



ASHRAE Ottawa Valley Chapter

- DATE:** Tuesday September 20, 2016
Social: 17:30, Dinner: 18:30, Program: 19:30
- LOCATION:** The Prescott, 379 Preston St., Basement Room
- THEME:** Membership
- PROGRAM:** Canadiana Quiz 2016
- SUMMARY:**

If you have attended one of these quizzes before, you will remember that there is an emphasis on music, which can be Loud at Times – so be ready! There will be 6 rounds of 7 questions. If you cannot see the significance of that, get out your history book!

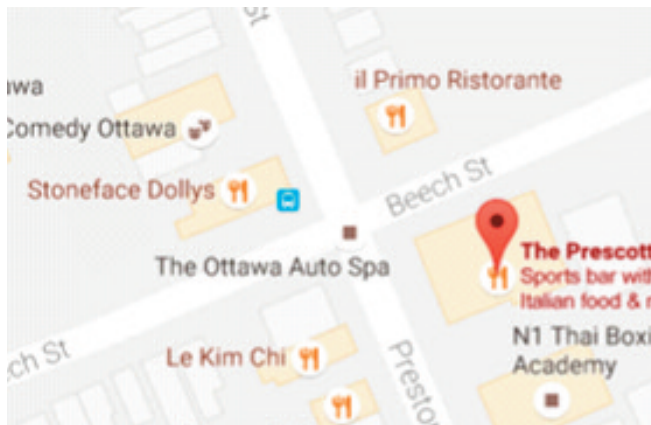
There will be 4 categories of question:

1. **Name That Tune & Band (4 per round)**
Repeating snippet – 10 points for correct answer
Bonus – 5 points for year of release
2. **Film (1 per round)**
Wait for question, worth 10 points
Bonus – 5 points if present
3. **In the News (1 per round)**
Wait for question, worth 10 points
Bonus – 5 points if present
4. **OVC Blast! (1 per round)**
Various music clips, film, news, all from the same year
Wait until end to answer question, worth 10 points



As with previous quizzes, if you want to answer, you need to STAND UP – cos we don't have a fancy buzzer system. Our own Don Weekes has volunteered to be the referee for this – no arguments! We look forward to seeing you there, and hope this will be a magic start to the new ASHRAE OVC Year!

HOST: Rod Potter, ASHRAE OVC Member



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

Another **ASHRAE** season is upon us and I'd like to welcome everyone to this year's edition. I hope everyone has enjoyed their summer and is returning, or joining us for the first time, refreshed and excited about the upcoming year.

I am honoured to be serving as OVC President this year and I hope that together with the Executive, Board of Governors (BOG), committee chairs and all our dedicated volunteers, we will meet your expectations providing a program that is enjoyable and educational.

The program committee, led by **Jacob Hough**, has done an outstanding job assembling a collection of great program topics, technical tours, seminars and social events. We are currently finalizing some outstanding details, but please refer to Jacob's article later in this communique for a preview of what is to come. We encourage everyone to participate in our various events throughout the year.

We are very pleased to start this year with a **Canadiana Trivia Quiz**,

three years in the making by our very own OVC member, and past-President **Rod Potter**. The meeting will take place at the **Prescott**. More details about the upcoming meeting can be found in the program section of this communique.

Our theme this month is **Membership**, and we are fortunate to have our Membership Promotion committee chair, **Celine Baribeau**, returning for a 2nd year. She will be working hard to ensure members take advantage of the resources membership provides, as well as welcoming new members and assisting them with integration into our chapter.

The participation of numerous volunteers is what makes our chapter so successful, and for all those who volunteer for **ASHRAE** or elsewhere, thank you. It is well documented that most individuals who do not actively volunteer when asked why they do not volunteer answer with some variation of "I was never asked". On behalf of the OVC Executive, BOG, committee chairs and members I ask each of you to consider active



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

E-mail: abbey.saunders@nrc-cnrc.gc.ca

volunteer participation in our chapter. I encourage anyone thinking about getting involved to contact myself, a BOG member or a committee chair for more information.

To register for the **September 20th** program meeting please go to our website at www.ashrae.ottawa.on.ca and select the **September meeting** link.

In conclusion, don't forget to purchase your meal plan for the upcoming year, and I hope to see many of you at the Prescott for some fun!

Sincerely,
Abbey Saunders
2016-2017 OVC President

This Year's Program at Glance

We're excited to have this year's program in place! Check out the schedule below for dates, speakers and topics:

Sept 20th: **Rod Potter, Rodders CAS**
Canadiana Quiz Social Night

Oct 18th: **Dan Int-Hout, Krueger**
"You Can't Afford Discomfort"

Nov 15th: **Liam O'Brien, Carleton University**
Using Carleton as a Living Lab

Jan 17th: **Eli Howard**
IAQ Guidelines for Occupied Buildings Under Construction

Feb 21st: **TBD**

Mar 21st: **Greg Scrivener, Cold Dynamics**
Canadian Refrigeration Code CSA B52

Apr 18th: **Paul Lebbin, NRC**
Aircraft Ventilation & Cabin Comfort Facility

May 16th: **TBD**



Program
Jacob Hough
2016-2017 Program Committee Chair
Total HVAC

E-mail: jacobh@totalhvac.com

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RANDY CAVILL, C.E.T.
President

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Stroke Play Tournament

Ladies and Gentlemen,

We are proud to continue the **ASHRAE Stroke Play Golf Championship** again this year.

The intent of this golf tournament is to encourage the fellowship and camaraderie that **ASHRAE** is known for. To that end, golfers of all abilities are welcome to participate. That said, we will play the game as per RCGA rules in a stroke play format. There will be no flights or handicaps applied, and the lowest score on the day will win. There will be no Mulligans, do-overs, foot-wedges or gimmies, and a handout outlining some of the rules to remember will be provided. As this is a purely social event, there will be no auctions, prizes or sponsorship, just an

enjoyable, competitive round of golf.

The tournament will be held on **Friday, Sept. 16th, 2016** at **Eagle Creek Golf Club**. The registration will be done on-line, via the link below. Registration will start at 9:30am; first tee time will be at 11:00am. We will assign the participants into foursomes, teeing off in succession. Registrant's final tee times will be dependant on the total number of entrants. We were able to secure a preferred rate at this course, so your registration fee of **\$85** includes green fees and cart. Space is limited to **28** golfers, first come, first served. There is no formal meal afterwards, but typically the scores are added and trophy awarded in the club house after the round.



Committee Chair
Steve Moons
2016-2017
Special Events
Total HVAC

E-mail: stevem@totalhvac.com

Please register on-line through the Simple Signup website, link below. Participants will be contacted before the tournament to be given their tee time and last minute details. If you have any questions, or need more information, please contact

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Link: <https://ashraeottawa.simplesignup.ca/en/1772/index.php?m=eventSummary>

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YEA

Hi YEA!

At the end of August I attended the **Canadian Regional Conference** where I completed a seminar with other **YEA** chairs from **Region 2**.

Between the group we had a recap of last year and discussed what we need to accomplish for this year's events. It was a very positive experience and

provided me with valuable feedback from other chapters on what made them successful.

This year I plan to incorporate Student Activates and Membership Promotion into YEA events.

I will sending out information for the first YEA event shortly, it will be scheduled for middle of **October**.



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

E-mail: joedellavalle@walmar.net

Thank you,
Joe Della Valle

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TAMCO locations in Ottawa, Ontario and Nashville, Tennessee.

Student Activities

Hi All,

My name is **Peter Shaw-Wood** and I'm very happy to introduce myself as the student activities co-chair for the **Ottawa Valley Chapter** (OVC). This role in the OVC is something I'm extremely excited about as I myself was once a student, whose academics and then professional career has been shaped by a former OVC student activities chair and the chapter thereafter. My first exposure to this organization and industry occurred in second year during a presentation from an **ASHRAE** distinguished lecturer. Having very little understanding of the industry beforehand, and after hearing the DL speak I investigated **ASHRAE** a bit further and decided to take on the student design competition as my final year project from a list of 15 or so other options. Although the decision was difficult to make, as there were a lot of unknowns, the main reason I was confident with my decision to proceed with the **ASHRAE** project was the encouragement from the OVC student activities chair who explained the depth of local industry involvement and support we would

receive. The design competition developed extremely well, and the support we received from experienced and influential local professionals not only met, but exceeded in spades our expectations. The design competition results were a fantastic finish I'm proud of to this day, which provided the four (4) of us on the project team with some excellent opportunities, and employment the day after graduation.

After attending a very productive **CRC** workshop in **Moncton** where I heard about what other chapters are doing in regards to student activities and integrating students into their local chapters, I am now highly informed on what has been successful, and have the full support from our capable and experienced student activities RCV, **Benjamin Oliver**. I look forward to rallying the local student chapters through September with some speakers from the OVC and a visit from **ASHRAE DL Dan Int-Hout** to the **Carleton** branch in **October**. We intend for the Algonquin, UOttawa, Carleton, CEGEP and Queen's Chapters to continue developing with the current



Committee Chair

Peter Shaw-Wood

2016-2017

OVC Student Activities

Co-chair

Applied Energy

E-mail: peter@applied-energy.ca

branch heads; whom we have reached out to and will meet with to review ongoing plans, and reiterate our support in making their student branches as successful as possible. Part of the support will include showcasing available **ASHRAE** scholarships, Smart start program, career fair and integration to the chapter thought the membership chair and YEA. Currently we are investigating the feasibility of a couple plant tours and a site visit to a larger new construction project. The hope is to impress the students with the scale of the equipment in place and showcase to them an active jobsite with a focus on safety. The STEM in K-12 will be promoted with the local schools as we reach out to local principals to establish how we can best showcase our industry to the kids.

Looking forward to a great year!

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Membership Update

Hi Everyone,

I hope everyone has enjoyed a wonderful summer. I am happy to say that I will be returning as membership promotion chair once again for another year. I recently attended the CRC in Moncton and will also be attending the upcoming Centralized Training this weekend. These workshops are very valuable and allow me to be fully equipped

and ready for a new exciting membership year.

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

Thank you all for the continued support and participation in your local **ASHRAE** chapter. Looking forward to



Committee Chair

Celine Baribeau

2016-2017

Membership

Committee Chair

BPA

E-mail: cbaribeau@bpa.ca

seeing everyone at the first **ASHRAE** event of the 2016-2017 season in September!

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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 upcoming ASHRAE year.

Please contract **Adam Moons**



Governor
Adam Moons

2016-2017

Table Top Chair

Walmar Ventilation
Products

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

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>

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Using the MagnetoCaloric Effect in Air Conditioning Systems to Improve Coefficient of Performance (COP)



John Hammond
PE, MCIBSE,
C.Eng

When a permanent magnet is placed near to materials like iron, cobalt, nickel, lanthanum, gadolinium, a heating 'Curie' effect occurs raising their temperature by 1C or more, depending on the combination of these materials. When the permanent magnet is moved away, a cooling effect occurs as the molecules realign back to their random arrangement.

Making the composite materials above into small spheres (about 250 micron) and arranging them into numerous layers allows just water or glycol to be pumped around the spheres to take advantage of both the heating and cooling effects, with temperature changes in the region of 35C suitable for the HVAC industry. Units operate at slow speeds of 1 to 3 Hz (cycles per second) and change-over valves enable the heating and cooling effects to be separated. This enables, for instance, the cooling effect to be used in a cooling coil and the heating effect to be rejected via a condenser water circuit.

The formula for heating/cooling effect is $E = \text{mass} \times \text{specific heat} \times \Delta T$ (temp change), similar or better than the energy required for refrigerant based A/C systems. Therefore, the energy usage is directly related to outdoor temperatures similar to the current refrigerants used.

In practice the MagnetoCaloric systems operate by rotating permanent magnets past some of the composite materials above, producing this Curie phenomena, usually at slow speeds of about 1 to 3 Hz rather than about 50 to 60Hz for refrigerant based systems. These are therefore much quieter, with less moving parts, and likely requiring less maintenance than refrigerant-based units, and are certainly less environmentally damaging.

For several years a French company, Cooltech Applications, have produced a range of magnetic refrigeration (MR) units 200W to 700W (0.057 to 0.2 tons) which they claim save up to 50% on energy usage with a cold to hot range up to about 56C or to suit applications. Astronautics/BASF have produced a demonstration MR wine cooler possibly using combinations of likely La, Fe, Si, H which they showed in Las Vegas in 2015, and claim it saves 35% in energy compared to a refrigerant based unit.

In 2020 GE are bringing a Magnetic freezer/frig to market using possibly Ni, Mn with about 62 cold to hot layers each producing about 0.9C temperature change, and a total freezer temp to outdoor temperature of about 56C. The physical size of their MR unit is only about 10cm diameter and about 15cm long. They

E-mail: johnalan.hammond@cox.net

show this on a web film and claim it saves about 20% electrical energy and just uses antifreeze (due to below freezing temperatures) and not the current global warming refrigerants.

Companies like Toshiba who have more than 15 years MR knowledge in combination with their HVAC knowledge should be able to bring an MR air conditioning unit to market within the next 5 years if they take the initiative. It would increase their profits and prestige as well as help the world's environment. Companies like Trane or Carrier could team up with GE or Astronautics to produce MR products for the HVAC industry within 5 years. These units could have a COP of 7 to 10 compared to only about 6.5 for the best Centrifugal Chiller. Pressure should be put on these companies by the HVAC industry to bring these MR units to the HVAC market soon and help reduce power station CO2 emissions and refrigerant global warming.

This article represents the personal views, opinions, and knowledge of John Hammond. It should not be construed in any way as representing the viewpoint of ASHRAE Society, or the ASHRAE Ottawa Valley Chapter.

 <p>DANNY DILLON, GSC PRESIDENT</p> <p>1481 Cyrville Road Ottawa, ON K1B 3L7 Ph. 613.741.7731 Cell. 613.890.8504 Fax. 613.741.9962 danny@dilfo.com</p> <p>DILFO.COM</p> 	 <p>Goodkey, Weedmark & Associates Limited Consulting Engineers</p>  <p>Ross McIntyre, P.Eng. Principal, Designated Consultant, Mechanical Engineer</p> <p>1688 Woodward Dr., Ottawa, ON, Canada, K2G 3R8 Telephone: 613-727-5111 ext. 239 Fax: 613-727-5115 rossmc@gwal.com</p>	<p>RODDERS CAS</p> <p>Building System Surveys / Design & Retrofit AutoCad System Design & Customization</p>  <p>Roderic S. Potter Principal</p> <p>3 Rochester Street Carleton Place ON K7C 2P9</p> <p>www.rodgers.com info@rodgers.com cell 613.266.2134</p> 
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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) 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

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 rodl@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
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Student

Activities

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Joe Della Valle

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