



## ASHRAE Ottawa Valley Chapter

- DATE:** **Tuesday April 21, 2015**  
Technical Session: 16:30, Social: 17:30  
Dinner: 18:30, Program: 19:30
- LOCATION:** Algonquin College Restaurant International  
1385 Woodroffe Ave, Building H, Room H100
- PROGRAM:** **Active Chilled Beams**
- SPEAKER:** **Darren Alexander, P.Eng.**

**SPEAKER BIO:**

**Darren Alexander, P.Eng.**, is currently Vice-President and Partner of **Twa Panel Systems Inc.**, having joined Twa as Chilled Beam Technical Director in 2007. Since entering the industry in 1996, he has worked for Trane, Engineered Air and Olympic International Ltd. Darren has been a member of ASHRAE since 1996 and Chaired the Active Beam sub-committee in 2012 as a member of ASHRAE T.C. 5.3 Air Distribution. He is a committee member for the Active Beam Application Guide Book (North American Revision), and Method of Test – Active Beams; and a corresponding member of ASHRAE T.C. 6.5 Radiant Heating and Cooling. His ASHRAE journal publications include Design Considerations for Active Chilled Beams, and Efficient Space Humidity Control With Active Chilled Beam Systems.

**TECHNICAL SESSION:**

This month's technical session will be the last in our series of three sessions focusing on mentorship. This month's session will be hosted by **Rob Lefebvre**, Partner at Goodkey Weedmark & Assc. and Past President of our ASHRAE chapter. The session will focus on how mechanical consulting engineers interact with the other consultants, equipment reps, owners and contractors, and offer suggestions to newer members of our Society for increasing their knowledge, abilities and penetration into the industry, and suggestions for students on how to prepare for a career in our industry in consulting. Consider if there are junior people in your firm, or students that you know that might benefit from this. It is intended to be very open discussion, with lots of conversation.

\*Please note that the May meeting will be held on the fourth Tuesdays of the month, May 26th.

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

**Space is limited so please register online at:**  
<https://ashraeottawa.simplesignup.ca/en/610/index.php?m=eventSummary>

# President's Message

Spring is finally here, and with it comes the start to the construction season. This time of year always renews my enthusiasm for the industry, as much of the winter's design work turns to making the plans a reality. More generally, spring is also considered a time for renewal and new opportunities, and I hope that the turning of the weather will present such opportunities for you.

Our presentation this month centers on **chilled beam technology**. This is a system of design that is "new-ish". The technology itself is nothing new, induction units have been in place for decades. I won't steal our presenter's thunder, but this presentation got me thinking about technology in our industry that is considered "cutting edge", be it variable capacity refrigeration flow, high efficiency gas products, or something more systemic like domestic water heating/cooling, or chilled beams. As a supplier's rep, I often encounter resistance to some of these ideas, where consultants don't want to be the guinea pig for the first local installation, or don't want the owner to have to learn a new system. I understand the hesitance, but there are two points that I feel need to be stated. First, the pace of "new technology" in construction is glacial. When compared to IT, automotive, and other major industries, the change we experience in new equipment happens very slowly. This is with good reason, a building should last **50 years** or more, my computer seems to need replacing every **2-3 years**. That said, the technology in **North America** is typically a decade

or so behind **Europe** and **Asia**, and this on top of industry testing and certification. While certain ideas or systems may be new to you, please consider that they've likely been installed and operating for years in other parts of the world. Second, having attended many rep meetings and spoken with other suppliers throughout the continent, I'm confident in saying that **Ottawa** is home to a group of smart, savvy and thorough professionals. Don't sell yourself short! While new ideas may require some additional time and consideration, embrace the challenge, and see it as an opportunity to differentiate yourself from your competition. Be the leader in these opportunities, and it will be noticed to your advantage.

The theme of this month is **Research**. We are very much in to our calling campaign, so if you have not yet received a call from the RP Committee, you can expect one soon. Please also be proactive, and contact **Georges Maamari**, or any of the committee to find out the ways to donate. We are closing in on our goal, and would like to exceed our expectations for the first time in many years. We can do it with your help!

**Bob Kilpatrick** will be closing the nominations for this year at our **April** meeting, so if you have any suggestions on people who would be suitable to help out, please don't hesitate to contact him, or anyone on the **Nominations Committee**. Further, if you've ever considered volunteering with **ASHRAE**, please let



**President & CRC Delegate**  
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anyone on the **Board of Governors** know. There are many spots to be filled, and it need not be a large commitment of your time.

Lastly, **Rob Lefebvre** with **Goodkey Weedmark & Assc.** has generously volunteered to host the last of our mentorship tech sessions. We previously had a suppliers rep and contractor, and we finish with a consulting engineer, who will review the ins and outs of how they work, their interaction with the industry, and how you can find your way in to that segment. Please consider attending, and suggesting this to junior members of your firm, or to students. The opportunity exists for frank discussion and open answers, so please take advantage. I look forward to seeing you all on **April 21st**.

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# What You Missed

The sixth meeting of the program year took place at the **Restaurant International** at **Algonquin College**. The meeting was called to order by **President Steve Moons** at 6:10pm and attendees were seated.

The business session commenced with President **Steve Moons** introducing the **Board of Governors** and **Executive**, followed by **Adam Graham** introducing the guests for the evening and giving a recap of the part 2 of the hydronic systems design seminar. Several students were in attendance and we would like to thank everyone that donated a student meal to help make this possible. **Steve Moons** welcomed new members.

**Steve Moons** then discussed the status of this year's chapter technology awards followed by a request from **Bob Kilpatrick** for nominations for the **Secretary** and **Board of Governor** positions. Nominations are open to all membership and will close at the **April** meeting. **Steve Moons** then put out a request to all membership to consider getting involved at the chapter level by chairing or becoming part of a committee. Anyone interested should find any current BOG member and discuss accordingly.

**Georges Maamari** gave the membership an update on the current **ASHRAE Research** fundraising campaign. Our Chapter is well within reach of our goal this year at about **71%** to date. Thank you to all that have made a donation to support **ASHRAE Research**.

**Adrienne Mitani** introduced the theme of students. She then went on to recap the recent career fair. The event was held at Carleton with 16 booths and around **100** students in attendance. Adrienne announced that OVC will be sponsoring the **Ottawa regional science fair** with three prices of **\$200**. This event is open to students in **grades 7** through **12** with a focus in the fields of science and engineering.

The floor was then given to **Liam Obrien**, a recent recipient of a research grant made possible by **ASHRAE**. Liam is a professor at **Carleton University** and runs the **Human-Building Interaction Lab-**

**oratory** (HBI Lab). **HBI Lab** strives to understand the two-way interaction between buildings and their occupants to maximize comfort while minimizing environmental impacts. The HBI Lab seeks to understand and influence building design using a multidisciplinary engineering-based, simulation, experimental, and field study approaches. Liam described that the funding is for a senior undergraduate project and went into some details on the project as well as some other recent studies.

The **Loren Cook** table top display was introduced by **Adam Graham** of **HTS** and the **MK Plastics** table top display was then introduced by **Simon Davies** of **MK Plastics**.

During the social hour, the research promotion committee raffled off **4 tickets** to an **Ottawa Senators** game. These tickets were graciously donated by **Trane** and raised **\$470**. Andrew Douma was the lucky winner.

Following the business session, attendees enjoyed an excellent seated dinner.

Next, the evening program commenced at around **7:45pm** with **Jim Howard** of **Loren Cook** introducing the evening topic. The presentation was on lab exhaust codes, guidelines, and applications, with a focus on recent changes to industry standards as they relate to lab exhaust.

Mr. Howard started the presentation off by reviewing the basics of lab exhaust and describing where and why we require lab fans to be used. He discussed the effects that wind speed and direction can have on a plume and what the negative impacts of this before going into detail on how this is to be taken into account in design later in the presentation.

Next, the speaker introduced several different possible types of lab fans. He started with the simplest: high plume, non-induction fans. These are available in either an inline vertical type or a utility set arrangement. They will have a basic nozzle sized for minimum velocity requirements and can include a mixing box for the entrainment of bypass air if required. This bypass is likely a result of the desire to use variable volume fume hoods within the lab to reduce



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treated ventilation air requirements while maintaining plume height and discharge velocity.

The next type of arrangement discussed is the high plume entrainment type lab exhaust fans. These are typically used when there is a need or desire for dilution of the relatively concentrated primary lab exhaust air. These are available in either an inline vertical type or a utility set arrangement. They will have a more sophisticated nozzle sized for entrainment required, minimum velocity requirements and can also include a mixing box for bypass air if required. Mr. Howard described the relevant **AMCA standard (AMCA 260 – 2013)** and showed the test setup that allows for the third party verification of fan performance including induction performance of the nozzle.

Some common lab exhaust guidelines were discussed. There is a general requirement for the discharge of hazardous lab exhaust to be at least 10ft above the roof level. This is to eliminate the possibility of direct exposure of personnel to the exhaust airstream. The concept of effective stack height was introduced. This height is the combined total height of the fan (including mixing box) and the plume rise. This term should not be confused with plume rise alone. A few guidelines or resources that may be of use in lab exhaust system design were introduced and they are as follows:

#### **ANSI/AIHA Z9.5 – 2012**

- Exhaust system reliability
- Exhaust fan location
- Exhaust stack discharge
- Preventative maintenance

#### **ASHRAE Handbook – HVAC Applications - 2011**

- Intake/exhaust system design
- Design calculations

#### **ASHRAE Laboratory Design Guide**

- Application specific design guide

Following the introduction of these resources, **Jim Howard** went into



detail on recent changes to the **ASHRAE** method for calculating plume height. The 2007 version of the **ASHRAE** handbook utilizes the following equation for calculating effective plume height:

$$h_e = h_r + h_f$$

$h_e$  = effective plume rise

$h_r$  = plume rise

$h_f$  = height of fan

$$h_r = \frac{d \left( \frac{V}{u} \right)}{352}$$

$d$  = effective exhaust diameter

$V$  = windband exhaust velocity

$u$  = wind speed

A common misconception is to assume that the value 'V' in the equation refers to nozzle velocity and not discharge/windband velocity. **ANSI Z9.5 2012** attempts to clarify this with the following verbiage.

"Exhaust stack discharge velocity shall be at least 3000fpm (15.2m/s) and is required unless it can be demonstrated that a specific design meets the dilution criteria necessary to reduce the concentration of hazardous materials in the exhaust to safe levels at all potential receptors."

Discharge velocity is defined in section **A2.11** as the air velocity as it leaves the last element of the exhaust system. It is not specifically mentioned in this guideline but the speaker also suggested that the uniformity of discharge velocity is important in the accuracy of the calculations.

The 2011 version of the **ASHRAE**

handbook now includes a factor to allow for more realistic modelling of plume rise for four different terrain categories. The 2012 version of **ANSI Z9.5** also adopts this method. The terrain categories are as follows:

- Flat, water, desert
- Flat, airport, grassland
- Suburban
- Urban

Several examples of plume rise calculations were shown to compare the results using 2007 calculations vs. the more recent 2011 calculations. It was found that for a terrain category of 1, the impact is relatively small. However, when we get into a terrain category of 2, 3 or 4, the plume rise calculations show 2011 values of 83%, 57%, and 42% of 2007 values respectively for the example shown. This is extremely significant.

Following the discussion on relevant guidelines and plume rise calculations, Jim presented on a few possible methods for saving energy on larger lab exhaust systems. The downside to most designs is that a constant fan speed is required to maintain a specific plume rise and dilution. If this fan were able to be variable volume in place of utilizing bypass air, there may be a large potential for energy savings. Energy recovery can also be quite attractive due to the high ventilation requirements and run-hours of these systems. The three energy measures discussed are as follows:

#### Powered bypass:

- This design utilizes a variable air volume primary lab exhaust fan with another fan that draws outdoor bypass air directly and discharges into a common stack.
- This allows for the secondary fan

to only see the static pressure of the discharge stack and not the large inlet static that is typical of these systems.

- With the ability to now turn down the primary fan and the reduction in pressure on the secondary fan, reasonable energy savings and payback can be expected.

#### Powered nozzle:

- This design is similar to the powered bypass design and allows for a variable air volume primary lab exhaust fan by utilizing a constant volume secondary powered nozzle fan to ensure high plume rise and dilution at any primary airflow.
- With the ability to now turn down the primary fan and the reduction in pressure on the secondary fan, reasonable energy savings and payback can be expected.

#### Energy recovery:

- Many large systems are incorporating energy recovery in their designs.
- Most fan manufacturers will have an offering.
- Typical systems utilize glycol run-around loops due to requirements of separation between intakes and outlets.
- Reasonable payback can be expected.

Upon completion of the presentation, Jim opened up the floor to questions from the audience. There was great participation with approximately 15 minutes of interesting Q&A. President Steve Moons then presented Mr. Howard with a gift on behalf of the chapter and thanked him for his time. The meeting was adjourned at 8:45pm.

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# News Update

## ADVANCED ENERGY DESIGN GUIDE FOR GROCERY STORES AVAILABLE; FREE DOWNLOAD

**ATLANTA** – Today's grocery stores often include a wide range of prepared food services and expanded fresh food products, which creates unique challenges in the design process due to the needed balance between refrigeration, food service and **HVAC** systems. When coupled with the need to create an inviting environment and positive shopping experience for customers, energy efficiency may get overlooked.

However, an energy efficient grocery store design adds value, reduces expenses and enhances the customer shopping experience. A new publication from leading industry associations provides an integrated approach to achieve such energy efficiency design.

The new published **Advanced Energy Design Guide for Grocery Stores** focuses on grocery stores ranging in size from **25,000 to 65,000 square feet** with medium- and low-temperature refrigerated cases and walk-ins. The information in this Guide can be combined with that in **Advanced Energy Design Guide for Medium to Big-Box Retail Buildings** and used for larger stores that consist of both grocery and general merchandise.

To download a free copy, please visit [www.ashrae.org/freeaedg](http://www.ashrae.org/freeaedg).

Refrigeration systems consume approximately half of the total energy consumed by a typical grocery store, and they interact with other building systems in a number of ways. One example is the heating load created by refrigerated cases without doors. Humidity control is another major issue. These interactions impact equipment performance and fresh food perishability.

*"Traditionally, the refrigeration and food service are considered independently from the rest of the building systems and the HVAC&R is expected to meet the loads,"* **Paul Torcellini**, chair of the committee that wrote the Guide, said. *"An integrated approach looks at the building holistically and addresses issues such as: HVAC humidity levels that are*

*critical to the performance of the refrigeration system, refrigeration system waste heat that can be used for hot water or conditioning the outside air, and food service operation that generates lots of heat that must be removed. Adding doors to refrigerated cases reduces uncontrolled cooling, simplifies temperature control and reduces system load. Better management of exhaust hoods and better selection of equipment reduces the food service loads. Proper introduction of outside air that is semi-conditioned helps minimize cooking smoke and odors with minimal conditioning. These are just examples of how the pieces need to work together."*

The Guide is the **fifth** in a series to provide recommendations for achieving **50%** energy savings over the minimum code requirements of **ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings**. In the case of this Guide, all recommendations also meet or exceed **Standard 90.1-2013**.

The series was developed by a committee representing a diverse group of energy professionals drawn from **ASHRAE**, the **American Institute of Architects (AIA)**, the **Illuminating Engineering Society (IES)**, the **U.S. Green Building Council (USGBC)** and the **Department of Energy (DOE)**. Support and funding was provided by **DOE** through the **National Renewable Energy Laboratory (NREL)**.

The specific energy-saving recommendations are summarized in a single table for each climate zone and allow contractors, consulting engineers, architects, and designers to easily achieve advanced levels of energy savings without detailed energy modeling or analyses.

In addition, this Guide discusses principles of integrated design and how they can be used to implement energy-efficient strategies. A chapter addressing design philosophies for grocery stores is also included. This chapter is devoted to interaction between refrigeration and other building systems.

An expanded section of tips and ap-



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proaches is included in the **"How to Implement Recommendations"** chapter. These tips are cross-referenced with the recommendation tables. This chapter also includes additional "bonus" recommendations that identify opportunities to incorporate greater energy savings into the design of the building.

Case studies and technical examples throughout the Guide illustrate the recommendations and demonstrate the technologies in real-world applications.

This guide's electronic copy has navigational hyperlinks to allow easy movement throughout the guide. Links in the recommendation tables direct readers to the applicable "how to" tips, and links within the text direct to referenced tables and figures. The 50% series includes books for large hospitals; medium to big box retail buildings; small to medium office buildings; and K-12 school buildings. The energy savings target of **50%** is the next step toward achieving a net zero energy building, which is defined as a building that, on an annual basis, draws from outside resources equal or less energy than it provides using on-site renewable energy sources. **ANSI/ASHRAE/IESNA Standard 90.1-2004** provides the fixed reference point and serves as a consistent baseline and scale for all of the 50% guides.

There also is a series providing **30%** savings, which target small office buildings; small retail buildings; K-12 school buildings; small warehouses and self-storage buildings; highway lodging; and small hospitals and healthcare facilities.

For more information on the entire **Advanced Energy Design Guide** series, or to download a free copy, please visit: [www.ashrae.org/freeaedg](http://www.ashrae.org/freeaedg). A print version of the Guide may be purchased for **\$89 (\$62, ASHRAE members)**. To order, contact ASHRAE

Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (world-wide), fax 678-539-2129, or visit [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore)

## REVISION OF ASHRAE IAQ GUIDELINE OPEN FOR PUBLIC COMMENT

**ATLANTA** – Public input is being sought into a proposed revision of **ASHRAE's** residential indoor air quality guideline.

**ASHRAE Guideline 24-2008, Ventilation and Indoor Air Quality in Low-Rise Residential Buildings**, is the companion guideline to **ANSI/ASHRAE Standard 62.2-2007, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings**. Guideline 24 provides information on achieving good IAQ that goes beyond the requirements contained in **Standard 62.2** by providing explanatory and educational material not included in the code-intended standard.

A revision of the guideline is currently open for public comment until **May 11, 2015**. To learn more or to comment, visit: [www.ashrae.org/standardsactions](http://www.ashrae.org/standardsactions)

This marks the first time since **2008** that the document is being revised, according to chair **Paul Francisco**. The revision includes a range of changes intended to provide clarification to previous guidance and update the Guideline for current understand-

ing.

The guideline, which was written by the committee responsible for maintaining **Standard 62.2**, includes information on envelope and system design, material selection, commissioning and installation, and operation and maintenance.

## REGISTRATION OPEN FOR FREE ASHRAE WEBCAST ON EXISTING BUILDING COMMISSIONING

**ATLANTA** – Registration for the **2015 ASHRAE Webcast, "New Tomorrows for Today's Buildings: Existing Building Commissioning,"** is now open at [www.ashrae.org/webcast](http://www.ashrae.org/webcast). There is no fee for registration.

The webcast, offered by **ASHRAE's Chapter Technology Transfer Committee (CTTC)**, is broadcast live on **April 23, 2015**, from **1-4 p.m. EDT**. The webcast features industry experts who will define the benefits of existing building commissioning for the environment, occupants, operations staff and overall ownership costs.

*"The presenters will distinguish between new building commissioning, existing building commissioning and retro-commissioning," Nathan Hart, chair of the CTTC Webcast Ad Hoc Committee, said. "Viewers will learn how to manage the commissioning process to minimize the impact on building functions and occupants, and how to integrate elements of existing*

*building commissioning into the operation and maintenance staff's daily activities. The focus will be on maximizing energy efficiency and return on investment."*

The webcast presenters are:

- **Bob Baker**, Fellow ASHRAE, OPMP, managing director, BBJ Consulting, Riverview, Fla.
- **Jim Vallort**, Fellow ASHRAE, practice leader, Environmental Systems Design Inc., Chicago, Ill.
- **Ron Wilkinson**, P.E., CPMP, commissioning authority, Wilkinson Commissioning Management, Seattle, Wash.

The webcast has been approved for **three** Learning Units (LUs) by the **American Institute of Architects (AIA)** and **three** Continuing Education (CEUs) by **GBCI**. The state of **New York** also recognizes **AIA** course approval.

For more information on the webcast program continuing education credits and **ASHRAE** resources related to existing building commissioning, visit [www.ashrae.org/webcast](http://www.ashrae.org/webcast)

Not able to view the live webcast? Be sure to register and take advantage of the free **Webcast On Demand**. The Webcast On Demand allows you to view all or part of the webcast online, as many times as you like, until **May 8, 2015**. Registration is required to view the Webcast On Demand.

## OVC Program Survey

Every year we strive to put together and deliver a series of programs that are interesting, informative and of high value to you, the membership. There is a lot of planning that goes into arranging the program topics and feedback from the membership is critical to ensure that everyone's expectations are met. We will be meeting over the next few months to develop the program for the **2015-16 program year**.

We have put together a program sur-

vey that we encourage all chapter members to fill out. The survey takes a few minutes and gives you the opportunity to identify programs that would be of particular interest to you. The survey also includes space for you to add program ideas that you may have if they already aren't on the list. The electronic on-line survey can be reached via the web link below.

This survey provides a chance for you to vote regarding topics that you



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would like to see brought to the **Ottawa Valley Chapter**. Thank you very much for your help in preparing next year's program agenda.

<https://www.surveymonkey.com/s/3QQN6JS>



# Free ASHRAE Webinar

Each spring **ASHRAE CTTC** presents a **free 3-hour webinar** to members. Attendees may be awarded **three (3) Professional Development Hours** (PDHs). The webcast program has also been approved for **three (3) AIA Learning Units** (LUs) and **three (3) GBCI Continuing Education Hours** (CEs).

Please join the **Ottawa Valley Chapter** as we host this webinar. In

<https://www.ashrae.org/membership--conferences/webcasts>

order to ensure that enough seating is available for everyone, please contact **Daniel Redmond** at [redmond-dan@mmm.ca](mailto:redmond-dan@mmm.ca) if you plan to attend. More details regarding the venue will be provided once we know how many people are interested in attending.

For more information please feel free to contact **Daniel Redmond** or visit the **Society CTTC** webpage at the link below.



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Brought to you by the ASHRAE Chapter Technology Transfer Committee

## New Tomorrows for Today's Buildings: Existing Building Commissioning

April 23, 2015 | 1-4pm EDT



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



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ASHRAE



James K. Vallort,  
Fellow ASHRAE



Ronald J. Wilkinson,  
P.E., CPMP

This webcast will feature industry experts who will define the benefits of existing building commissioning for the environment, occupants, operations staff, and overall ownership costs. Viewers will be able to recognize the varied scopes of commissioning, when to apply comprehensive versus focused commissioning, and best practices in existing building commissioning specifications & contracting.

### Earn PDHs!

Attend this FREE webcast program and you may be awarded three Professional Development Hours (PDHs).



# Nominations Announcement

Hello everyone,

On behalf of the **2015/2016 Nominating Committee**, I am pleased to announce the slate for the **Executive and Board of Governors** that will provide leadership for the **Ottawa Valley Chapter** for the upcoming year.

Executive President:  
**Georges Maamari**

President-Elect:  
**Abbey Saunders**

Treasurer:  
**Adam Graham**

Secretary:  
**Dan Redmond**

Past-President:  
**Steve Moons**

Board of Governors:  
**Richard Cameron**  
**Aaron Dobson**  
**Chris Frauley**  
**Chris Fudge**  
**Adam Moons**

Please join me in offering congratulations to this committed group; I'm sure you will agree that the Chapter is in good hands going forward and that you will continue to offer your full support to this leadership group and Chapter activities.

I would also like to recognize the members of this year's Nominating Committee for their contributions and insight over the last several weeks as we reached important decisions regarding the future of our Chapter.



**Committee Chair**  
**Robert Kilpatrick**  
2014-2015  
Nominations & Awards Chair  
**NRC-CNRC**

E-mail:  
[Robert.Kilpatrick@nrc-cnrc.gc.ca](mailto:Robert.Kilpatrick@nrc-cnrc.gc.ca)

**Chris Frauley**  
**Cathy Godin**  
**Georges Maamari**  
**Steve Moons**

Yours sincerely,  
**Bob Kilpatrick**

**DANNY DILLON, GSC**  
PRESIDENT  
1481 Cyrville Road  
Ottawa, ON K1B 3L7  
Ph. 613.741.7731  
Cell. 613.880.8504  
Fax. 613.741.9962  
danny@dilfo.com  
DILFO.COM

**Goodkey, Weedmark & Associates Limited**  
Consulting Engineers  
50 years 1956 - 2006  
**Ross McIntyre, P.Eng.**  
Principal, Designated Consultant, Mechanical Engineer  
1688 Woodward Dr., Ottawa, ON, Canada, K2C 3R8  
Telephone: 613-727-5111 ext. 239 Fax: 613-727-5115  
rossmc@gwal.com

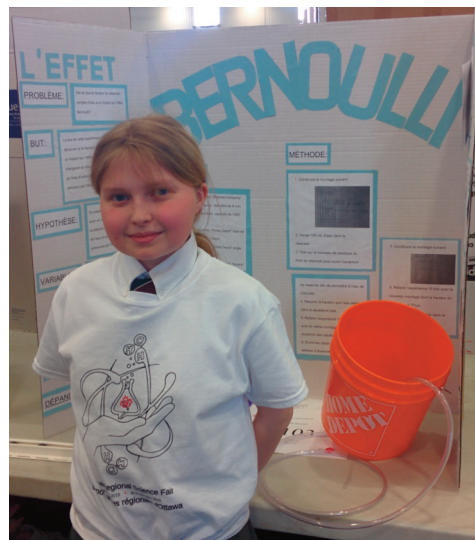
**RODDERS CAS**  
Building System Surveys / Design & Retrofit  
AutoCad System Design & Customization  
**Roderic S. Potter** Principal  
3 Rochester Street  
Carleton Place  
ON K7C 2P9  
www.rodgers.com  
info@rodgers.com  
cell 613.266.2134

## Student Activities

Last month **Richard Cameron**, **Jayson Bursill** (Carleton Student Chapter) and myself were able to go down to Carleton to give out three awards at the **Annual Ottawa Regional Science Fair**, which had projects from students grades 7 to 12. There were over 200 projects, and this year there were some great submissions that we were able to visit and talk with the students about. **ASHRAE OVC** gives out three awards of \$200 to projects that relate to the industry.

**Mur Vert** (Green Wall) by **Justin Mahfoud** and **Michael Saber** – built a modular green wall that used a silica based product instead of soil that absorbed and released water for the plants.

**L'Effet Bernoulli** (The Bernoulli Effect) by **Clara Von Maltzahn** – did experiments on the inverse effect of pressure and velocity of the Bernoulli equation with water in a bucket and pip configuration.



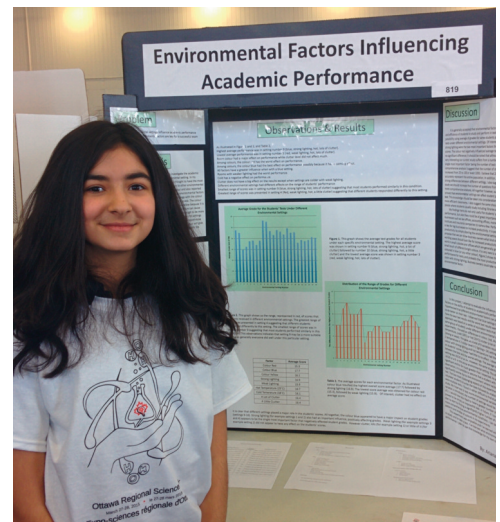
**Environmental Factors Influencing Academic Performance** by **Ariana Golshani** – through surveys researched what effected room occupants, including temperature, lighting and colours.

The awards were given out on **Saturday March 28th**.



**Committee Chair**  
**Adrienne Mitani**  
2014-2015  
Student Activity Chair  
**Smith and Andersen**

E-mail:  
[Adrienne.Mitani@smithandandersen.com](mailto:Adrienne.Mitani@smithandandersen.com)





# Table Top Display

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 **50+** people.

The featured table-tops for the **April**

**OVC** meeting are **Advantix Systems** presented by **Trane** and **Twa Panels** presented by **Total HVAC**.

Remember to drop by and check out the displays, and thank you for your continued support of our **ASHRAE** Ottawa Valley Chapter.



**Committee Chair**

**Andrew Klassen**

2014-2015

Table Top Committee Chair

**Trane Canada ULC**

E-mail: [andrew.klassen@trane.com](mailto:andrew.klassen@trane.com)



**When cutting corners is a GOOD thing.**

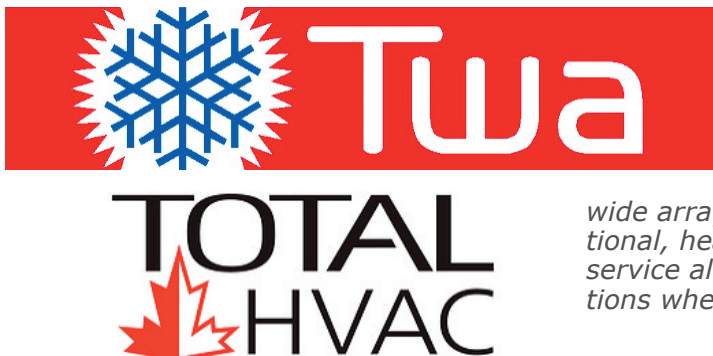
**Advantix Systems'** patented, air conditioning systems dehumidify and cool the air simultaneously, eliminating the need to overcool the air to control humidity. This thermodynamic short-cut takes you directly to the comfort zone, cutting your air conditioning workload by half or more.



**TRANE**

**HVAC air quality is better, naturally**

As air passes through our natural, brine solution, it is naturally cleansed of particulates, microorganisms and odors in just one pass. Without condensation points anywhere in the systems, chances of mold or bacteria forming in the system or clogging the coils are non-existent, delivering optimal Indoor Air Quality for any environment.



**Twa Panels** is located in Alberta, Canada dealing in the manufacturing and distribution of the Frenger line of Radiant Heating and Cooling Products. Twa's linear panels, modular panels, and chilled beams are an energy and cost saving method of heating and cooling that can significantly reduce building operating costs. They offer a wide array of products to match almost any commercial, institutional, health care, or public assembly project. A free customization service allows for an almost unlimited number of possible configurations when assembling various assortments of extrusions.

## Smith + Andersen

**David Eastwood** P.Eng.  
Principal  
613 2301186 ext. 403  
[david.eastwood@smithandandersen.com](mailto:david.eastwood@smithandandersen.com)

1600 Carling Avenue Suite 530 Ottawa Ontario K1Z 1G3  
t 613 2301186 f 613 2302598 [smithandandersen.com](http://smithandandersen.com)

Ottawa Vancouver Toronto Edmonton Dubai Calgary



**David Yin**, P.Eng., LEED AP  
Senior Associate, Buildings Engineering

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phone: (613) 725-5573  
cell: (613) 323-4964 fax: (613) 722-2799  
[david.yin@stantec.com](mailto:david.yin@stantec.com)



**Frank Picchione**  
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[www.tamcodampers.com](http://www.tamcodampers.com)

TAMCO locations in Ottawa, Ontario and Nashville, Tennessee.

# Membership Update

Given the number of responsibilities that you juggle on a daily basis, joining a professional organization may not be one of your top priorities. After all, what businessperson has time for more meetings and activities? But such thinking can cause you to miss out on the numerous benefits that membership in a professional association offers. Whether you join an industry-specific group, a special-focus organization (for women entrepreneurs or small-business owners, for example), a neighborhood based Merchants' association or the local chapter of a national trade organization, you'll make valuable professional contacts and gain access a wealth of useful information.

## Basic Benefits

**Member Benefit:** Although each organization has its own unique advantages, most professional associations offer some or all of the following basic benefits:

**Networking opportunities:** When you join a professional organization, you'll deepen existing business relationships and make new contacts on a regular basis. Such networking goes beyond the exchange of business cards – as you attend periodic meetings, become active on a committee or take a prominent leadership role, you'll forge lasting ties with others who have common professional interests and similar business concerns. These relationships will be a rich, ongoing source of inspiration and ideas.

**Education:** Many professional associations offer their members the chance to update their knowledge of business and trade basics or acquire new skills through seminars, workshops, break-out sessions at conferences and online courses. Typical

subject matter can run the gamut from tax tips and small business financing to advice about hiring and staff management.

**Free or discounted publications:** Membership in many groups includes a free subscription to the organization's magazine. Some associations also offer their members free publications and discounts on CDs, journals, videos/DVDs and other materials.

**Conferences and seminars:** Members are often given priority registration for their organization's convention and may receive discounts on conference fees or special rates on related expenses, such as hotel reservations and car rentals.

## Beyond the Basics

**Support systems:** Members of professional associations can often take advantage of formal coaching or mentoring relationships with more experienced business people who provide guidance and useful insights. Even on an informal basis, such relationships can be a source of answers and solutions when you're facing a challenging situation in your business. At the very least, the feeling that you have a support network behind you can boost your confidence when problems arise.

**Political clout:** Large national organizations often have committees to track federal and state legislative developments that could have an impact on their specific business or industry. Such organizations have a significant political presence that far exceeds that of individual members. Joining this type of professional organization enables you to tap into the group's political influence and resources.



## Committee Chair

**Adam Moons**

2014-2015  
Membership  
Committee Chair  
**Walmar Ventilation  
Products**

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

**Civic leadership:** As an individual businessperson, you may not have the time or resources to sponsor a charitable event, partner with an educational institution or otherwise participate in community activities. But if your professional organization is active in civic and philanthropic ventures, you can become involved in many worthwhile projects. Associations contribute to their communities in a variety of ways, from providing scholarships and hosting career days for students to supporting important charitable causes. Joining a professional organization is beneficial for your own professional development and the future of your business. The connections you'll make, the resources made available to you and the ideas and advice you'll discover represent an outstanding return on what amounts to a modest, manageable investment of time, money and effort. It could turn out to be one of the best things you could do for yourself and your business.

I would also like to welcome the following new members:

**Mr Andrew Gavin Duncan**  
**Mr Daniel Heffner**  
**Mr Raymond Boulter**  
**Mr Scott Plewis**

Looking forward to seeing you at the next **ASHRAE** event!

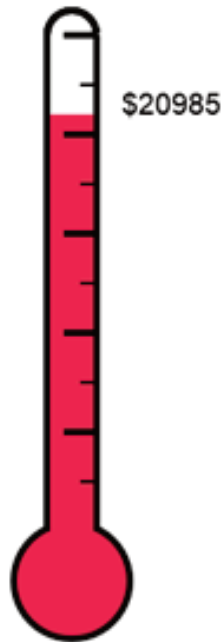


# 2014-2015 Research Promotion Campaign

Our calling campaign is officially underway and most of you will be receiving a phone call in the upcoming weeks from one of our committee members, so please have your check book ready! We are in the last few months of our campaign, and are still shy of our chapter objective. As of April 1st, we have raised over **\$20,900** towards our campaign goal, which means we are at **83%** of our **\$25,000** objective. With the amazing support that we have received to date, we are right on track of meeting our RP campaign objective. I would like to thank our donors to date for the **2014-2015 RP Campaign**.

At the **March** meeting, we raffled off 4 tickets to the **Ottawa vs St-Jose** game that were generously donated by **Trane Canada – Ottawa**. These tickets helped raise \$470 towards **ASHRAE Research**.

Target: \$25000



**President-Elect**  
**Georges Maamari**  
2014-2015  
Research Promotion  
**BPA**

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

Thank you for your continued support of **ASHRAE Research Canada!**

**Georges Maamari**, P.Eng  
President-Elect and RP Chair  
613-596-6454  
1960 Robertson Rd. Suite 100  
Ottawa, Ontario, K2H 5B9

Honor Roll Donor	Major Donor Antique	Major Donor Bronze	Major Donor Silver	Associate Donor
Rod Potter	Engineered Air	SK Sheet Metal	Goodkey Weedmark & Associates	Nortec Humidity Ltd.
Steve Moons	Airtron	Total HVAC		
Georges Maamari	Mastron Mechanical	Mechanical Contractor Association		Longhill Energy
Abbey Saunders	Burchill Mechanical			
Adam Graham	JP2G	BPA inc.		
Gemma Kerr	Parsons Refrigeration	Isotherm Commissioning		
Mike Swayne	Distech HVAC	Trane Canada - Ottawa		
Chris Fudge	Siemens	Walmar Ventilation Products		
Richard Albert	RJ McKee Engineering			
Robert Kilpatrick	Dilfo Mechanical	C&S Heating		
Patrick St-Onge		HTS Engineering		
T.A. Morrison & Co.				
Andrew Douma				
T.P. Crawford				
John Schermerhorn				

# Job Posting 2015

## Job Posting 2015-002: Intermediate Mechanical Engineer - OTTAWA

### Overview

**Jp2g Consultants Inc.** is a multi-discipline **Consulting Engineering** firm providing services in municipal infrastructure and building services. Our firm currently requires a qualified Intermediate Mechanical Engineer in our Ottawa Office. Jp2g provides opportunities for work on a wide variety of projects, with emphasis on educational, federal, commercial, and institutional clients. Focus of mechanical work includes; building HVAC, plumbing, fire protection, energy management, investigations and reports.

### Responsibilities

- Undertake feasibilities studies.
- Assist Section Manager to develop engineering concepts, concept reports and construction budgets.
- Attend client meetings as directed by Section Manager.
- Attend co-ordination meetings with design team.
- Review codes and obtain preliminary approvals where appropriate.
- Assign tasks to Designer and CAD operator; supervise delegated tasks for content and completion in assigned hours.
- Complete heating, cooling and piping calculations and design of mechanical systems for building projects.
- Complete layout of plumbing, piping and ductwork through complex facilities integrating multiple mechanical spaces and systems.
- Co-ordinate mechanical systems installation requirements with other design disciplines.
- Prepare documents to supplement drawings in project bid packages
- Review contract documents prior to tender for completeness.
- Ensure proper coordination of documents with the other design disciplines.
- Perform contract administration.
- Prepare schedule of tasks required to complete project, man hours to perform tasks and critical data required for performance.
- Mentor junior staff
- Any other tasks assigned by Section Manager required to assist in the continued success of the firm.

### Qualifications

- Bachelor's Degree in Mechanical Engineering.
- 7 - 10 years of experience in the field of mechanical building services – fire protection, plumbing, HVAC and controls.
- Professional Engineer, Licensed in the Province of Ontario.
- Strong ability to work independently and in a complex environment, dealing with multiple projects and clients.
- Sound communications skills (oral and written) as demonstrated through client and staff relations.
- Demonstrate experience working with other consultants and contractors, and coordination of major projects.
- Knowledge of OBC, NBC, ASHRAE, CSA and NFPA standards.
- Familiar with HVAC software (such as Carrier HAP and Trane Trace) and NMS specifications.
- Strong sense of urgency and ability to prioritize tasks.
- Excellent problem solving and decision-making skills.
- Basic CADD experience.
- LEED certification / Experience implementing sustainable design (LEED projects) is considered an asset.
- Experience in project management is considered an asset.

### Compensation and Benefits

- Competitive compensation package commensurate with experience and based on industry standards
- Friday afternoon's off year-round (36 hour/week)
- Group RSP planning opportunities
- Group benefits plan
- Professional development and advancement opportunities
- Shareholder opportunities
- An Equal Opportunity Employer

Please submit hard copy resumes in confidence to:

**David Nguyen**, P.Eng, ing,  
Ottawa Office Manager  
Jp2g Consultants Inc.  
1150 Morrison Drive, Suite 410  
Ottawa, Ontario, K2H 8S9

Or Email to [Ottawa@jp2g.com](mailto:Ottawa@jp2g.com)



**Jp2g Consultants Inc.**

**ENGINEERS • PLANNERS • PROJECT MANAGERS**

1150 Morrison Drive, Suite 410

Ottawa, ON K2H 8S9

T 613-828-7800, F 613-828-2600, [www.jp2g.com](http://www.jp2g.com)

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



# ASHRAE Golf Tournament

Although it doesn't feel like it... It's that time of year again, time to book your team for the **ASHRAE Golf Tournament!**

The **2015 ASHRAE Golf Tournament** is scheduled for **Tuesday June 16th, 2015** at the **Marshes Golf Club**.

This year's tournament will be returning to The Marshes Golf Course. Cost for this year's event is still to be determined, but will include golf with a cart and dinner following the tournament. Also included is access to the driving range, short game area and the locker room facilities. Participants may also choose to attend the dinner only and sponsorship opportunities will be available.

One added benefit of the Marshes is the opportunity to access Marchwood, the executive nine hole course on the same property. For those **ASHRAE** members who are not avid golfers but would still like a taste of

golf here is your chance. If you are interested in a quick nine holes of Par 3 golf on the short course followed by dinner with the other participants please let us know. We would love to have the extra participants attend the event.

Full tournament details will also be sent directly to all of last year's Registered Participants. Spots for returning teams will be held until **May 1st 2015**, after which time the field will be opened up to new teams. Registrations will only be confirmed upon return of the completed Registration Form and payment through the On Line Payment System.

The registration form also extends an invitation to the Membership to become involved as Hole Sponsors. Our Hole Sponsorship for ASHRAE Research Program has been wonderfully supported by our Chapter Membership in the past and continued support is appreciated for this year's event. One of the beneficiaries of



## Committee Chair

**Andrew Douma**  
2014-2015  
Special Events Chair  
**Total HVAC**

E-mail: [andrewd@totalhvac.com](mailto:andrewd@totalhvac.com)

the tournament is **ASHRAE Research** and accordingly the more successful we are in this effort the more we will gain as a community. As always we expect a quick sellout so don't delay in returning your responses and getting your game in shape.

Should you have any questions about the Tournament or Hole Sponsorship please contact **Andrew Douma** at [andrewd@totalhvac.com](mailto:andrewd@totalhvac.com) or by phone at **613.723.4611**.

Sincerely,

Your **2015 ASHRAE Golf Tournament Organizing Committee**

**BAXTEC**  
Mechanical Services  
Your energy savings partner

**MARK CSIFFARY P.ENG.**  
President • [mark@baxtec.com](mailto:mark@baxtec.com)

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Cell: 613-229-8277 [www.baxtec.com](http://www.baxtec.com)  
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Daniel Chouinard G. S. C.  
VP of Operations  
Cell: (613) 978-2334

**S&R MECHANICAL**  
Division of 681281 Ontario Inc.

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[dchouinard@srmech.com](mailto:dchouinard@srmech.com)

**SIEMENS** Infrastructure and Cities

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Building Technologies Division  
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Cell: (613) 614-7165  
[atma.anantram@siemens.com](mailto:atma.anantram@siemens.com)

**Atma Anantram P. Eng.**  
Account Executive



Join us at **ASHRAE's 2015 Annual Conference**  
June 27–July 1 | Atlanta, Georgia | [www.ashrae.org/atlanta](http://www.ashrae.org/atlanta)

Special first time attendee registration fee available!

Join ASHRAE in its hometown of Atlanta! Take advantage of the opportunity to discuss and examine the latest topics in the building industry, such as high performing buildings and modeling, through the technical program; participate in technical tours; attend ASHRAE Learning Institute courses; sit for an ASHRAE certification exam; and earn professional development credits.

**Conference Technical Program**—includes the third annual Research Summit, which brings together researchers to present and discuss the latest research. Tracks focus on the design, construction and operation of high performance buildings, specifically advanced design guidance, modeling, operation and optimization, and indoor air quality. Laboratories, refrigeration, fundamentals, applications, systems and equipment round out the program.

**Networking**—share ideas and learn from fellow members from your hometown and around the world.

**ASHRAE Learning Institute**—choose from two full-day professional development seminars and seven half-day short courses to stay current on new HVAC&R technologies.

**ASHRAE Certification**—to gain a competitive edge, apply by June 9 to sit for an ASHRAE Certification exam.



# ASME & IEEE Engineering Career Fair

The working world is a unique entity. One entwined in their knowledge of engineering, their engineering education, their networks and their projects may find that, of all things, immersing themselves in the engineering profession could seem the most difficult thing of all. If you can relate to this train of thought then on behalf of the American Society of Mechanical Engineers (ASME) Ontario Section, Ryerson University, Institute of Electrical and Electronics Engineers (IEEE) Toronto Section, Society of Tribologists and Lubrication Engineers (STLE) Toronto Section, Professional Engineers of Ontario (PEO), Woman In Engineering (WIE) Ryerson we're proud to offer you a helping hand in changing that!

On **May 14th, 2015** from **10am to 3pm** EST at **Ryerson University**, we are proud to present the **ASME & IEEE Engineering Career Fair!**

If you're a budding engineer looking to kick off their career by landing that dream entry position or are an experienced engineering graduate looking for a change in professional scenery, this is your opportunity. The career fair will play host to numerous engineering companies, organizations and societies of all fields (i.e. aerospace, biomedical, chemical, civil, computer, electrical, industrial and mechanical engineering) looking to recruit the right candidate. Polish that resume, prepare that cover letter and do your research because that candidate could be you!

In collaboration with Ryerson University, STLE Toronto, PEO York, PEO Hamilton-Burlington, WIE Ryerson and numerous other organizations and engineering companies; ASME Ontario and IEEE Toronto are in a joint effort to provide job opportunities for the thousands of expected attending engineering professionals, broadening from all engineering fields.

Organizations that have shown interest thus far include:

- Government of Canada
- ACCES Employment.
- Aerotek
- Amec Foster Wheeler
- Bombardier Aerospace
- DCL International
- Dillon Consulting Limited
- Forge Consulting Group
- Investors Group
- Lincoln Electric
- Litens Automotive Group
- Magnet
- Medonyx
- Naylor Building Partnerships
- Noranco Inc
- Oasys Healthcare
- PerkinElmer Health Sciences Canada, Inc.
- Pratt & Whitney Canada
- Proto3000 - 3D Engineering Solutions
- RCM Technologies
- Rockwell Automation
- Roevin Engineering and Technical, a division of Adecco
- Roland DGA
- Stantec
- Toronto Rehabilitation Institute
- University Health Network
- YDelay

Registration is completely free as is attending the ASME & IEEE Engineering Career Fair in person. As it stands the list of interested hosting companies will continue to grow and final confirmation updates will be provided to our registered attendees as we approach the final date of the fair.

Please Register at <http://asme-ieee-engineering-career-fair.eventbrite.com/?aff=ashraeottawa>

Our team and its cooperating companies are delighted to bring this career-changing opportunity to your attention but if you're seeking to land that available job position then the last and only step required of you is attending! If interested, we look forward to seeing you there on May 14th.

Thank you and have a great day!



# 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  
Non-member: \$250/month

## 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 online or for payment and other information contact **Abbey Saunders** at [abbey.saunders@nrc-cnrc.gc.ca](mailto:abbey.saunders@nrc-cnrc.gc.ca).

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.



## President & CRC Delegate

**Steve Moons**

2014-2015

OVC President

**Total HVAC**

E-mail: [stevem@totalhvac.com](mailto:stevem@totalhvac.com)

## 2014-2015

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Steve Moons

### President-Elect

Georges Maamari

### Treasurer

Abbey Saunders

### Secretary

Adam Graham

### Governors

Richard Cameron

Chris Fudge

Aaron Dobson

Chris Frauley

Daniel Redmond

### Past President

Roderic Potter

## Committees

### Attendance

Sandy Taylor

### Audit

Stephen Lynch

### Capital Communiqué

Richard Cameron

Celine Baribeau

### CRC

Steve Moons

### CTTC

Daniel Redmond

### Grassroots

### Government Affairs

Kashyap Desai

### Financial

Sandy Taylor

### Greeter

Miker Swayne

### History

Aaron Dobson

### Membership

### Promotion

Adam Moons

### Nominations &

### Awards

Robert Kilpatrick

### PAOE

Georges Maamari

### Program

Brian Tohana

Atma Anantram

### Research

### Promotion

Georges Maamari

### Roster

Georges Maamari

### Special Events

Chris Healey

Andrew Douma

### Student

### Activities

Adrienne Mitani

### Table Top

Andrew Klassen

### YEA

Joe Della Valle

### Website

Roderic Potter

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Tel: 416-251-8990 • Watts: 1-800-613-3789 • Fax: 416-251-8900  
[www.wesmechtech.com](http://www.wesmechtech.com)

Joseph McCallion, C.E.T.  
President  
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RANDY CAVILL, C.E.T.  
President

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