upon receiving the results of this testing, the Kitigan Zibi Anishinabeg First Nation Band Council immediately set in place a communications plan to inform the community members of the results of the radon testing and started developing an action plan to correct the problem in the 180 homes that were affected with high radon levels.

Up until now, the Kitigan Zibi Anishinabeg First Nation is the only community in all of Canada that has gone through the motion of doing long-term testing in all the homes in the community for radon gas and that has also gone through the motion of remediating all those homes that were affected with high levels of radon gas. Many lessons were learned in the process.

Keynote Speakers

WHO Handbook Presentation

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.

He has been a Visiting Scientist at two national laboratories, the EPA's Radiation and Indoor Environments National Laboratory and Lawrence Berkeley National Laboratory. Angell has testified before the US Congress concerning the scientific and technical foundation for the US radon policy. He has chaired two external peer review committees that assessed EPA's radon reduction research involving houses and large buildings including schools.

He has received EPA's Exceptional Service Award for his work in radon training as well as the Association of Public and Land-Grant Universities' Excellence in Extension Award, the American Association of Radon Scientists and Technologists Award for International Merit for Leadership and Scholarship in Service to the World Radon Community, the Health Physics Society North Central Chapter's Wissink Memorial Lecture Award, two Minnesota Extension Director's Distinguished Faculty Awards, and his college's Educational Leadership Award.

Kitigan Zibi Anishinabeg Radon Testing and Mitigation Project

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 (CMHC), 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

Educational Opportunities

Thursday, April 26th

8:30 – noon NRPP-NEHA Radon Measurement or Radon Mitigation Exam.

Certification Exam: \$150 exam fee (for those who are not yet certified).

Friday, April 27th

Canadian Supplemental Workshop and Exam presented with Health Canada and the National Environmental Health Association – National Radon Proficiency Program (NEHA-NRPP).

This workshop is for all who are certified for Measurement or Mitigation through NEHA-NRPP and would like to transfer their certification to the new Canadian Standard.

Saturday, April 28th

Morning **WHO Handbook Workshop** with William Angell.

Radon Mitigation on the Tobique Reserve, New Brunswick

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.

First Radon Potential Map of Canada

Alan Whitehead is President & CEO of Radon Environmental Management Corporation, a company engaged in the research and development of solutions to mitigate radon gas and the effects of radioactive pollution. Alan



is committed to promoting the awareness of radon as a significant health risk in Canadian homes and buildings. He has been an active member of AARST since 2007 and is a founding board member of CARST.

An Update on Health Canada's Radon Program and Highlights from the Cross-Canada Survey of Radon Concentrations in Homes

Jeff Whyte graduated with a BSc in Chemistry and an MSc in Analytical Chemistry from Queen's University in Kingston ON. Mr. Whyte worked in the private sector as a Research Chemist for 9 years, and



then joined Health Canada in 1995. He worked as a radiochemist in the National Monitoring Section at the Radiation Protection Bureau (RPB) developing radiochemical methods of analysis with a focus on automation, and also managed the National Monitoring Section on an acting basis several times. He has been the Head of the Radon Technical Operations Section at RPB part-time since fall 2007 and full-time since early in 2009. Mr. Whyte has coauthored many publications.

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Helping Canadians reduce radon risk

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CARST chose to support Forest Stewardship Council (FSC) goals by requesting this program be printed on FSC chain of custody certified materials.