Capital Communiqué
2015 May Edition

ASHRAE Ottawa Valley Chapter

DATE: **Tuesday May 26, 2015** *(Note 4th Tuesday of the month)*
Social: 17:30, Dinner: 18:30, Program: 19:30

LOCATION: Algonquin College Restaurant International
1385 Woodroffe Ave, Building H, Room H100

PROGRAM: **Transforming Older Buildings into High-Performance Facilities**

SPEAKER: **James L. Newman, CEM, LEED®AP, OPMP, BEAP, FESD**

SPEAKER BIO:

Jim Newman is the Owner/Managing Partner of **Newman Consulting Group, LLC**. He is a trainer for **ASHRAE Energy Standard 90.1** and has trained hundreds of architects, engineers, code officials, and contractors on the use of the Standard. He was a member of the committee that developed ASHRAE's Energy Policy Document for 2008 and a Provisional Energy Auditor for the pilot program of the **ASHRAE Building Energy Quotient** (bEQ).

Jim is a member of the **Energy and Environment Committee** of **BOMA International**, Chair of the **Sustainability Committee** of the **Detroit BOMA** chapter, a past Board member of the **Detroit Regional Chapter** (DRC) of the **U.S. Green Building Council** (USGBC) and of the **Detroit ASHRAE** chapter. Jim is Past Chair of the **Public Policy Committee of USGBC-Detroit Regional Chapter** (DRC), and makes presentations to municipalities on how they can Green their cities and attract Green development.

Jim has published numerous papers on **Indoor Air Quality**, **Energy Conservation** and **USGBC** and **LEED**, and is an internationally recognized speaker on these issues and on Green Design and Efficient Operating and Maintenance practices. His most recent book, co-authored with two attorneys, **Current Critical Issues in Environmental Law – Green Buildings and Sustainable Development**, was published by Lexis Nexis in June 2008.

The May program meeting 'Transforming Older Buildings into High-Performance Facilities' has been approved for 1.5 CE hours by GBCL and 1.5 LUs by AIA. We will be preparing certificates to send to attendees that wish to receive the credits. Attendees will be required to indicate their request at the door when they sign in and certificates will be emailed to them afterwards.

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

President & CRC Delegate
Steve Moons
2014-2015
OVC President
Total HVAC
E-mail: *Stevem@totalhvac.com*

May marks our last monthly meeting for the **2014-15 ASHRAE year**, and I'm amazed at how quickly my presidential year has flown by. It seems very recent that I was finishing off my speech and taking over the May meeting, but here we are one year later. This month's theme is **History**, as it fittingly has always been at our last meeting of the year. Our local chapter is very lucky to have had **Rod Potter** as our historian for many years, and through his efforts we have much of our history digitized and easily accessible. **Aaron Dobson** has ably taken the torch for the past few years, and we now have all our monthly meetings recorded and available on our website, something very few chapters can boast. We are fortunate to have many of our past presidents attending the May meeting. It is great to see so many familiar faces, and realize how many are still active in the industry and in **ASHRAE**.

To tie into our theme of **History**, the evening presentation is on **Transforming Older Buildings into High-Performance Facilities**. Our presenter is an **ASHRAE** Distinguished Lecturer, **Jim Newman**. Jim has a long history with ASHRAE, including training ASHRAE members on **Standard 90.1**, and serving as a member for the committee that developed the bEQ program. His talk should enlighten us as to how to extend the life of our buildings to maximum effect.

I will take many things away with me from my presidential year, and there are some things specifically that I feel we as a chapter can be very proud of. I've said many times that I believe there are two things that are of utmost importance to our chapter. First is to put on a truly top quality program, offering a good mix of strong technical topics and other events that offer our membership a real benefit to attending the meetings. I think with our factory tour of the **Nortec** facility, our panel discussion on seismic considerations locally, and the other technical talks we had, we succeeded in this regard. The feedbacks we've received from our e-surveys have confirmed this. The second item of importance is to ensure strong support for our annual **Research Promotion** campaign. Due to the outstanding leadership of **Georges Maamari**, and a dedicated group of committee members, we are on track to significantly surpass our goal. This is purely a reflection on our chapter's generosity, both from a personal and a business perspective, and it shows that the **OVC** cares about continuing **ASHRAE**'s industry leading development of the arts and science of our business.

We were able to encourage our membership to update their biographies, and as an extension, will have several of our membership qualify for **Chapter and Regional Awards of Merit**, which will be confirmed at this summer's **CRC** and handed out early next chapter year. We were able to offer several technical sessions on Mentorship, which were well received, as well as having **Chris Frauley** and others in the industry provide guidance to the **ASHRAE Student Design Competition**, marking another successful submission.

Lastly, we were able to plan and begin the funding for an **ASHRAE OVC Scholarship**, that once it is fully funded will provide an ongoing source of funds to worthy local recipients, helping more young people find a career in our industry.

Going forward, I cannot state strongly enough how much I feel this chapter is in very capable hands. Next year's executive are a confident, competent group. We have a strong **Board of Governors**, and more volunteers for our many committees than we've had for some time. I want to say thanks to all who helped in this past year, and ask you to please give your full support to **Georges Maamari** in the coming year. I'm looking forward to the growth of the chapter, and great things to come. I'll see you all at **ASHRAE**. Thank you.

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 6:15PM 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. Several students were in attendance and we would like to thank everyone that donated a student meal to help make this possible. **Adam Moons** welcomed new members.

Andrew Douma announced that the **ASHRAE golf tournament** would be taking place at the **Marshes** on June 16th. Cost is $700 per team and there is currently a waiting list. OVC is actively looking for sponsors. Please contact Andrew if you are interested.

Georges Maamari introduced the theme of research and 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 84% to date. Thank you to all that have made a donation to support **ASHRAE Research**.

Bob Kilpatrick then announced the desire to close nominations for the Secretary and Board of Governor positions. Bob announced that those on the executive would remain and advance with the new Secretary being **Daniel Redmond**. Most current board members are to remain with the addition of **Adam Moons** in the place of our past president **Rod Potter**. **Cathy Godin** voted to close nominations with a second from **Don Weekes**. **Steve Moons** followed with 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 for the upcoming **ASHRAE** year.

The **Advantix** table top display was introduced by **Jeremy Strong** of **Trane** and the **TWA** table top display was then introduced by **Andrew Douma** of **Total HVAC**.

During the social hour, the research promotion committee raffled off 4 tickets to an **Ottawa Redblacks** game. These tickets were graciously donated by **Walmar** and raised $370. **Mike Swayne** was the lucky winner.

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

Next, the evening program commenced at around 7:30PM with **Darren Alexander** of **TWA** introducing the evening topic. The presentation was on active chilled beams and their design applications.

Mr. Alexander started the presentation off by reviewing the basics of how active chilled beams function, followed by construction details and air and water side considerations. He discussed the common design pitfalls and design limitations before going into detail on how this is to be taken into account in design later in the presentation. A summary of the presentation is given below:

1) How Active Beams Function?

Static pressure forms in plenum and drives primary air through a series of nozzles. Conversion of static pressure to velocity pressure creates a low pressure zone that draws room return air through a coil and into the airstream supplied to space. Primary air is typically at or around 55-57F, with supply air around 65-66F.

2) Active Beam Overview

A 7" diameter air duct and ½" CW line typical of a chilled beam is comparable in capacity to all air solution with an 18"x18" duct. This may allow for smaller ceiling plenum height requirements. Ventilation effectiveness in cooling is close to unity (1). Standard beam dimensions are 1ft or 2ft width, in 2ft length increments. The discharge acts similarly to a linear slot diffuser.

3) Air Side Information (Primary Air – Overview)

Primary air must meet all ventilation requirements (Min OA, Remove 100% latent load, Induce enough room air to meet space sensible loads). Benefits include possible use of higher SAT, decreased AHU & duct size, and decreased fan energy.

Secretary
Adam Graham
2014-2015
OVC Secretary
HTS Ottawa
E-mail: *adam.graham@hts.com*

4) Air Side Information (Primary Air – Psychrometrics)

Critical conditions required for application of active chilled beam is that space dewpoint must be less than entering water temperature. This is to eliminate the potential for condensation. Primary air treatment must maintain reasonable dew point control by meeting 100% of latent load under peak design conditions. Care should be taken to limit over-cooling. There are limitations in heating with chilled beams. One should design to maintain SAT < 85F to prevent thermocline.

5) Air Side Information (Air Velocities & Thermal Comfort)

Less risk of drafts due to higher velocities of chilled beams since supply temperature is much closer to room air temperature.

6) Air Side Information (Plenum Air Pressure Drop)

Higher plenum pressure leads to higher airflow Lower limit of plenum pressure is approx. 0.3" to create a coanda effect. Design is typically around 0.6-0.8" to allow turndown.

7) Air Side Information (Acoustics)

Lower pressure and smaller nozzles are preferred if noise is a concern.

8) Air Side Information (Air Side Controls)

Occupancy valves may solve issue of overcooling.

9) Water Side Information (Overview)

a. Coil responsible for majority of sensible loads (cooling and heating)
b. Design requires: water flow rate,

circuit pressure drop, temperatures (EWT, LWT)
c. Increase in pump size and pump energy
i. Fan energy vs. pump energy = potential net energy savings

10) Water Side Information (Water Design Parameters)

Typical entering water temperatures in cooling are 56-62F. Water supply temperature should be higher than the space dew-point. Secondary CHWS required for DOAS unit and chilled beams.

11) Water Side Information (Piping Design)

a. Water system pressure control: Recommend pressure independent flow control device and reverse return piping.
b. Parallel piping: Each beam should see same supply water temps
c. Valves: Recommend 2 position not modulating valves

12) Water Side Information (Common Design Pitfalls)

a. Three water side design concerns
i. Using glycol as the operating fluid
ii. Not considering pressure independent flow control valves
iii. Valve and entrapped air noise. Add air vents liberally.

13) Capacity vs. Air Volume

There is more increase in capacity from plenum pressure increase than increased water flow.

14) Active Beam Potential Benefits

a. Significant fan energy savings
b. Increased air circulation with high thermal comfort
c. Smaller AHU & ductwork
d. Low maintenance requirements
e. Can be integrated with other energy saving systems
f. Water side free cooling may be an option
g. Spaces may be zoned
i. Increased comfort
ii. Reduced energy consumption
iii. Individual space temperature control
h. Quick response
i. Low to reasonable acoustics

15) Active Beam Limitations

a. Potential for higher first cost
b. Increase in pump energy (small compared to typical fan energy savings)
c. Limited air-side free cooling
d. Limited VAV modulating range
e. High importance for building humidity control in cooling
i. Dehumidification at the AHU is required
ii. May require a building envelope upgrade
iii. May require more sophisticated controls for humidity control
iv. May not be acceptable for all spaces, based on latent loads

16) Applications

a. Spaces with high sensible and low latent loads – Ideal
b. Spaces with high sensible and high latent loads – May be suitable with careful examination
c. Spaces with low sensible and high latent loads – Not recommended

Upon completion of the presentation, Darren opened up the floor to questions from the audience. There was great participation with approximately 10 minutes of interesting Q&A. President **Steve Moons** then presented Mr. Alexander with a gift on behalf of the chapter and thanked him for his time.

The meeting was adjourned at 8:35PM.

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 survey 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 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

Governor
Daniel Redmond
2014-2015
Chapter Technology Transfer Chair
MMM Group
E-mail: *RedmondDan@mmm.ca*

News Update

REGISTRATION OPEN FOR ASHRAE 2015 ANNUAL CONFERENCE, ATLANTA

ATLANTA – **ASHRAE** has a warm southern welcome as the **2015 Annual Conference** comes to the Society's hometown of **Atlanta**, **Ga**. The Conference takes place June 27-July 1, at the **Atlanta Hilton**.

To register or for more information, visit www.ashrae.org/atlanta.

The Conference Technical Program features a strong focus on the design, construction and operation of high performance buildings, refrigeration and the annual Research Summit Laboratories, refrigeration, fundamentals, applications, systems and equipment round out the program.

ASHRAE Learning Institute (ALI) offers two professional development seminars and seven half-day short courses. Included is a new course on understanding **Standard 189.1-2014** for high performance buildings, in addition to updates to **Standards 90.1**, **Energy Standard for Buildings Except Low-Rise Residential Buildings**, and **202, Commissioning Process for Buildings and Systems**. Training topics include commissioning, building energy audits, operation and maintenance, humidity control problems, healthcare HVAC&R systems and ground source heat pumps. For more information, visit: www.ashrae.org/atlantacourses.

Apply by June 9 at: www.ashrae.org/atlantaexams to sit for one of six ASHRAE certification exams: **Building Energy Assessment Professional** (BEAP), **Building Energy Modeling Professional** (BEMP), **Commissioning Process Management Professional** (CPMP), **Healthcare Facility Design Professional** (HFDP), **High-Performance Building Design Professional** (HBDP) and **Operations & Performance Management Professional** (OPMP).

Technical tours at the Conference include **Southface Eco Office**, **Ponce City Market**, **ASHRAE Headquarters**, **Georgia Institute of Technology** and the **Fox Theatre**. General tours include a city tour, **CNN**, historic city of **Roswell**, the **Buckhead area of Atlanta**, the **Atlanta Botanical Garden** and the **World of Coca Cola**.

The keynote speaker is **Gene Kranz**, the legendary **NASA** flight control director who led the effort to save **Apollo 13** in 1970. He speaks at the opening Plenary Session, held Saturday, June 27. Registration is not required to attend the Session, which also features the Honors and Awards program.

COMMISSIONING, LABORATORIES HIGHLIGHTED IN ASHRAE 2015 ANNUAL CONFERENCE

ATLANTA – The importance of building and system commissioning is highlighted in the Technical Program at the **ASHRAE 2015 Annual Conference**.

The Conference takes place June 27-July 1, at the **Atlanta Hilton**, **Atlanta, Ga**. To register or for more information, visit: www.ashrae.org/atlanta.

The Conference Technical Program features a strong focus on the design, construction and operation of high performance buildings, refrigeration and the annual Research Summit. Laboratories, refrigeration, fundamentals, applications, systems and equipment round out the program.

The program features some 100 sessions, with more than 300 presenters and 104 paper presentations. It begins Sunday, June 28, and concludes Wednesday, July 1.

The most popular track, in terms of sessions submitted and sessions scheduled, is the Building Operation, Maintenance and Optimization/Commissioning Track, with 18 sessions.

"*This represents almost 20 percent of the sessions at the conference and undoubtedly reflects the degree to which operation, maintenance and commissioning are now recognized as the most cost-effective way to save utility dollars and also as key factors in keeping buildings comfortable,*" David Claridge, *who is the Conference chair, said. "Another indicator of the broad interest in these topics is sponsorship of the 14 seminar/workshop and forum sessions in this track by 17 different technical committees and task groups. Attendees will learn the latest in remote fault detection, big data analytics, instrumentation for efficient operation, load forecasting and more traditional topics such as tips on steam systems."*

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2014-2015
Chapter Technology Transfer Chair
MMM Group
E-mail: *RedmondDan@mmm.ca*

The Conference also includes the first Laboratory Mini-Conference with eight sessions that resulted from a coordinated effort on the part of technical committee (TC) 9.10, Laboratory Systems, and related TCs to put together a comprehensive and high quality set of lab-focused programs, according to Claridge.

These sessions cover major laboratory design issues including disease prevention, biocontainment, ventilation upgrades, lab safety and high performance for energy efficiency and low water usage. The Mini-Conference provides an unusual opportunity for attendees to simultaneously get a broad overview of laboratory HVAC issues as well as the latest on important laboratory HVAC issues.

Other tracks in the **Technical Program** are:

- High Performance Buildings
- HVAC&R Fundamentals and Applications
- HVAC&R Systems and Equipment
- Indoor Air Quality
- Modeling Throughout the Building Life Cycle
- Moving Advanced Energy Design Guidance to the Mainstream
- Research Summit

PAPERS SOUGHT FOR ASHRAE SECOND INTERNATIONAL CONFERENCE ON EFFICIENT BUILDING DESIGN

ATLANTA – Papers are being sought for a conference focused on the latest research and development in the field of building design and system

technologies.

Organized by **American University of Beirut**, **ASHRAE**, the **ASHRAE Lebanese Chapter**, and the **Munib R. and Angela Masri Institute for Energy and Natural Resources**, the 2nd International Conference on Efficient Building Design – Materials and HVAC Equipment Technologies takes place September 22–23, 2016, in **Beirut**, **Lebanon**.

A call for abstracts (400 words in length) opens June 15, 2015. Abstracts are due September 15, 2015. If accepted, papers are due February 15, 2016. Authors of accepted papers are responsible for travel and registration. Hotel accommodations are free for authors presenting papers. Submittal information can be found at www.ashrae.org/Beirut2016.

The objective of the conference is to present advanced research on the topics of better building design, adapted to the Arab region, given the hot humid climate (Gulf), and the moderate humid Mediterranean climate, according to **Nesreen Ghaddar**, conference chair.

"*This conference will serve as a platform for presenting advanced research in these topics with the intent to highlight emerging new HVAC technologies with renewables integration, optimal ventilation and indoor air quality and adapting alternative refrigerants to warmer climates,*" she said. "*Specifically, direction is sought on which HVAC technologies best utilize solar PV power, what techniques to use for separate sensible and latent heat management, and how to develop hybrid systems that combine mechanical and mixed ventilation methods.*"

Topics include but are not limited to:

- Sustainable Building Designs
- Energy Efficiency Standards
- Building Materials
- Indoor Air Quality Systems
- HVAC and Different Technologies
- Solar Heating and Cooling for the Built Environment
- Energy Efficient Hybrids
- Systems for Cooling and Water Production for Hot Humid Climates

The papers will undergo a peer-review conducted by **ASHRAE** and overseen by the scientific committee.

ASHRAE Technology Award

Congratulations are due to the **Ottawa Valley Chapter** recipients of **ASHRAE Chapter Technology Awards**. The **ASHRAE Technology Awards** are to recognize outstanding achievement in the application of heating refrigerating and air-conditioning technology. Members that win at the chapter level are able to submit their projects at the regional level competition and winners of the regional competition are able to compete at the society level.

This year we had five chapter members win awards in the following categories:

Governor
Daniel Redmond
2014-2015
Chapter Technology Transfer Chair
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Category	Entrant	Project
Commercial Builindgs, New	Olson Quintero	150 Elgin Street, Performance Court, Commissioning
Educational Facilites, New	Georges Maamari	Wakefield Elementary School
Health Care Facilites, New	Frank Bann	St. Patrick's Home
Health Care Facilities, Existing	Georges Maamari	Buckingham Hospital Hemodialysis
Residential	Frank Bann	Wesboro Station Phase I, II & III

Please congratulate the winners on their achievement and please also consider submitting a project in next year's competition.

Membership Update

Committee Chair

Adam Moons

2014-2015 Membership Committee Chair

Walmar Ventilation Products

E-mail: *adam@walmar.net*

Greetings Everyone!

Just a reminder to review and update your profile on the ashrae.org website. We have been fortunate to be able to review and recognize a number of very dedicated OVC members this year because of our record keeping. As a chapter we greatly appreciate the efforts that you all make, and wish not to lose track of contributions because of clerical error. Please let me know if you require any assistance inputting information.

I would also like to welcome the following new members:

Mr. Andrei Bronipolsky
Mr. Shariffe Ghadban
Mr. Cody Grant
Ms. Patricia Biernat
Ms. Isabelle Fernandez

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

Student Activities

Committee Chair

Adrianne Mitani

2014-2015 Student Activity Chair

Smith and Andersen

E-mail:
Adrianne.Mitani@smithandandersen.com

Students are now finished with their exams but the **Algonquin ASRHAE** project have submitted their project. Congratulations to **Jacob Hough**, **Brian Travis**, **Vinicius Vigolo**, along with **Akil Al-Yaccoubi** and **Kai Bryans**. Also our thanks goes out to the local **ASHRAE** members who have taken their time to mentor the students and teach them about our industry including **Chris Frauley** for mentoring the team and A**ndrew Douma** (**TotalHVAC**) and **Peter Shaw-Wood** (**Applied Energy Systems**) for helping the students select mechanical equipment.

Young Engineers in ASHRAE

Committee Chair

Joe Della Valle

2014-2015

YEA Chair

Walmar Ventilation

E-mail: joedellavalle@walmar.net

Hi **YEA**!

I would really like to thank the **ASHRAE** members who attended this year's events, and the **OVC** as a whole for the support and funding needed to make these events possible.

I am very happy with the steps made this year to continue building the **YEA** community and I intend to add more events to the calendar next year.

With the great support from fellow members, it was an easy decision to continue as the **YEA Chair** for the upcoming 2015-2016 year.

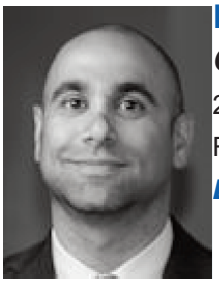
Have a great summer and see you next fall.

2014-2015 Research Promotion Campaign

We are in the final stretch of our **Research Promotion Campaign**, and we are just short or our $25,000 objective. If you haven't received a phone call yet, you should be receiving one shortly, so please have your check book ready!

At the April meeting, we raffled off 2 tickets to the **Ottawa RedBlacks** home opener vs BC Lions, which were generously donated by **Walmar Ventilation Products**. These tickets helped raise $370 towards ASHRAE Research.

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**.



President-Elect
Georges Maamari
2014-2015
Research Promotion
BPA

E-mail: *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		Total HVAC		
Georges Maamari	Mastron Mechanical	Mechanical Contractor Association	Walmar Ventilation Products	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	Airtron		
Richard Albert	RJ McKee Engineering	C&S Heating		
Robert Kilpatrick	Dilfo Mechanical	HTS Engineering		
Patrick St-Onge	Methot Controls Inc.			
T.A. Morrison & Co.	Aaron Dobson			
Andrew Douma	Miriton			
T.P. Crawford	JL Richards			
John Schermerhorn				
ProEng				
Christopher Frauley				
Aerodynamics & Associated Testing Services				

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-top for the May **OVC** meeting is **Mitsubishi VRF** presented by **DigelAir.**

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

Mitsubishi VRF

City Multi VRF systems provide a sophisticated yet flexible and energy efficient heating and cooling solution for any size project. It is the world first and only 2-pipe system that offers simultaneous heating and cooling via heat recovery. One City Multi condensing unit can be connected with up to 50 indoor units, circulating refrigerant between all the units through 2 small diameter refrigerant pipes.

With a wide range of products, such the new Hyper Heat Inverter (H2I) system, capable of 80% heating output at-25C outdoor temperature, modular outdoor units and geothermal compatible units, it's only natural to find City Multi at the forefront of the HVAC industry.

DigelAir HVAC SUPPLY & HYDRONIC SPECIALTIES

DigelAir

DigelAir HVAC Supply is a distributor of quality cooling and heating equipment. The main focus at DigelAir has always been on superior customer service. We pride ourselves on our personal touch, unwavering customer service, and our ability to help our customers select the equipment that best matches their needs. We will even go on site with our customers to review the application. If we don't sell the right fit, in many cases we can suggest where to get it, even if it's one of our competitor's products.

Family owned and operated since 1967, DigelAir is a member of The Better Business Bureau of Ottawa-Carleton.

ASHRAE Golf Tournament

The **ASHRAE Golf Tournament** is one month away!

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. Response for this year's tournament has been very good, but there are still openings for **Four Team Openings Left**. Anybody interested in the last remaining teams are asked to contact Andrew Douma at: andrewd@totalhvac.com. Cost for this year's event is $700 and includes the cost of 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.

There are also plenty of Sponsorship Opportunities available. A sponsorship provides your company with a sign placed at either a green or tee on the course displaying your company name. In addition, your company will be mentioned during the dinner portion of the event and a display will be provided at each table. The cost of a sponsorship is only $200 and is a great way to support **ASHRAE Research** while also getting your company name in front of 150 golfing members of the **Ottawa Mechanical Construction Industry**.

One added benefit of the Marshes is the opportunity to access **Marchwood**, the executive nine hole course on the same property. For those 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.

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

Sincerely,

Your **2015 ASHRAE Golf Tournament Organizing Committee**

Committee Chair

Andrew Douma

2014-2015

Special Events Chair

Total HVAC

E-mail: andrewd@totalhvac.com

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.

President & CRC Delegate
Steve Moons
2014-2015
OVC President
Total HVAC

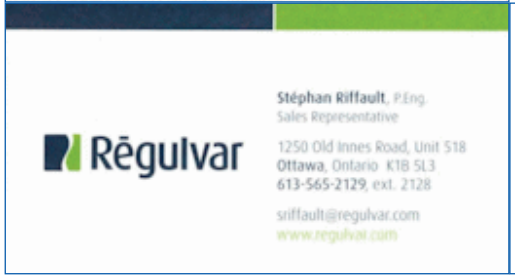
E-mail: *stevem@totalhvac.com*

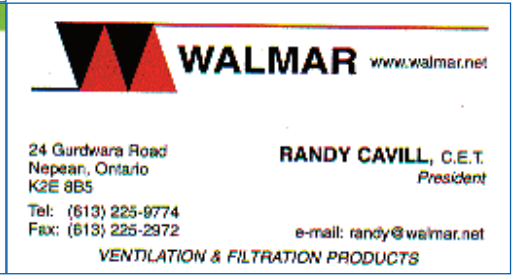
Rates for career opportunities ads are as follows:
Chapter Member: $50/month
Non-member: $250/month

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*.

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.





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