



# Ottawa Valley Chapter

**DATE:** **Tuesday February 21, 2017**

Technical Session: 16:30, Social: 17:30, Dinner: 18:30, Program: 19:30

**LOCATION:** **Algonquin College Catering**

1385 Woodroffe Ave, Building D, Salon D

**THEME:** **Chapter Technology Transfer Committee (CTTC)**

**PROGRAM:** **Retro-Commissioning, "A tune-up for buildings"**

Even a high-end sports car needs to be driven properly, and requires periodic maintenance. Retro-Commissioning is a tool to help operators get high-end results out of their buildings. This includes meeting efficiency and energy conservation goals, maximizing tenant comfort, while minimizing complaints and unforeseen issues. Hydro Ottawa and WSP will explain what Retro-Commissioning is, outline why building owners and managers are interested in it, and provide examples of findings from previous retro-commissioning investigations.

### **SPEAKERS:**

**Martin Sing, Director of Sustainable Design, WSP Engineers**



Mr. Martin Sing is Director of Sustainability & Energy for WSP in the National Capital Region and leads a team of industry professional in the delivery of sustainability; project certification and benchmarking; energy modelling; energy auditing; retro-commissioning; and commissioning services.

Martin has a background in architecture and more than two decades of experience in facilities management, project management and consulting. For the past 9 years, Martin has dedicated his time and efforts to promoting sustainability and energy efficiency and helping clients to "green" their projects.

**Trevor Freeman, Program Officer of Conservation & Demand Management, Hydro Ottawa**



As a Program Officer in the Conservation & Demand Management group, Trevor is an ambassador for Hydro Ottawa's Save-ON-Energy incentive programs. He is committed to helping building owners, managers, and industry partners fund creative solutions to reducing the environmental impact of buildings due to energy consumption. Prior to joining Hydro Ottawa in August 2016, Trevor's ten-year career has included international water and sanitation work, as well as sustainability and energy consulting. As a sustainability/energy consultant, Trevor was a project manager for several high-profile Retro-Commissioning projects in Ottawa, and managed both LEED and BOMA BEST certifications throughout the city, including at many downtown Class A buildings. Trevor is a professional engineer, has his LEED AP BD+C designation, and is a member of BOMA Ottawa's Environment and Energy committee.

**Space is limited so please register online at the link below**

Chapter Members: \$45.00 Guests: \$65.00  
Student Members: \$30.00 Life or Fellow: \$45.00

<https://ashraeottawa.simplesignup.ca/en/610/index.php?m=eventSummary>

# President's Message

As our **ASHRAE** season continues, it is hard to believe we are past the mid-point of this ASHRAE year. I hope you have enjoyed what our chapter has offered to date, and are looking forward to the upcoming events to keep us busy through to summer. We are continuing our series of top quality presentations at our monthly program meetings, and will have more technical sessions and social events in the coming months.

Our next program meeting will be held on **February 21st**, and we are back at **Algonquin College**, but not the typical venue location. Please refer to the program communicate article for location details, or watch for the ASHRAE meeting signs on the day of the event. The upcoming program will provide information on Hydro Ottawa's latest incentive programs and focus on retro-commissioning. You are encouraged to attend early again this month, as prior to the program meeting Rod Lancefield will be hosting a **technical session on control strategies**. To register for the upcoming February meeting please visit our website at [www.ashrae.ottawa.on.ca](http://www.ashrae.ottawa.on.ca)

This month's **theme** is **Chapter Technology Transfer Committee**

(CTTC). One of the many annual objectives of the CTTC is participation in the **Technology Awards**. The OVC has been very successful in past years with a variety of projects winning Technology Awards at the Regional Level for new and innovative designs. Jeff Watson is our current CTTC chair, and I encourage anyone with projects fitting, or questions about the application process to contact Jeff. It would be great to see another strong turnout from our local designers with Technology Awards submissions.

The **Research Promotion** campaign is off to a tremendous start this year. Research Promotion is one of the most important yearly goals set down from Society, and I encourage all individuals and organizations to continue with your generous donations to help us achieve our goal. Please speak with Adam Graham directly if you have any questions.

A couple weeks ago, several of our chapter members were fortunate enough to attend the **ASHRAE Winter Conference & Expo in Las Vegas** from January 28 through February 1, 2017. I'm sure a great time was had by all in attendance,



**President**  
**Abbey Saunders**  
2016-2017  
OVC President  
**National Research Council Canada**

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and we will likely be hearing some tales of ASHRAE camaraderie for years to come.

Although I don't want to get too far ahead of myself, March is shaping up to be busy month. On deck, we have our Career Fair, Curling Bonspiel, second Technical Seminar of the season, and we will be hosting our Region II DRC Doug Cochrane at the monthly program meeting. Watch this month and next month's communicate for additional details.

In closing, despite the non-cooperative weather of late, I hope everybody gets a chance to get outdoors and enjoy the upcoming Winterlude activities in whatever capacity suits you! I look forward to seeing everyone at the next meeting.

Sincerely,  
**Abbey Saunders**  
2016-2017 OVC President

## Technical Session: Introduction to Control Sequences of Operation

If you have ever felt that Control Sequences are a mystery, then you need to attend this Tech session. **Rod Lancefield** of **HTS** will be giving an introduction to Sequences of Operation. He will be emphasizing that you START with a sequence of operation...do not leave it to the end. He will also give an introduction to control schematics and how to read them. He will go over the main components and their function i.e. Freeze stat, etc.

Next he will outline some resources for further study on this topic which usually gets left to the last minute.

 <p>Stéphan Riffault, P.Eng. Sales Representative</p> <p>1250 Old Innes Road, Unit 518 Ottawa, Ontario K1B 5L3 613-565-2129, ext. 2128 <a href="mailto:sriffault@regulvar.com">sriffault@regulvar.com</a> <a href="http://www.regulvar.com">www.regulvar.com</a></p>	<p><b>InAIR Environmental Ltd.</b></p> <p><b>Lan Chi Nguyen Thi, P.Eng.</b> Partner</p> <p>1390 Prince of Wales Dr., Suite 503 Ottawa, Ontario K2C 3N6 Phone 613.224.3863 Fax 613.224.2561 <a href="mailto:lanchi.nguyen@inairenvironmental.ca">lanchi.nguyen@inairenvironmental.ca</a> <a href="http://www.inairenvironmental.ca">www.inairenvironmental.ca</a></p> <p>Mould &amp; Flood Remediation Drinking Water Testing Training Courses IAQ Surveys</p> 	 <p><b>WALMAR</b> <a href="http://www.walmar.net">www.walmar.net</a></p> <p>24 Gurdwara Road Nepean, Ontario K2E 8B5 Tel: (613) 225-9774 Fax: (613) 225-2972 e-mail: <a href="mailto:randy@walmar.net">randy@walmar.net</a></p> <p><b>RANDY CAVILL, C.E.T.</b> President</p> <p><b>VENTILATION &amp; FILTRATION PRODUCTS</b></p>
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# What You Missed

**President Abbey Saunders** called the fourth meeting of the 2016/2017 season to order. President Saunders introduced the Board of Governors and the Executive.

President Abbey Saunders discussed what **ASHRAE** is, the goal of ASHRAE, its mission and vision. The means by which ASHRAE fulfills its mission such as standards, research and programs were also discussed.

**ASHRAE OVC Past President Cathy Godin** and current secretary of **MCA Chapter** discussed MCA. Local MCA chapter is currently celebrating 50 anniversary.

**President Elect Adam Graham** discussed ASHRAE research and thanked those who have donated so far this year. **Marc Brown** Chairman and **Mary Gauthier** General Manager of the **Ottawa Mechanical Contractors Association** presented a 750 dollar cheque on behalf of the Ottawa MCA to ASHRAE research. Mr. Graham also gave an overview of where the ASHRAE OVC research campaign is to date. Research promotion raffle tickets for the evenings donated by **JCI**.

Secretary **Chris Fudge** introduced the guests for the evening.

Membership Promotion chair **Celine Baribeau** introduced the new members. There were many new members who signed up this month. Membership is currently up over last year.

Student Activities co-chair **Adriane Mitanni** discussed the upcoming career fair on **March 2nd** at **Carleton University**. There will be students at this career fair from Colleges and Universities from the Ottawa region.

President Abbey Saunders reviewed technology awards program.

**Peter Shaw-Wood** discussed student activities.

**Joe D.** Discussed YEA and upcoming archery tag event. Lot of support from all sectors of industry for YEA.

Dinner was served at **19:00** and the evening's program began at **19:30**.

Abbey Saunders invited the table top presenters to the podium for a short presentation. **Adam Moons** discussed some of the **American Air Filter** products featured at his table top. **Raymond Gatt** had a table top that displayed **Sanuvox** air purification systems.

President Abbey Saunders invited President Elect Graham to do the draw for the raffle.

President Abbey Saunders introduced the speaker for the evening **Eli Howard** executive director of SMACNA Technical Services. The evening's topic was **SMACNA's IAQ Guidelines for Occupied Buildings Under Construction**. IAQ Guidelines for Occupied Buildings under construction 2nd edition is the basis for the evening discussion.

The document published by SMACNA does not cover CCOHS CA OSHA USA, lead or asbestos abatement. It does cover air pollutants associated with construction such as sources of airborne contaminants and how AB contaminants move through buildings. The document is helpful in placing contaminant exposures in perspective and hazard assessment.

Sources of air born contaminants are covered. It is as simple as looking at what materials are being demolished and what tools will be used. How can contaminants move through the building? Sealants for duct work might not be appropriate though they are good on ABC front.



**Secretary**  
**Chris Fudge**  
2016-2017  
OVC Secretary  
**Master**

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How contaminants move through buildings? Via the air and are detected by eyes and nose. It comes down to two issues; what buildings materials are being demolished or disturbed and what machinery is being used? What needs to be considered is how the area under construction can be kept at a lower pressure than the rest of the building.

A full blown study of the building and activities to occur in the construction process needs to be done prior to starting the project. Ventilation effectiveness needs to be review via ASRHAE 62.1. Thermal comfort ASHRAE 55 should also be looked at. If lead or asbestos is present deal with those first prior to beginning the construction process.

**Chapter 3** covers control measures. This is the standard most groups such as ASHRAE, USGBC etc... use in their specifications. Do not use permanent HVAC for construction site's air condition needs. Block all intake openings within the construction area. LEED requires MERV 13 filters when using during construction. Bypass around filters is a major problem when running permanent equipment during construction (even with MERV13 filters). Product substitution such as low VOC paints /adhesive are great for reducing air born contaminants but might not be appropriate for the project or geographic location.

Pathway interruption such as barriers or pressurization are effective means to control ABC's.

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TAMCO locations in Ottawa, Ontario and Nashville, Tennessee.

Plastic sheathing and tape can be used for certain applications. Pressurization should always be considered. Keeping construction zone at a relative low pressure to occupied spaces keeps ABC from getting into occupied spaces.

Suppress dust with wetting agents or sweeping compounds. Increase frequency based on visual inspections of the area. HEPA vacuums, central vacuums with outside exhaust should be used so as to not increase ABC's.

Extremely odorous or dust generating activities should be done weekend or at night with HVAC off.

The decision to relocate occupants needs to involve the building owner. Try to maintain buffer zone between construction and occupied spaces. Consider relocating workers who complain of effects to more isolated locations. Consider temporary facilities. Is it the renovation going on in the building or is it some other factor that are causing issues with occupants.

Equipment cleaning should be specified in contract. Details regarding cleaning of existing HVAC system or just the newly installed should be considered. Closing ducts in part of the system will affect other parts of the system by increasing velocities. It should be shown in the contract whether to clean before or after the completion of the work.

Establishing pressurization is easy to say difficult to maintain. There are many factors working against the best plan. Wind can make it difficult to maintain pressurization. HVAC economizer operation can pose challenges. Exhaust fans, bathroom kitchen etc... need to be evaluated when establishing a system to control pressure. Challenges exist with taller buildings such as stack effect and piston effect of elevators.

Video: <https://www.youtube.com/watch?v=nPWN7cAMSx8>

Pictures: <https://goo.gl/photos/tpmKLFk8Y7zghp4G7>

**Chapter 5** covers managing the renovation process. Project organization and selecting IAQ Controls are the focus. Chapter 6 looks at pre-renovation building evaluation objectives, procedures and follow up

In **chapter 7** containment is reviewed. General considerations are covered from offices to hospitals. Guidelines from ASHRAE, CDC, hygienists are included in this chapter. Basic and intermediate containment used in schools or offices are detailed. Advanced containment covering applications such as health care are also covered.

In **chapter 8** moisture and mold control are covered. General characteristics of mold are that water and dirt are required. Beware of mold resistant materials, they need to be cleaned. Moisture problems associated with construction – wet concrete and open buildings are biggest water concerns.

**Chapter 9** sets guidelines for quality control standards. These standards are ultimately set by occupants. Surveillance criteria are eyes and nose. Re-occupancy criteria need to be outlined. Project documentation – make sure that the IAQ management plan establishes accountability

**Chapter 10** and **11** covers communication with the occupants and troubleshooting respectively. Occupant education should be in the context of what, when and who. There is some legal liability to address complaints. Typical complaint scenarios are covered. Timing, location and reason of complaint are important considerations. What were pressurization differentials at the time of complaint? What activities were taking place on the construction site at time of complaint? What solutions and adjustments are possible to address complaint?

**Chapter 12** covers examples of various construction scenarios. These examples walk through all the material covered in chapters 1-11.

Questions from audience regarding good and bad mold. There is bad mold but not really any good mold. Mold should be removed regardless of what type it is. Some molds are much more harmful than others. When mold is discovered an expert should be brought in to investigate.

Question from the audience regarding the types of air purification products covered in the standard. This is not covered in the SMACNA standard. Another audience member mentioned that there is a brief on certain products that clean up air born contaminants by the ASHRAE environment health committee. This brief covers pros, cons and unknowns of various products.

Questions regarding when a temporary HVAC system should be considered during design. This is something that should be discussed with the owner during the early design phase. Considerations should be given to impact on permanent based equipment vs cost of temporary equipment.

President Saunders and Mary Gauthier MCA Ottawa general manager presented Mr. Howard with a gift

President Abbey Saunders announced that an IES trade show taking place next week.


Next meeting is back at **Algonquin College Cafeteria** next month. President Saunders reminded guests to complete evaluations forms

Meeting adjourned at **20:24**.

January's meeting is now posted online. Please click on the links below to access the pictures and video.



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# ASHRAE OVC Seminar

**DATE:** **Wednesday March 22, 2017**  
Half Day Seminar - Morning (8:30AM - 12:00)

**LOCATION:** Master Group Ottawa Training Room  
25H, North Side Road, Nepean, ON, K2H 8S1

**TOPIC:** **Canadian Refrigeration Safety Code Seminar**

**PRESENTER:** **Greg Scrivener, President Cold Dynamics**  
**ASHRAE Distinguished Lecturer**



Greg Scrivener started in the refrigeration industry as an apprentice refrigeration mechanic in 1997 and completed his journeyman certification in 2003 with an award for "Most outstanding new Journeyman". Continuing to work in the refrigeration industry, Greg completed a B.Sc. in Mechanical Engineering with distinction from the University of Saskatchewan in 2011.

Having worked in roles from all the way from mechanic to design engineer, Greg can offer a comprehensive view point on refrigeration related construction and design. In 2014, he founded Cold Dynamics and is now involved with refrigeration consulting work including design, inspections, commissioning, advanced troubleshooting, energy auditing, control sequence optimizations, and training. Coupled with a passion for energy efficiency and the environment, Greg's unique experience leads to an in-depth understanding of the parameters affecting efficient refrigeration system operation

## SEMINAR DESCRIPTION:

This presentation is specific to the regulatory requirements of the CSA B52 code in Canada. The presentation will review the code requirements that apply to the location and installation of refrigerant piping in both industrial and commercial applications. Because of the regulatory environment in Canada there are large sections of CSA B52 that do not have significant enforcement, possibly leaving design engineers responsible for compliance. We will review the installation of chiller plants, split systems and VRF (Variable Refrigerant Flow) piping as well as calculations of occupancy based refrigerant concentration limits. Changes have been made to the refrigeration code in the USA that will eventually make their way into Canadian code, will also be reviewed.

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**DATE:** **Wednesday March 22, 2017**  
Half Day Seminar - Afternoon (1PM - 4:30PM)

**LOCATION:** Master Group Ottawa Training Room  
25H, North Side Road, Nepean, ON, K2H 8S1

**TOPIC:** **VRF Technology in our Canadian Climate**

**PRESENTER:** **Jean-Samuel (JS) Rancourt, Principal, DXS Engineering**



Jean-Samuel (JS) Rancourt is a founding partner of DXS, a subsidiary of HTS focusing exclusively on VRF technology. JS entered the HTS family of companies via the co-operative internship program. JS is a graduate from the University of Waterloo, graduating Valedictorian from his Mechanical Engineering class.

JS used the co-operative program to spend some time in the HVAC industry in the HTS-Ottawa office and in the HTS-San Antonio, Texas office in 2008 and 2009. After spending some time within the contracting and project management team of HTS at the Toronto headquarters, JS launched DXS in Ontario in June of 2012. Since then, JS has designed and managed the largest high-rise condo, school, hotel, and school residence project with VRV technology in Canada, including the largest VRV project in North America. JS now leads the engineering and owner/developer sales of DXS, and is in charge of business development.

## OVERVIEW:

Variable Refrigerant Flow [VRF] technology has swept away the rest of the world over the past three decades. VRF is now becoming a mainstream HVAC option in Canada, with multiple 100+ ton projects underway across the country, and as the fastest growing segment of the North American HVAC industry.

VRF has unique advantages, mainly due to buildings no longer needing any water components for HVAC when air-source VRF is used. VRF is a space efficient alternative to central plants, removing the need for chillers, cooling towers, heat exchangers, pumps etc. Using small and flexible refrigerant pipes to distribute heating and cooling around buildings instead of water, VRF is ideal for retrofit applications, or for new-builds with footprint or floor height constraints.

This seminar will introduce VRF technology, discuss its benefits and challenges in our Canadian climate and with our construction standards, and provide insights on designing intelligent VRF systems.

**Part I: VRF Overview** (90 minutes)

- Introduction
- VRV 101
- Application & design
- Water-cooled VRV
- Refrigerant & CSA B52

**Part II: Advanced Modules** (90 minutes)

- Heat Recovery systems design optimization
- Designing for low ambient heating and cooling
- VRV Controls design and integration

*Space is limited so please register online ASAP.*

*Half Day: \$175 for ASHRAE OVC members, \$225 for non-member*

*Full Day: \$300 for ASHRAE OVC members, \$375 for non-member*

*Registration will close March 17, 2017*

*Drinks and snacks will be provided. Please contact Sandy Taylor with any special dietary concerns.  
sandy@ashrae.ottawa.on.ca*

## Membership Update

I would like to introduce and welcome the following new member:

**Dr Boualem Ouazia**  
**Miss Carmen Lefebvre**  
**Mr Stephane Charbonneau**  
**Mr Brandon Garnett**  
**Mr Mike Delay**  
**Mr Maxime Charbonneau**  
**Mr Geoff Field**  
**Mr Robert Chidwick**  
**Mr Jeremy Salgo**  
**Mr Evan MacAdam**  
**Mr Ted Kimball**

**Miss Kristyn Zoschke**

At any time, if you have any questions or comments regarding your **ASHRAE** membership, please do not hesitate to contact me at: [cbaribeau@bpa.ca](mailto:cbaribeau@bpa.ca)

Thank you all for the continued support and participation in your local ASHRAE chapter. Looking forward to seeing everyone at the next **ASHRAE** meeting.



**Committee Chair**

**Celine Baribeau**  
2016-2017  
Membership Committee Chair  
**BPA**

E-mail: [cbaribeau@bpa.ca](mailto:cbaribeau@bpa.ca)

## YEA

**Hi YEA!**

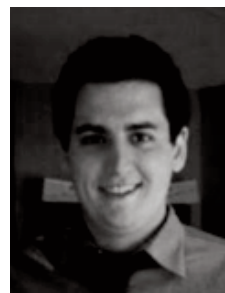
I would like to thank the members who participated in Archery Tag. It was a huge success and will be an event again in the future.

Based on member feedback the next event will be axe throwing, the date

and time are still to be decided but somewhere near the end of February. I will be sending out an email in a few weeks with more event details.

Thank you for your support!

**Joe Della Valle**



**Committee Chair**

**Joe Della Valle**  
2016-2017  
OVC YEA Chair  
**Walmar Ventilation**

E-mail: [joedellavalle@walmar.net](mailto:joedellavalle@walmar.net)

**Mark Csiffary P.Eng.**  
President

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**IR** Ingersoll Rand.

# Chapter Technology Award

Greetings from the CTTC Chair,

Just a friendly reminder regarding that the deadline for applications for the Ottawa Valley Chapter ASHRAE Technology Awards will be **March 15, 2017**. The Awards Presentation

will occur at the **April Chapter Meeting**.

For those wishing to learn more about the Awards Program, an overview can be found on ASHRAE's website.

Link: <https://www.ashrae.org/membership--conferences/honors--awards/technology-awards-program-overview>

## Student Activities

Coming off the short but sweet break, 2017 is going to be a great year for the ASHRAE OVC students at all levels. We had a good showing from our students at the YEA Archery tag night which was awesome!

Moving ahead we're all focused on the **career fair** taking place at **Carleton University** on **March 2nd**. The career fair will be preceded by a technical tour of the **New Life Science** building at Carleton University. The focus will be on jobsite safety so all PPE is required. Signup sheet to follow – we have a very limited number of spaces so sign up fast!

We are looking for Industry partners

for the Annual ASHRAE Career Fair, coming up March 2nd from 3pm-6pm. Students from Carleton, Algonquin, University of Ottawa, La Cite, and Cegep de l'Outaouais are encouraged to attend. Industry Partners interested in participating can sign up online on the ASHRAE OVC website.

The month of February will see our UOttawa chapter register, with the aid of very experienced **Prof Jodoin** and lead by the ambitious and talented **Elizabeth Primeau**. She has been a registered member of ASHRAE for 7+ years and follows in her father's footsteps who was the OVC president some 17 year ago and maintains a very active role in

## Committee Chair

**Jeff Watson**

2016-2017

OVC CTTC Chair

**Chorley + Bissett**

E-mail: [Jeff.Watson@chorley.com](mailto:Jeff.Watson@chorley.com)

## Committee Chair



**Peter Shaw-Wood**

2016-2017

OVC Student Activities

Co-chair

**Applied Energy**

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ASHRAE. The cat is very much in the cradle!

We have several presentations lined up at Algonquin College for their MET students and look forward to expanding their exposure as well.

All the best,  
**Peter Shaw-Wood**  
OVC Student Activities Co-Chair

## Table Top Display

If you're looking to communicate the value of your product, there is no better way than to invest in a table-top at an upcoming **ASHRAE OVC** meeting. Highly attended and highly regarded, our monthly meetings can afford you the opportunity to display your new technologies to an eager group of HVAC/R engineers and contractors. If you wish to review the themes of each meeting to find an appropriate topic, please feel free to contact me.

What better way to display a new product, existing line, or share great ideas than to have a table-top display at our local **OVC ASHRAE** meetings? The **OVC** meetings provide a captive audience in the industry and exposure to **60+** people.

We are currently starting to reserve table-top openings for this ASHRAE year.

Please contract **Adam Moons**

Payment is to be made through the online system prior to the date reserved. Follow the link below:  
<https://ashraeottawa.simplesignup.ca/en/1775/index.php?m=eventSummary>



## Governor

**Adam Moons**

2016-2017

Table Top Chair

**Walmart Ventilation Products**

E-mail: [adam@walmart.net](mailto:adam@walmart.net)

([adam@walmart.net](mailto:adam@walmart.net)) to secure yours today! Cost for table tops is **225\$** and spaces are filling up quickly, so book your table-top today!

 <p><b>Jp2g Consultants Inc.</b> ENGINEERS • PLANNERS • PROJECT MANAGERS</p> <p>1150 Morrison Drive Suite 410 Ottawa, Ontario K2H 8S9</p> <p><b>Mike Swayne, P. Eng.</b> Director of Building Services</p> <p>Phone: 613-828-7800 x224 Cell: 613-809-4843 Fax: 613-828-2600 email: <a href="mailto:mswayne@jp2g.com">mswayne@jp2g.com</a></p>	 <p><b>AMERESCO</b> Green • Clean • Sustainable</p> <p><b>ROY SAMHABER, P. ENG.</b> senior project manager</p> <p>P: 613 224 7500 x6158   P: 888 283 7267   F: 613 224 3726 <a href="mailto:rsamhaber@ameresco.com">rsamhaber@ameresco.com</a>   <a href="http://ameresco.ca">ameresco.ca</a> Ameresco Canada Inc. 106 Colonnade Rd N, Ste 200   Ottawa, ON K2E 7L6</p>	 <p><b>WSP</b></p> <p>Jim Mills, P.Eng., ing., LEED AP Director, Mechanical Group</p> <p>T 613-829-2800, ext. 19108 F 613-829-8299 C 613-240-2746 <a href="mailto:jim.mills@wspgroup.com">jim.mills@wspgroup.com</a></p> <p>WSP Canada Inc. 2611 Queensview Drive, Suite 300 Ottawa ON K2B 8K2 <a href="http://www.wspgroup.com">www.wspgroup.com</a></p>
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# News Update

## 2016 Versions of ASHRAE Refrigerant Standards Published

**ATLANTA** – The 2016 editions of ASHRAE's major refrigerants-related standards have been published as a package with 30 new refrigerants and refrigerant blends added.

**ANSI/ASHRAE 15**, Safety Standard for Refrigeration Systems, and its sister standard, **ANSI/ASHRAE 34**, Designation and Safety Classification of Refrigerants, constitute a complete set of requirements for the safe design, construction and application of refrigeration systems used in a wide variety of residential, commercial and industrial applications.

For both of the standards, the updates come from a continuing stream of changes made based on new science and research, experience, and proposals from designers, manufacturers and users. The 2016 edition of Standard 15 incorporates addenda a, b, c, e and g to Standard 15-2013, which comprise the following changes:

- Incorporated changes to ensure improvement in the safe design, construction, installation and operation of refrigeration systems
- Updated requirements for safety relief systems, including revisions to relief vent pipe discharge locations and design provisions for headered relief vent systems
- Updated design pressure requirements applicable to systems using carbon dioxide
- Modified overpressure protection for heat exchangers and pressure limiting devices for positive displacement compressors

The 2016 edition of Standard 34 incorporates 35 addenda to the 2013 edition. Among the key changes to the 2016 edition are the following:

- Added three new refrigerants and 27 new refrigerant blends
- Changed the source of the WEEL (Workplace Environmental Exposure Levels) values from AIHA (American Industrial Hygiene Association) to TERA OARS-WEEL (Toxicology Excellence for Risk Assessment/Occupational Alliance for Risk Science)
- Changed requirements for the refrigerant application process
- Changed the requirement for submission of standard test result data to validate the method used to determine burning velocity
- Changed units required for refrigerant designation to require the submission of dual units
- Revised R-744 toxicity data for the RCL, LC 50, cardiac sensitization NOEL, anesthesia NOEL, ATEL, RCL and ATEL source

The cost of ASHRAE Standards 15 and 34, which are packaged together, is \$95 for ASHRAE members (\$112, non-members). To order, visit : [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore) or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada), 404-636-8400 (worldwide) or fax 678-539-2129.

## User's Manual for 2016 IAQ Standard Published by ASHRAE

**ATLANTA** – A manual to help users navigate the changes in ASHRAE's 2016 ventilation standard is now

## Committee Chair

**Jeff Watson**

2016-2017

OVC CTTC Chair

**Chorley + Bissett**

**E-mail:** [Jeff.Watson@chorley.com](mailto:Jeff.Watson@chorley.com)

available.

The User's Manual for ANSI/ASHRAE **Standard 62.1-2016**, Ventilation for Acceptable Indoor Air Quality, provides information on the requirements of the standard and includes tables, illustrations and examples to aid users in designing, installing and operating systems for ventilation in buildings.

*"The manual elaborates on the requirements in the standard published earlier this year," **Hoy Bohanon**, chair of the Standard 62.1 committee, said. "The standard contained changes that impact high rise residential spaces, the indoor air quality procedure, laboratory exhaust and demand control ventilation. The manual provides guidance on how to incorporate those changes and others."*

The manual also contains:

- Information on the intent and application of Standard 62.1
- Sample calculations and examples
- Best practices examples complying with the requirements of this version of Standard 62.1
- Useful reference materials
- Guidance for building operation and maintenance personnel
- Instructions for the user in the application of tools used for compliance with Standard 62.1

Also included is a link to newly



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revised web-based spreadsheets that aid in ventilation rate procedure calculations.

The cost of Standard 62.1-2016 User's Manual is \$80, ASHRAE members (\$95, non-members). To order, visit:

[www.ashrae.org/bookstore](http://www.ashrae.org/bookstore)

or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide) or fax 678-539-2129.

### ASHRAE Seeks Practitioners and Designers for 2017 Building Performance Analysis Conference Activities

**ATLANTA** – ASHRAE is seeking presenters for its new Building Performance Analysis Conference as

well as teams for its annual LowDown Showdown modeling competition.

The **ASHRAE Building Performance Analysis Conference** takes place **Sept. 27-29, 2017**, in **Atlanta, Ga.** The modeling competition is part of that event.

*"This conference engages the design aspect of modeling and simulation,"* **Dennis Knight**, conference chair, said. *"Our goal is to serve practitioners with the most up-to-date best practices, work flows and processes required to plan, design, construct and operate high performing, low energy consuming, environmentally responsive and responsible, safe, secure and healthy buildings for human occupancy."*

A call for presenters is now open for presentations that address topics of interest to practitioners, modelers and designers.

Also, the **ASHRAE LowDown Showdown** modeling competition returns for its third year. Participants will model an existing building that includes both office space and climate controlled archival warehouse space.

The 2017 competition features two changes: it is now a competition vs. a challenge, and conference attendees can now form their own teams to retrofit an existing building. For more information about the conference, to submit a presentation proposal or sign up for the modeling competition, visit :

[www.ashrae.org/BuildPerform2017](http://www.ashrae.org/BuildPerform2017)

## 2017 Curling Bonspiel

The **2017 ASHRAE Curling Bonspiel** will be held again this year at the **Nepean Sportsplex** on **Friday, February 24.**

We have room for **18** teams and the event is filling up fast. As usual, folks who booked last year have first priority.

Cost is **\$400.00** per team of 4, first rock will be thrown at **1:00 pm** and

*link:* <https://ashraeottawa.simplesignup.ca/en/2141/index.php?m=eventSummary>

dinner will follow at approximately **6:30 pm.**

To register please visit our website at the link below.

For any other questions, please contact:

Chris Healey ( 613-225-9774 )  
[chris@walmart.net](mailto:chris@walmart.net)



**Committee Chair**

**Chris Healy**

**Walmart**

**E-mail:** [ChrisHealey@walmart.net](mailto:ChrisHealey@walmart.net)

# Research Promotion

Thanks for your continued support for **ASHRAE Research Canada!**

ASHRAE Research plays a huge role in all aspects of our built environment. Our homes, offices, schools, hospitals, retail spaces and even the food we eat are all affected and hopefully protected by their HVAC&R system, or lack thereof. Although Abbey and her committee have left me big shoes to fill, I am pleased to be part of such an important part of society in serving as the Research Promotion Chair for our **Ottawa Valley Chapter**.

Our objective for the 2016-2017 RP Campaign is **\$29,000**. Although this seems like a lot, our chapter history, in particular last year's stellar fundraising efforts have shown us this objective is attainable. No donation is too small, and all money raised goes to **ASHRAE Research Canada**.

**Georges Maamari, Abbey Sauders, Michael Swayne, Robert Lefebvre, and Frank Bann** have all agreed to help support this cause as a part of the ASHRAE RP Committee. Please contact any of us with your RP questions. We have started our annual calling campaign so expect to hear from one of us shortly if you have not yet.

The raffle draws for event tickets will

continue at each program meeting in support of our 2016-2017 RP Campaign. The **January 24th**, Sens v. Capitals tickets graciously donated by **JCI Ottawa** raised a total of **\$710!** A special thanks to all that have donated tickets, and congratulations to Carmen Lefebvre of HTS for winning the tickets. We are always looking for donors that may have something to contribute for our monthly raffles. Please contact me if interested.

As of **January 31**, we have raised **\$11 480** towards our campaign goal, approximately 40% of our objective.

Thanks to all our donors who continue to support the RP Campaign.

A list of current 2016-2017 RP Campaign donors will be updated for each monthly newsletter, so donate quickly to see you name appear!

Two of the easiest ways to make your donation to the 2016-2017 RP Campaign are by clicking either of the links below.

However, should you wish to make you donation using cheques, please make all cheques payable to **ASHRAE Research Canada**. My contact details are shown below, but I will gladly make arrangements to pick-up any cheques if need be.



**President-Elect Adam Graham**  
2016-2017  
OVC President-Elect  
**HTS**

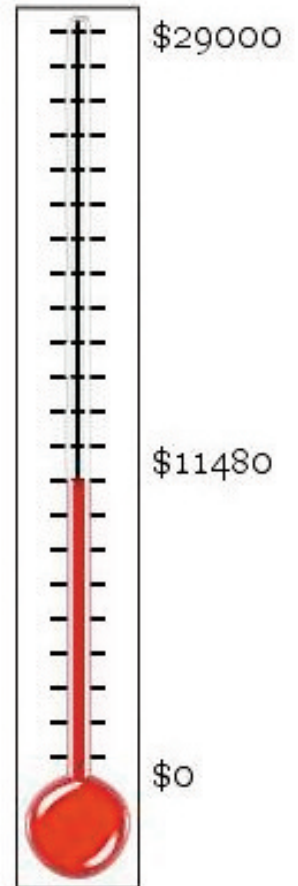
**E-mail:** [adam.graham@hta.com](mailto:adam.graham@hta.com)

Again, I can't say this enough thanks for your continued support for ASHRAE Research Canada!

Adam Graham

ASHRAE OVC President Elect,  
Research Promotion Chair

Attn: **Adam Graham**  
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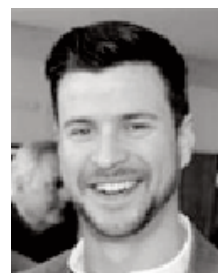
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ASHRAE OVC link: <https://ashraeottawa.simplesignup.ca/en/1773/index.php?m=eventSummary>

ASHRAE Society link: <https://xp20.ashrae.org/secure/researchpromotion/rp.html>

# HISTORY FLASHBACK

The following is an article from the February 2006 Capital Communique from Rod Potter.



**Committee  
Chair**  
**Jeremy Strong**  
2016-2017  
History Chair  
**JCI**

E-mail: [jeremy.strong@jci.com](mailto:jeremy.strong@jci.com)



## Surveying 101 Top Ten Surveying Equipment List

by Rod Potter

I have been surveying mechanical/electrical systems for twenty years now, and I seem to have spent much of that time on top of a ladder with my head stuck between a 24x48" opening. This has afforded me a vast amount of somewhat useless information that I will attempt to put into words here. Following is the Rodders CAS Top Ten Surveying Equipment List:

1. The first thing on the list is a high-quality **clipboard**. I use one made of aluminum that was purchased for me from Lee Valley Tools, and besides the fact that it looks sexy, it also has a handy integrated storage box that can store many of the things listed below. It should be light, make excessive noise when dropped, and not be too expensive.
2. An absolute must is **letter size photocopies or mini-plots of the survey area**, typically an office or Lab space. These should be plotted at 1:50 - surveys are virtually useless at 1:100 unless you don't care about accuracy. Plot out as many as will be required (including spares) between coffee breaks and store them in the handy storage box - refer to item 1.
3. Our goal in this life is to make one self look as much like a geek as possible. Therefore I make use of a "headlight" **flashlight** which generally straps around my enormous head and likens me to a coal-miner. It is absolutely paramount that this flashlight is of high quality with an adjustable beam. This apparatus of course keeps my hands free to hold item 1. Always have replacement bulbs handy.
4. Item 3 leads me to state the importance of a large supply of **freshly charged batteries**. Flashlights drink battery power like they are manufactured by the battery companies. Wait a minute - my headlight says Rayovac on it!
5. You simply must have a **high quality tape measure** on your person. Don't even think about those flimsy 1/2" wide jobbies - they are rubbish. It should be at least 25' in length and 1" wide. And don't believe it when the manufacturer states 20' stand-out - that's rubbish too. When you have your tape, purchase a Magneto belt clip. One minute the tape is on your belt, the next it is in your hand, no messing. Your head is above a ceiling tile, you are holding item 1, your world is bright due to item 3. You don't want to fumble with item 5.
6. Surveying with pens is for perfect people. I am not perfect (not yet anyway). Surveying with 0.7 and 0.5 projecting **pencils** is the way to go. Keep plenty of spare leads in item 1. You will drop the pencils. Purchase Staedtler Mars Plastic erasers; carry two, both in item 1. These erasers are typically left above ceilings.
7. You will need a **straight edge** for making neat survey sketches on those letter size photocopies. This straight edge should preferably be a clear plastic ruler with both imperial and metric graduations. Clear plastic because you can see the lines you have already drawn through the ruler. Store the ruler in item 1.
8. A **digital camera** is a must. When you walk into an office or Lab space with a digital camera you can create all kinds of interest from those flighty ladies messing with test tubes. Keep the camera in a belt-pouch with a zip top. This adds to your general geeky appearance. The odd grenade and a web-belt will also increase the effect. See item 4.
9. Carry a **ladder**. Preferably one that will get you above a standard 9 foot ceiling. If you are lucky, the nice on-site guys will let you borrow one. In which case a standard 4 foot step-ladder is always handy - the top makes a superb tabletop for item 1 when you are in a steamy boiler room with no clean surfaces.
10. Maintain a **healthy Mojo**. That is, be confident at all times in your ability, and proceed with purpose. Enter rooms to be surveyed with a respectful look on your face, and state clearly what your intentions are. I like the old stand-by "Hi there, I am here to check your pipes". That always gets them. Another thing people love is when you simply stand in the middle of the room and gaze up at the ceiling as if there is something important happening up there (when there isn't).

What to do with all of this equipment? *That's the subject of a future editorial.*

TO: All BLÜCHER Representatives

February 6, 2017

SUBJECT: **BLÜCHER Webinar on Food Safety****Official Communication 294**

Ladies and Gentlemen:

I am pleased to announce that we have partnered with IEEE GlobalSpec to offer a **free** webinar for specifying engineers, business owners, and facility managers for food processing and commercial kitchens. GlobalSpec is promoting the webinar, "How Informed Drainage Choices Promote Food Safety," to its extensive member base in the United States and Canada.

Please encourage your customers to attend! I know they will find the session informative and useful in understanding how drainage design, construction, materials, and other factors can significantly affect sanitary conditions and corrosion issues in food processing facilities and kitchens.

### **Webinar Details**

What: How Informed Drainage Choices Promote Food Safety

When: Thursday, February 23, at 2 PM EST/11:00 AM PST

Who: Jimmy Hunt, Business Development Manager, BLÜCHER USA

Scott Steindler, Western Regional Manager, BLÜCHER USA

How: Register [here](#).

Using HygienicPro® and BLÜCHER Pipe as examples, Scott and I will compare drainage options and show attendees how to make informed choices to minimize the risk of bacterial contamination in their facilities.

Thanks in advance for inviting your customers to join us for what I know will be a truly informative webinar!

Best regards,

Jimmy Hunt  
Business Development Manager – BLÜCHER USA



## **Outside Sales Representative (Ottawa, ON)**

The successful candidate will promote and sell different HVACR products essentially to contractors, engineering firms and building owners. He will be responsible for prospecting and developing new business as well as continuing to build on existing relationships between The Master Group and its existing customer base.

### **Principal tasks:**

#### **Promotion of Master products to clients (contractors, engineering firms, dealers and owners)**

- Evaluation of client's needs & resources and recommendation of appropriate products
- Writing of product technical specs
- Presentation of technical drawings/documents
- Preparation of buying & pre-purchase documents
- Maintain sales forecasting reports
- Presentation of product applications for use in HVACR systems (formal presentation with catalogs or audio/video material)
- Acquire required technical knowledge in order to promote products (academic or manufacturer training)

#### **Management of client accounts**

- Development of existing and potential clients & solicitation
- Preparation of annual sales budgets for territory & proposals for client accounts
- Responsible for the use of the CRM in client account management
- Document account activities, generate reports and keep records of business transactions with customers and suppliers
- Responsible for developing and identifying design build accounts and markets.

#### **After sales service**

- Contacting customers after the sale to resolve problems and ensure follow up
- Ability to resolve technical problems related to products

#### **Marketing & promotion**

- Selling price: coordination with purchasing & sales departments
- Marketing tools, catalogs, sales manuals: coordination with purchasing & sales departments
- After sales service: coordination with service manager & support to manufacturers
- Technical training (products, installation, maintenance)
- Keep informed on industry news and trends, products, services, competitors, relevant information about existing and emerging technologies and the latest product-line developments

### **Ensure effective regional commercial relations with suppliers.**

Promotion of products within the Master sales team.

Identify competitive positioning of our products versus the competition.

Coordination with Product Managers & Technical Support Department

Keep informed on industry news and trends, products, services, competitors, relevant information about existing and emerging technologies and the latest product-line developments.

### **Requirements:**

A Mechanical Engineering degree or equivalent experience

Possess a minimum of 5 to 7 years experience in the sales environment

In depth knowledge of products technical applications (HVACR Master's products & competition)

Working knowledge of Microsoft Office products

Bilingualism considered a major asset

Must have a valid driver's license and be willing to travel

### **Work conditions:**

Permanent position

Competitive salary

Training

Group insurance

Additional holidays

Health program (contribution to your gym membership)

Leader in the air conditioning, refrigeration, ventilation and heating sectors for almost 60 years now and 2010 winner as one of Canada's 50 Best Managed Companies, The Master Group is the largest independent distributor in Eastern Canada from the Greater Toronto Area eastward to the Maritimes.

### **Please submit resume to:**

Christopher Fudge, P.Eng. LEED® AP

Regional Sales Director, Commercial, Applied, Heating and Ventilation

#### **The Master Group**

P: 613-829-2816

C: 613-761-2173

F: 613-829-3731

@ [cfudge@master.ca](mailto:cfudge@master.ca)

25H, Northside Road, Ottawa (Ontario) K2H 8S1

[master.ca](http://master.ca)

We thank all applicants for their interest, however only candidates selected for an interview will be contacted.

# Advertising

Advertising career opportunities on the **ASHRAE Ottawa Valley** website makes good business sense. We offer a unique way to reach technical professionals and make your ad dollars work hard for you.

To discuss your needs, contact one of our chapter officers, via our "This Year" page. Increase the impact of your advertising through the **ASHRAE** Ottawa Valley website today.

Rates for career opportunities ads are as follows:  
Chapter Member: \$50/month, \$80/2 months, \$100/3 months  
Non-member: \$250/month

*Note: Purchase of additional months will only have a discounted rate if purchased up front. Otherwise the standard rate will apply for additional months.*

## Placement of an Ad

We suggest that you complete and submit our advertisement form to speed up the processing of your request. If you have provided your e-mail address, a confirmation receipt e-mail will be sent to you for reference.

Please note that ads require prepayment made to the treasurer. Please register and pay through the online system and contact **Daniel Redmond** ([danielredmond@cunet.carleton.ca](mailto:danielredmond@cunet.carleton.ca)) with any questions. Follow the link below for payment.

<https://ashraeottawa.simplesignup.ca/en/1774/index.php?m=eventSummary>

The ads will appear on the website until the end date for publication provided in the submitted form. To extend the ad, please resubmit the form with the new publication dates and the required prepayment amounts.



**E-mail:**  
[DanielRedmond@cunet.carleton.ca](mailto:DanielRedmond@cunet.carleton.ca)

## Treasurer

**Daniel Redmond**

2016-2017

OVC Treasurer

**Carleton University**

# Business Card Ads

You can support your chapter and promote your business by placing your business card in the Capital Communiqué. It will also appear on the chapter website.

The cost is \$250.00 for the year. Please contact **Rod Lancefield** at [rod@htseng.com](mailto:rod@htseng.com) for more details.

Payment will be made through the online system. Follow the link below for payment.  
<https://ashraeottawa.simplesignup.ca/en/1776/index.php?m=eventSummary>

Ads will **now require prepayment**. All of last year's ads will appear in the Communiqué for the first month of this year to allow time for payment for the upcoming year. Ads will be refreshed accordingly in the second Communiqué.

**Publicity**  
**2016-2017 Publicity Committee Co-Chair**  
HTS Engineering Ltd.  
E-mail: [rod.lancefield@hts.com](mailto:rod.lancefield@hts.com)



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# 2016-2017

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