



Ottawa Valley Chapter

DATE: Tuesday November 15, 2016

Social: 17:30, Dinner: 18:30, Program: 19:30

LOCATION: Centurion Conference & Event Center

170 Colonnade Rd S, Nepean, ON

THEME: Research Promotion

PROGRAM: Carleton University as a living lab: where research and operations meet

Over the past four years, Liam O'Brien and his team of students has worked closely with Carleton and Facilities Management and Planning to develop novel research projects while also saving energy and improving occupant comfort. This presentation will shed some highlights on key projects including:

- 1) Visualizing building energy use: from zone to campus level
- 2) Development and field testing of occupant- and building-learning controls
- 3) Extensive occupant monitoring campaigns to develop occupant behaviour models
- 4) BIM from design to operations
- 5) Health Sciences Building as a teaching resource

HOST: Liam (William) O'Brien, PhD, PEng

Liam (William) O'Brien, PhD, PEng is an associate professor and program advisor for Carleton University's Architectural Conservation and Sustainability Engineering program and the principal investigator of the Human Building Interaction Lab in Ottawa, Canada. The HBI Lab is a team of about 10 researchers with diverse backgrounds in civil, mechanical, and electrical engineering, architecture, and psychology. Prof. O'Brien is researching design processes and developing novel controls for high-performance buildings, with a specialization in understanding, modelling, and designing for occupant behaviour. He is currently a subtask co-leader for the 4-year International Energy Agency Annex 66 on "Definition and Simulation of Occupant Behaviour in Buildings".

Since starting at Carleton University in 2011, he has taught four courses including Green Building Design and Indoor Environmental Quality. Dr. O'Brien has authored or co-authored over seventy refereed conference and journal publications and co-edited a book on net-zero energy buildings. He is heavily involved in the building design and research community, including being the Faculty Advisor for the Carleton ASHRAE student chapter, and President of the Canadian Chapter of the International Building Performance Simulation Association (IBPSA-Canada). He has organized multiple academic conferences, including chairing SimAUD 2013 and eSim 2014, and numerous educational workshops aimed at graduate students and professionals. He has given many presentations to local and international researchers, architects, and engineers and presented "Occupant-Conscious Buildings" at TEDxRideau Canal in 2012. He has won several prestigious awards including the Carleton Research Achievement Award and the Ontario Early Researcher Award.

Space is limited so please register online at the link below

Chapter Members: \$45.00 Guests: \$65.00

Student Members: \$30.00 Life or Fellow: \$45.00

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

President's Message

As cold weather blankets the Ottawa Valley we are reminded of the ultimate sacrifice that so many Canadians have made in the past as part of the Canadian Armed Forces. On **November 11**, Remembrance Day, we honour and remember our Canadian Forces veterans who have served Canada during war-time, armed conflict and peace. I encourage everyone to attend the annual Remembrance Day National Ceremony and share in a moment of silence in remembrance.

Although November marks our last **ASHRAE** evening meeting before we break for Christmas, we have several other exciting ASHRAE events scheduled to look forward to. We are hosting our first **Technical Session** of the year prior to the program meeting. Our speaker **Liam O'Brien** will be presenting a technical session and I strongly encourage everyone, especially those new to our industry to attend. Our **Bowling Social** is scheduled to take place **November 16** at Merivale Bowling Centre and is bound to be a blast. Please see Adam Moons' article for more details on how to register if you haven't already. In addition to the November Technical Session and Bowling Social, on **November 24** we will host our first

Seminar of the year. A very large part of what we strive to achieve each year is offer evening program meetings and seminars that are of interest to our membership. I believe we've succeeded with our first seminar, **CAN/CSA B139** presented by TSSA, and expect a strong turnout. Please refer to the website for additional details and link to registration.

With the snow flying and the temperature plummeting, it is hard not to think Christmas is just around the corner. Many of us have holiday traditions of donating to charities and organizations to help support those in need. In addition to these charitable donations, several of our Ottawa Valley Chapter members and local businesses donate to our annual **ASHRAE Research Promotion Campaign**. To recognize these individuals and organizations who donated to the 2015-2016 ASHRAE Research Campaign, our RP Chair Adam Graham will be hosting a **Donor Recognition** event at the upcoming November meeting. ASHRAE Research is an organization that impacts all our careers, and we encourage everyone, new or returning donors, to invest in ASHRAE Research to support



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

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continued improvements for our industry.

Please note that our November meeting venue has changed. Our November meeting will be held at the **Centurion Convention & Events Centre** on Colonnade Road. Our speaker Mr. Liam O'Brien will present on Using Carleton as a Living Lab: Where Research and Operations Meet. To register for the November program meeting please go to our website at www.ashrae.ottawa.on.ca and select the November meeting link. Remember to pre-register early.

I look forward to seeing many of you at our next meeting, and although this is considerably early, given it is my last message of 2016, I wish everyone a safe and happy holiday season with family and friends.

Sincerely,
Abbey Saunders
2016-2017 OVC President

Seresco Tour Wrap up

The plant tour to **Seresco Technologies Inc** on **October 18th** was well delivered and well received. The presentation and tour was done by **Mark Palitza**, Regional Sales manager at Seresco. The first half of the tour was a PowerPoint presentation showing the pitfalls of poor design, and the basics of how to properly de-


sign a pool dehumidification system. The second half was a tour of the facilities, including the offices and manufacturing floor. The plant was clean, well lit, and is designed to be safe and comfortable. We were shown the different areas where the smaller and larger units were built, and given basic information on their level of


construction and design theory. In all, it was an interesting and informative tour.

Thank you,

Troy Roberge
ASHRAE Member
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What You Missed

The second meeting of the 2016/2017 ASHRAE season was held at the **Algonquin College Restaurant International**. Attendance at the meeting was fifty one, thirty nine of which were members, eleven guests and two students. The theme for the evening was student activities. The meeting was preceded by a tour of the **Seresco Manufacturing Facility**.

The meeting was called to order by **President Abbey Saunders** at 18:30. President Saunders introduced Board of Governors and the Executive. **Treasurer Daniel Redmond** introduced the guests for the evening. While **Membership Promotion Chair Celine Baribeau** introduced the new members to the Ottawa chapter.

Student Activities Chair Peter Shaw-Wood talked about the interest in the HVAC industry by students and that HVAC is often overlooked. Peter is trying to set up different tours of mechanical spaces and active construction sites through the year.

YEA Chair Joe Della Valle discussed upcoming YEA events including the event scheduled for **Thursday October 20th**.

President Abbey Saunders announced the raffle for the Research Promotion campaign would be for the Senators / Predators game on **November 17th**. The tickets were generously donated by **HTS**. **President Elect Adam Graham** has created a calling committee who will be making phone calls to promote the fundraising campaign. The Ottawa ASHRAE OVC research promotion campaign appreciates your continued support.

Rod Lancefield of **HTS** discussed

his table top. **Emco Germany** is a manufacturer of high induction diffusers. A few examples were on hand.

President Abbey Saunders welcomed **Clark Campbell** to discuss the Seresco tour that occurred before the program meeting.

President Abbey Saunders talked about the awards presented to the Ottawa Valley Chapter at the recent **CRC** in Moncton.

Following dinner President Abbey Saunders called upon **Adam Moons** to discuss the annual ASHRAE bowling tournament. The event will take place **November 16th** at **Merivale Lanes**. Registration is now open online. Adam Moons drew the research promotion raffle ticket. The lucky winner was **Ryan Dickinson**.

President Abbey Saunders introduced the speaker for the evening; ASHRAE Distinguished Lecturer **Mr. Dan Int-Hout**, Chief Engineer at Krueger, to discuss comfort and why we cannot afford not having it.

Mr. Int-Hout began his presentation by discussing elements normally considered in a building mechanical system design. He suggested a designer consider first cost, energy cost, occupant salary cost and life cycle cost. A comparison was made of construction costs, energy costs and salary costs for mechanical systems. Energy cost as well as first cost, paled in comparison to actual occupant salary costs. It was suggested one of the main goals of ASHRAE is to provide comfortable spaces.

BOMA once reported that the #1 reason for not renewing a lease was dissatisfaction with the thermal environment. Several factors were covered that lead to uncomfortable



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spaces relating to the assumptions made at the beginning of the design process. Loads are often not what was assumed during design. Energy calculation software often do not account for emerging technologies. To make things worse building operators often do not understand how the system is supposed to operate. The result of the above is, poor occupant comfort, poor acoustics and often higher energy bills.

Occupants have higher rates of absenteeism in spaces with poor environment controls. Lack of acoustical privacy (too quiet) reduces ability to concentrate. Inability of management to provide comfort reduces employee morale.

Often the source of the problem is use of rules of thumb. Nearly all interior designs assume 1 CFM/ft². In reality most interior office spaces require 0.3 CFM/ft². The problem here can be attributed to the fact that many engineers "have never been sued for too much capacity". ASHRAE Research Project 1515 proved that high occupant satisfaction can be achieved at 0.25 CFM/ft².

Proper air outlet selection is important to ensure occupant comfort. The ASHRAE handbook suggests selecting diffusers to achieve an 80% ADPI at all air flow rates. The new **ASHRAE standard 55** user's manual says compliance can be proved using ADPI.

Making overhead heating work (and

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meet code). People will do what they need to do to make themselves comfortable, like install heaters under their desks. Overhead heating is the most popular means of heating an office space. Maximum temperature difference between supply air and room temperature for effective mixing when heating is 15 degrees F (90 deg F discharge). 150 fpm must reach 4.5 feet from the floor or less. **ASHRAE 62.1** requires that ventilation be increased by 25% if the above rules are not followed. Installing a return slot above the window to carry away solar heat gain is good practice.

There are several standards used in predicting and controlling acoustics. **AHRI 885** is the acoustical application standard. **AHRI 880** is the air terminal test standard. AHRI 260 applies to ducted equipment except air terminals. **ASHRAE 70** covers air diffuser performance and suggests adding 5 NC to all manufacturers' catalogued data to

account for site conditions and to add 3 NC when the number of diffusers is doubled.

Ventilation rates were discussed in detail. Some jurisdictions in the US are requiring ventilation air be ducted directly to the zone through a **DOAS** system. Measurable and controlled ventilation is required at the zone level by ASHRAE 62.1. Changing air flow rate in one zone will affect another, pressure independent zone dampers are an effective solution.

One means of ensuring delivery of required ventilation to the zone is through a DOAS dual duct system. In this design one duct handles 100 % treated fresh air while the other duct is 100 % return air that is either cooled or heated. DOAS ventilation air should delivered to the dual duct terminal units as cold and dry as possible. The terminal unit fan (chilled box) CFM can be increased to prevent any sub-cooling of the space.

Texas A&M has completed an ASHRAE/AHRI study comparing series, parallel, PSC and ECM fan box whole system energy use. This data has been fed into energy modeling software HAP, Trace and Energy Plus. The presentation was concluded with a review of the main points covered. Spaces are often too cold due to vertical stratification at the perimeter and/or poor humidity control. Acoustics in general are poor in buildings. Energy bills are often higher than predicted. Energy efficiency and comfort are not necessarily opposing forces. Productivity of occupants and energy cost can be improved simultaneously. Systems should be operated at as low an airflow as possible while meeting code.


President Abbey Saunders thanked Mr. Int-Hout and reminded all attendees of the survey. Next meeting **November 15th** at the Centurion Convention and Event Center. Meeting adjourned at 21:33.



Chris Harrison
President

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Membership Update

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

Jordan Hansen
John Naef
Maninder Singh
Christian Lobo

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 seeing everyone at the next **ASHRAE** meeting.



Committee Chair
Celine Baribeau
2016-2017
Membership
Committee Chair
BPA

E-mail: cbaribeau@bpa.ca

Research Promotion

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

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

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

I would like to introduce everyone to the new ASHRAE RP Committee. **Georges Maamari, Abbey Saunders, Michael Swayne, Robert Lefebvre, and Frank Bann** have all agreed to help support this cause. Please contact any of us with your RP questions. We will be starting our annual calling campaign in the coming weeks, so expect to hear from one of us.

The raffle draws for event tickets will continue at each program meeting in support of our 2016-2017 RP

Campaign. The **November 17th Sens v. Predators** tickets graciously donated by **Adam Graham** raised a total of **\$510!** A special thanks to all that have donated tickets, and congratulations to **Ryan Dickenson** of **VRM** for winning the tickets. We are always looking for donors that may have something to contribute for our monthly raffles. Please contact me if interested.

As of **Oct 31**, we have raised **\$3,090** towards our campaign goal, approximately 11% of our objective.

Thanks to all our donors who helped make last year's 2015-2016 RP Campaign a huge success. Formal **donor recognition** will take place at the **November** program meeting.

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

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

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

Again, I can't say this enough thanks for your continued support for



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

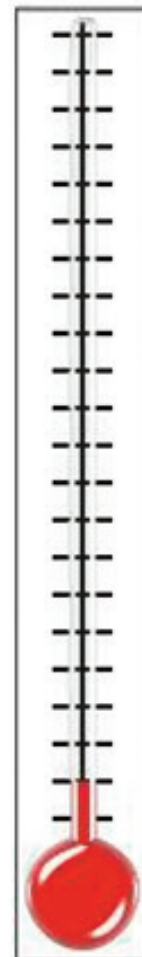
E-mail: adam.graham@hta.com

ASHRAE Research Canada!

Adam Graham

ASHRAE OVC President Elect,
Research Promotion Chair

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

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

Seminar : CSA B139-Series 15 Installation of Oil-Burning Equipment

DATE & TIME: Thursday November 24th, 2016
9 AM to 4 PM (Sign-In/Coffee 8:30 AM)

LOCATION: Master Group
25H, North Side Road, Ottawa (Ontario), K2H 8S1

SEMINAR DESCRIPTION:

The course will

- Fuel Oil Regulations – approvals, distributor inspections, unacceptable conditions, certification of installers
- Updates made to the 2015 standard.
- B139.1.0 -15
 - Aboveground Tank installations
 - Piping systems and high pressure piping systems
 - Tank connections and components
 - Day tank installations
 - Venting systems
- B139.1.1-15
 - Aboveground tank installations
 - Engine service rooms
 - Exhaust systems
 - Air dampers
 - Anti-siphon requirements

DOCUMENTATION:

- A hard printed copy of instructor's presentation will be provided.
- Attendees are suggested to bring their own copies of the CSA B139-15.

SPEAKER: RAPHAEL SUMABAT, TSSA ENGINEERING SPECIALIST

COST: ASHRAE OVC MEMBERS: \$ 325
NON-MEMBERS: \$ 400

Cost includes documentation, lunch and mid-session refreshments

REGISTRATION:

<https://ashraeottawa.simplesignup.ca/en/1941/index.php?m=eventSummary>

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

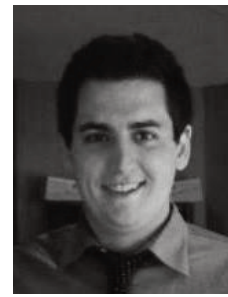
Hi YEA Ottawa!

Thank you to those who attended this year's first event, it was nice to see a good mix of ASHRAE members and students.

Collaborating with Student activities

went very well and it happen again in the future.

I plan to have the next event in late November, early December. When the exact date has been determined I will send out an update.



Committee Chair

Joe Della Valle

2016-2017

OVC YEA Chair

Walmart Ventilation

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Student Activities

Hi All,

October was a great month, we had a good meeting at **Carleton** with the **DL Dan Int-Hout** who spoke to a cozy group of interested students. We also had a great reception at the 4th year HVAC elective course Carleton offers its Engineering students – a big thanks to **Prof Siamak Kazemzadeh Hannani** for supporting us and **Jayson Bursall** for organizing!

The pool night we had was also a great success, I know the students appreciated meeting some of the YEA members and getting a better feel for

what this industry is all about.

From this exposure we now have 2 teams (one at Carleton, and one at CEGEP) highly interested in entering the design competition which is awesome! My hope is next month we will have the official announcement with the names of our keen and ambitious competitors. Keep your eyes peeled!

The **November** plant tour for Algonquin's facilities has been broadcast to the students, in the coming days we'll have the times and locations available on the ASHRAE website and Facebook groups for



Committee Chair

Peter Shaw-Wood

2016-2017

OVC Student Activities

Co-chair

Applied Energy

E-mail: peter@applied-energy.ca

interested students to sign up. The tour is free with the requirement to attend a short presentation on the equipment to be viewed during the facility tour.

All the best,

Peter Shaw-Wood
OVC Student Activities Co-Chair

Table Top Display

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

What better way to display a new product, existing line, or share great

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>

ideas than to have a table-top display at our local **OVC ASHRAE** meetings? The **OVC** meetings provide a captive audience in the industry and exposure to **60+** people.

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

Thanks to **HTS** and **Klimakontor** by **Emco Group Germany** for their involvement in the **October** meeting. Looking forward to seeing the great products offered at our **November** engagement!



Governor

Adam Moons

2016-2017

Table Top Chair

Walmart Ventilation Products

E-mail: adam@walmart.net

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

News Update

ASHRAE/IES Publish 2016 Energy Efficiency Standard

ATLANTA – Numerous energy savings measures resulting from industry input are contained in the newly published energy efficiency standard from ASHRAE and IES.

ANSI/ASHRAE/IES Standard 90.1-2016, Energy Efficiency Standard for Buildings Except Low-Rise Residential Buildings, contains 125 addenda published since the 2013 standard. The 2013 standard currently serves as the commercial building reference standard for state building energy codes.

This 2016 version is the 10th edition published since the original standard was first published in 1975 during the energy crisis of the United States.

"It is the overall goal of each version to create a consensus standard that saves energy and is technically feasible and cost effective," Drake Erbe, chair of the Standard 90.1 committee, said. *"In addition, as a result of a strategic initiative begun in the 2013 cycle, the 2016 version has a new format that we believe will be easier for users, a new way of incorporation of reference material from other standards starting with climate data, and a performance path for compliance that rewards designs for achieving energy cost levels above the standard minimum."*

Formatting

The standard has made significant formatting changes to improve its use. These include a one-column format for easier reading; exceptions separated and indented, set apart with a smaller font size; all defined terms are italicized; and alternating coloring scheme for table rows.

The most significant technical changes included are as follows:

• Building Envelope:

- o The mandatory provisions include the addition of envelope verification in support of reduced air infiltration and increased requirements for air leakage to overhead coiling doors.
- o The prescriptive requirements include increased stringency requirements for metal building roofs and walls, fenestration, and opaque doors. Requirements for Climate Zone 0 have been added.
- o Improved clarity of the standard ranged from defining exterior walls to building orientation to clarity around the effective R-value of air spaces

• Lighting:

- o Modified control requirements that make the application of advanced lighting controls easier for increased energy savings
- o Modification of exterior and interior lighting power densities that reflect the efficiency gains from LED technology in specific applications where they are proven to be effective
- o Added minimum requirements for lighting in dwelling units to set limits on light source efficacy
- o Added additional control for lighting in parking areas based on occupancy to reduce energy use

• Mechanical:

- o Chilled water plant metering – For the first time, the standard is requiring large electric driven chilled water plants to be monitored for electric energy use and efficiency.
- o DOAS requirements – Dedicated outdoor air systems were introduced over 25 years ago but there were no rating or efficiency

Committee Chair

Jeff Watson

2016-2017

OVC CTTC Chair

Chorley + Bissett

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requirements with which to comply. For the first time, this product class does have both efficiency and rating requirements with which they have to comply.

- o Elevator efficiency – Introduces requirements for designs to include both usage category and efficiency class. While a minimum threshold is not listed, it is the first step toward including minimum elevator efficiency requirement in a future standard. The standard referenced is an ISO standard since this the current industry standard for efficiency.
- o Economizer diagnostics – The standard is implementing requirements that air cooled DX cooling unit with economizers have a monitoring system to determine that the air economizer is properly working.

• Energy Cost Budget (ECB) and Modeling. A significant change to the application of Appendix G as follows:

- o Appendix G now can be used as a path for compliance with the standard. Previously Appendix G was used only to rate "beyond code" performance of buildings. This new version of Appendix G can show compliance with the 2016 version of the standard in the following manner:
 - o The proposed building design requires a new metric the Performance Cost Index (PCI) and demonstration that it is less than that shown in Table 4.2.1.1 based on building type and climate zone.
 - o Another change is that the



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baseline design is now fixed at a certain level of performance, the stringency or baseline of which is expected not to change with subsequent versions of the standard. By this, a building of any era can be rated using the same method.

- o Other modifications to Appendix G include: elevator, motor, and refrigeration baselines; changes to the baseline for existing building projects; as well as specific opaque assemblies for the baseline envelope model. Modeling rule changes were also made to heat pump auxiliary heat, economizer shutoff, lighting controls, humidification systems, cooling towers, and the simulation of preheat coils.

Additional **structural changes** include:

- o Reference Standard Reproduction Annex 1 at the end of the document. This annex is designed to contain extracts from other references that are published with Standard 90.1 for the convenience of users. At present, the only standard this pertains to is **ANSI/ASHRAE Standard 169**, Climatic Data for Building Design Standards. Section 5.1.4 now cites this standard as the source for climatic data therefore extractions of tables and figures from Standard 169-2013 are included in Annex 1
- o Addition of 2 weather zones 0 A/B in all prescriptive requirements tables to correspond with Standard 169.

The cost of is \$119, ASHRAE members (\$140, non-members). To order, visit:

www.ashrae.org/bookstore

or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-

8400 (worldwide) or fax 678-539-2129.

Online Thermal Comfort Compliance Tool Included in New ASHRAE User's Manual

ATLANTA – A new User's Manual for ASHRAE's thermal comfort standard provides an overview for new users while also including more detailed information for those more familiar with its requirements.

The User's Manual, based on **ANSI/ASHRAE Standard 55-2013**, Thermal Environmental Conditions for Human Occupancy, provides detailed information on the requirements of the standard. It includes tables, illustrations and examples to aid users in the design, commissioning, and measuring and rating of thermal comfort in buildings.

The manual includes a free online thermal comfort tool that can be used as the official tool for showing compliance with Standard 55-2013 along with all of the published addenda. This online tool is available only to those who purchase the User's Manual and can be accessed from any internet connected device. The web-based CBE/ASHRAE Thermal Comfort Tool was developed by the Center for the Built Environment at the University of California Berkeley.

"For a new user of Standard 55, the manual provides a great overview of what it takes to make a space thermally comfortable for the occupants," **Abhijeet Pande**, chair of the Standard 55 committee, said. *"This includes descriptions of how to account for the environmental, occupant and local factors that impact comfort. For an experienced user of Standard 55, the manual provides insights into requirements that are sometimes hard to understand in the standard. The*

User's Manual provides examples of calculations that will help even the most experienced user who may struggle with figuring out where and how to get an input needed for thermal comfort calculations."

The manual also includes:

- Information on the intent and application of Standard 55
- Guidance on applying the principles of acceptable thermal comfort and effective thermal control
- Useful reference material to assist designers, owners and users in efficiently completing a successful and compliant design
- Guidance to building operation and maintenance personnel
- Descriptions of compliance options and tools

The cost of the ANSI/ASHRAE Standard 55 User's Manual is \$99, ASHRAE members (\$115, non-members). To order, visit www.ashrae.org/bookstore or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide) or fax 678-539-2129.



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2016 Bowling Social

Ladies and Gentlemen,

Just a reminder that the 2016 **ASHRAE** Bowling Social, to be held on **Wednesday November 16th, 2016** at the **Merivale Bowling Center** (1916 Merivale Rd., Ottawa, www.merivalebowlingcentre.com). Registration will run through to the **11th of November**, so sign up soon!

The format will be three games with 4 people per lane. **7:00pm** start. Please show up at **6:30pm** to register. The entry fee is **\$200** per foursome, or **\$60** per individual. The entry fee includes warm-up, 3 games, shoe

rental and plenty of nachos/wings/pizza. Individual participants will be assigned into groups of four.

This is intended to be a social event to promote the camaraderie and fellowship of **ASHRAE**, please consider attending. Numbers need to be finalized by the first week of November, so please register early. Registration can be done on-line via the link below. Registrations will be confirmed via email receipt. If you have any questions, or need more information, please don't hesitate to contact me.

Link: <https://ashraeottawa.simplesignup.ca/en/1950/index.php?m=eventSummary>



Governor
Adam Moons

2016-2017
Table Top Chair
Walmar Ventilation Products

E-mail: adam@walmar.net

Payment can be made during the online registration.

Adam Moons
Walmar Ventilation Products
24 Gurdwara Rd. Nepean, On.
Cell: 613-323-5341
adam@walmar.net

Chapter Technology Award

Greetings from the CTTC Chair,

I wanted to take this opportunity to remind everyone about the **ASHRAE Technology Awards**. If you are not familiar with the Technology Awards, it is a program that aims to recognize outstanding achievements by members who have successfully applied innovative building design in the areas of occupant comfort, indoor air quality and energy conservation.

Applications are accepted in the following **six** categories:

- **Commercial Buildings (New, Existing, EBCx)**
- **Institutional Buildings (New, Existing, EBCx)**
 - **Educational Facilities**
 - **Other Institutional**

- **Health Care Facilities (New, Existing, EBCx)**
- **Industrial Facilities or Processes (New, Existing, EBCx)**
- **Public Assembly Facilities (New, Existing, EBCx)**
- **Residential**

An overview of the Awards Program can be found on ASHRAE's website at the link below.

The Awards Program starts at the Chapter Level, then proceeds through the Region and up to the Society Level.

The deadline for applications for the Ottawa Valley Chapter will be **March 15, 2017** with the Awards Presentation occurring at the April Chapter Meeting. Further information about

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

Committee Chair

Jeff Watson

2016-2017
OVC CTTC Chair
Chorley + Bissett

E-mail: Jeff.Watson@chorley.com

the program and the application process will be presented at an upcoming Chapter Meeting.

I encourage everyone to start thinking about a project that they may be involved or familiar with that may be considered for an Award. The Chapter Level application process is fairly straightforward and I am available to assist or answer any questions you may have.

Best Regards,
Jeff Watson



JOB POSTING 2016-015

Intermediate Mechanical Engineer - OTTAWA

Job ID	2016-O15	# of Positions	1
Location	Ottawa, Ontario	Experience (years)	7-10 minimum
Posted Date	August 24, 2016	Status	Permanent full-time
Job Title	Intermediate Mechanical Engineer	Category	Mechanical

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 feasibility 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, Licenced 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

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



JOB POSTING 2016-002

Senior Mechanical Engineer - OTTAWA

Job ID	2016-002	# of Positions	1
Location	Ottawa, Ontario	Experience (years)	10 minimum in Consulting
Posted Date	August 24, 2016	Status	Permanent full-time
Job Title	Senior Mechanical Engineer	Category	Mechanical

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 Senior 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 feasibility 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.
- Prepares project fee proposals
- Prepare schedule of tasks required to complete project, man hours to perform tasks and critical data required for performance.
- Mentor junior staff
- Maintains existing business and develops new business opportunities
- Any other tasks assigned by Section Manager required to assist in the continued success of the firm.

Qualifications

- Bachelor's Degree in Mechanical Engineering.
- Minimum 10 years of experience in a Consulting Engineering office in the field of mechanical building services – fire protection, plumbing, HVAC and controls.
- Professional Engineer, Licenced 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.
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Ottawa Office Manager
Jp2g Consultants Inc.
1150 Morrison Drive, Suite 410
Ottawa, Ontario, K2H 8S9

Or Email to Ottawa@jp2g.com

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



SAVE THE DATE

Networking and Social

Throughout the evening there will be opportunities to network and socialize. Hors d'oeuvres and non alcoholic drinks are included with your ticket and there will be a cash bar. At this event, the chapter will also release its vision for 2017.

Building Tour

The evening will start off with a guided tour of the LEED® Platinum accredited Algonquin Centre for Construction Excellence (ACCE).

What is Regenerative Design?

Regenerative buildings and communities not only produce all of their own energy, capture and treat all water, but they are also designed and operated to have a net-positive impact on the environment, including repairing surrounding ecosystems.

Sponsored by:



Chapter Holiday Party: Regenerative Design & Biomimicry

The CaGBC Ottawa Chapter has recruited Bill Reed, an internationally recognized architect and a leading authority in regenerative design and biomimicry, as this year's keynote for our annual holiday party.

The evening will be dedicated to discussing methods of achieving regenerative design, drawing from examples that are leading the movement globally and highlighting projects where green building and community planning have been fully integrated with living systems. The presentation will include a breakout session focused on regenerative design in Ontario that will specifically address challenges to regenerative design projects here in the capital region.

Keynote



Bill is a founding Board member of the US Green Building Council and one of the co-founders of the LEED Rating System. Bill has also consulted on over two hundred green design commissions, the majority of which are LEED Gold and Platinum and Living Building Challenge projects. He has presented at events throughout Europe and North America including Harvard, UBC, MIT, Princeton, and UPenn.

AGENDA

- 4:00-4:30pm: Tour of ACCE
- 4:30-5:30pm: Networking Social (with food and drinks)
- 5:30-8:30pm: Welcome, Keynote & Breakout
- 8:30-9:00pm Wrap up & Social

Date: November 28th from 4pm to 9pm

Cost: \$35 member \$45 non-member

REGISTER for this event at www.cagbc.org/ottawa

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 rod@htseng.com for more details.

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

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

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2016-2017 Publicity Committee Co-Chair
HTS Engineering Ltd.
E-mail: rod.lancefield@hts.com



E-mail: rod@htseng.com

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