



ASHRAE Ottawa Valley Chapter

DATE: **Tuesday February 16, 2016**
(Technical Session: 16:30, Social: 17:30, Dinner: 18:30, Program: 19:30)

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

THEME: **Chapter Technology Transfer Committee**

PROGRAM: **Aircraft Ventilation System Operation and Enabling the Canadian Industry to Improve its Design**

SUMMARY:

Come and learn how aircraft ventilations systems operate and what NRC will do to help the supply chain develop new systems to create a more comfortable cabin while reducing costs for aircraft operators. Topics covered:

- how aircraft ventilation systems are designed, developed and operated
- differences between aircraft standards and building ASHRAE standards
- NRC's plans to support new aircraft cabin systems to improve comfort.

SPEAKER: **Paul Lebbin**

Dr. Lebbin is a Research Council Officer for the National Research Council of Canada (NRC). He is the project manager for the new Cabin Comfort & Environment Research Center under construction in Ottawa, Ontario. Dr. Lebbin is from Wichita, Kansas and received his mechanical engineering degrees from the Kansas State University. He was hired by NRC to lead a new initiative that has grown into a new research and development program called, Working and Travelling on Aircraft. The program looks at how new services and technologies can improve airline profitability through improved cabin comfort, flight operations, and safety.

TECHNICAL SESSION: Legionella by Lan Chi Nguyen Weekes

Legionnaire's disease is again a topic of great interest to IAQ practitioners as the incidence of this disease worldwide is on the rise. Several professional organizations have recently produced or re-issued guidance documents on the design, operation and maintenance of building water systems in order to prevent the growth of Legionella bacteria.

Proper operation and maintenance of building water systems and the creation of a Legionella Bacteria Control Management Plan (LBCMP) are keys. This presentation will provide experienced tips and examples on how to inspect building water systems and how to evaluate the risk for Legionella contamination within these systems.

Ms. Lan Chi Nguyen Weekes, P.Eng., is a partner at InAIR Environmental Ltd., an IEQ consulting firm in Ontario, Canada. Over the years, she has been involved in various IEQ projects most recently with Legionella Bacteria Risk Assessments in buildings. As well, she has been presenting and publishing on this topic.

Restaurant International is happy to accommodate ANY dietary needs. Please get in touch with Sandy Taylor.
sandy@ashrae.ottawa.on.ca

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>

Registration will close 1 week prior to the event, on Tuesday February 9th.

President's Message

Dear members,

We are already past the halfway mark of yet another **ASHRAE** year and I hope you have enjoyed what our chapter has offered to date. We still have lots of upcoming events planned for the upcoming months, to keep us all busy until the summer.

Our next meeting will be held on **February 16th** at our regular **Restaurant International** venue at **Algonquin**. You are encouraged to attend a little earlier than usual as **Lan Chi Nguyen** will be hosting a seminar on **Legionella** starting at **4:30pm**. The program topic for this meeting falls inline with my presidential theme focused on showcasing our beautiful city. We will be hosting **Paul Lebbin** from the **NRC** who will be presenting the highlights of the **CCER** building, yet

another distinctive structure part of the **NRC complex**. The theme for our **February** meeting is **CTTC**, where we will be announcing the start of the **Chapter Technology Awards**. I hope to see many of you there.

I don't want to speak too soon, but we also have a really busy month of **March** coming up so I hope your calendars are free. On **March 10th**, we will be hosting our annual curling bonspiel at the Nepean Sportsplex. This event has always been a great success namely due to the outstanding efforts of **Chris Healy** who has been organising this event for many years now.

Next, our chapter will be hosting a half-day seminar on **March 17th** where **Judy Jeske** will be discussing the latest changes between the new



President
Georges Maamari

2015-2016

OVC President

BPA

E-mail: gmaamari@bpa.ca

Ontario Building Code (OBC) vs the **National Building Code (NBC)**. Finally, we have our annual career fair which will take place on **March 22nd** at **Carleton University**. This is great opportunity to meet with eager students looking for post graduate work or a summer work term.

We hope many of you can make it out to all of these special events, not to mention our regular monthly meeting scheduled for **March 15th**.

ASHRAE OVC Seminar

DATE: **Thursday, March 17, 2016**
Half Day Seminar (1pm - 4pm)

LOCATION: Master Group
25 Northside Road, Ottawa

TOPIC: **New NBC vs OBC: Interpreting the Changes**

PRESENTER: **Judy Jeske**

COST: **MEMBER:** 150\$ **NON MEMBER:** 175\$

Key Elements:

Have you ever found yourself with an RFP that says "The one having the more stringent requirements shall apply"

- You counter...but they are completely different...such as where Fire Hose connections go in a Federal Government building versus a private sector building.
- In Ottawa we are constantly faced with these decisions...and sometimes they come back to haunt us.
- Further the Authority Having Jurisdiction (AHJ) is constantly shifting...can anyone still locate the number for HRSDC?
- Do you happen to know who the AHJ is at the Airport?
- What about Part 11 in the OBC...how does the NBC deal with changes?
- What about the need for Energy Models?
- If you would like a little help in understanding the changes in the new National Building Code, how to comply with them and the differences from the OBC.

For registration, please click on the link below or visit our website.

<https://ashraeottawa.simplesignup.ca/en/1365/index.php?m=eventSummary>

What You Missed

The fourth meeting of the program year took place at the **Restaurant International** at **Algonquin College**. The meeting was called to order by **President Georges Maamari** at 6:40 PM and attendees were seated.

The business session commences with **President Georges Maamari** introducing the Board of Governors and Executive, followed by **Daniel Redmond** introducing the guests for the evening. President Georges Maamari then introduced the new members to the chapter and announced two upcoming seminars. The first seminar is planned for **February 9th** and is being held by the **MCA** to cover fire damper installation and kitchen ventilation. Seminar details are posted on the **MCA** website at the link below.

The second seminar is being held by the **ASHRAE OVC** and is planned for **March 17th** and attendees will learn from **Judy Jeske** about interpreting the changes to the new **National Building Code and Ontario Building Code**. Seminar details are posted on the **ASHRAE OVC** website and at the link below.

President Georges Maamari announced that the theme for the meeting was **Young Engineers in ASHRAE (YEA)** and invited **Joe Della Valle** to provide an overview of the program. **Joe Della Valle** highlighted some events that have already taken place this year and also talked about the **ASHRAE's Leadership U program**.

link: <http://mcaottawa.com/2015/12/02/feb-9-2016-fire-damper-installation-kitchen-ventilation-nfpa96-seminar>

link: <https://ashraeottawa.simplesignup.ca/en/1365/index.php?m=eventSummary>

President **Georges Maamari** announced that the **ASHRAE** curling bonspiel will take place on **Thursday March 10th**, starting at **1:00 pm**. Details of the event can be found on the **Ottawa Valley Chapter** website.

Table top displays were introduced as follow: **Trane Controls, Johnson Controls** and **KMC Controls**.

Don Weekes discussed the upcoming winter meeting to be held in **Orlando** at the end of **January** and also provided a discussion about technical committees and how **ASHRAE** members can become part of a committee at the Society level.

During the social hour, the **Research Promotion** committee raffled of **four** tickets to an upcoming **NHL** hockey game featuring the **Toronto Maple Leafs and Ottawa Senators**. **Pat Albert** was the lucky winner.

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

Next, the evening program commenced at **8:20 PM** with President **Georges Maamari** introducing the speaker. **André Beauchamp** of **Intel Canada** provided a quick background on himself and introduced his presentation on **The Internet of Things (IOT)**. The speaker discussed recent trends revolving around **IOT** and the fact that these trends affect many industries. A quick highlight of the information is provided in the following paragraphs.



Secretary
Daniel Redmond
2015-2016
OVC Secretary
Carleton University

E-mail:
DanielRedmond@cunet.carleton.ca

The Internet of Things (IOT) is the next evolution of computing. Now more than ever before, intelligence is everywhere. There are an estimated **50 billion** devices in use worldwide. The costs of sensors, bandwidth and processing have decreased significantly over the last **ten years**. **IOT** is focused on the idea that data is everywhere, but how do we get out the information that is truly useful and desired.

The speaker discussed IOT strategies (connect the unconnected) and the evolution of IOT strategy, which included moving from an unconnected world to a fully software defined autonomous world. As IOT continues to develop and evolve, standards and consortia are very important. IOT is everywhere and continues to grow. This is no longer something in the distant future but is now and IOT will affect all industries, including **HVAC&R**.

Following the presentation, **André** opened the floor up to questions. **President Georges Maamari** then thanked the speaker and presented him with a gift. The meeting was adjourned at **9:25 PM**.

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ASHRAE Technology Award

Are your engineering projects innovative? Do you want to identify yourself as a leader in the HVAC&R industry? Would your clients be interested to know that you are innovative? If so, then the **ASHRAE Technology Awards** program should be of interest to you.

The **ASHRAE Technology Awards** program recognizes successful applications of innovative design, which incorporate **ASHRAE** standards for effective energy management, indoor air quality, and good mechanical design.

The purpose of the **ASHRAE Technology Awards** program is threefold

1. To recognize **ASHRAE members** who design and/or conceive innovative technological concepts that are proven through actual operating data.
2. To communicate innovative systems design to other **ASHRAE members**
3. To highlight technological achievements of **ASHRAE** to others, including associated professionals and societies worldwide, as well as building and facility owners

Projects submitted should have been in operation **9 months** and there are six main categories to which applications may be submitted, as follows:

Link 1: <https://www.ashrae.org/membership--conferences/honors--awards/technology-awards-program-overview>

Link 2:
<https://www.ashrae.org/File%20Library/docLib/HonorsandAwards/AwardDocs/Tech-Award-Application-Short-Form-June-2014.pdf>

- I. Commercial Buildings (New, Existing and Retrocommissioning)
- II. Institutional Buildings (New, Existing and Retrocommissioning)
 - Educational Facilities
 - Other Institutional
- III. Health Care Facilities (New, Existing and Retrocommissioning)
- IV. Industrial Facilities or Processes (New, Existing and Retrocommissioning)
- V. Public Assembly Facilities (New, Existing and Retrocommissioning)
- VI. Residential (New, Existing and Retrocommissioning)

Winners will be recognized at the chapter level and may be able to submit their project for a regional or even societal award to gain exposure well beyond our local chapter.

The **ASHRAE** website has plenty of helpful information to guide you during the application process. The technology awards section of the **ASHRAE** website is located at the [link 1](#) below.

The deadline for application to Chapter is **March 20th, 2016**. Submission at the chapter level is not very complicated or time consuming. The following is all that is required for submission:



Committee Chair
Andrew Klassen
2015-2016
OVC CTTC Chair
Trane

E-mail: andrew.klassen@trane.com

1. Submission of the short form application form (please see example below)
2. Provide a system schematic/diagram not larger than 11" x 17" in size
3. Attach a brief narrative (maximum of 2 pages)

For further information please find a fillable version of the application form at the end of this Newsletter and on the Society webpage at the [link 2](#) below.

If you have any questions or concerns, please don't hesitate to contact the **OVC CTTC Technology Awards Team**:

- **Andrew Klassen**
(andrew.klassen@trane.com)
- **Michael Grant**
(Michael.Grant@trane.com)
- **Daniel Redmond**
(redmondan@mmm.ca)

Thank you and I hope you realize that the work you do every day is worthy of recognition. Please consider submitting your projects for an **ASHRAE Technology Award**.



Chris Harrison
President

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YEA Leadership

Hi OVC!

The next **YEA** event will be held on **March 22th** at **Tailgators Sports Bar**, 5:30 pm to 10 pm.

I chose this date to try and incorporate more students as this event will be held right after the career fair. There will be an email blast with more details within next few weeks.

On another note, I am very happy to announce that **Jordan Hansen** has joined the **YEA** committee.

His contribution will only make the events more successful and I look forward to working with him.

Thanks for your support and hope to see you out at the next event!



Committee Chair

Joe Della Valle

2015-2016

YEA Chair

Walmar Ventilation

E-mail: joedellavalle@walmar.net



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President

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2015-2016 Research Promotion Campaign

Our donations help create a lasting legacy of support for **ASHRAE Research**. Through our financial leadership and support in the form of donations to the annual **ASHRAE RP Campaign** we enable **ASHRAE Research** to remain a successful and viable endeavour for members, the public and the **HVAC&R** industry.

As a result of our support, **ASHRAE** is able to fund exciting and necessary projects that drive our industry. To read about current project being funded, please visit: www.ashrae.org/rp

To date we have managed to keep the momentum going from last year's campaign and have raised approximately **35%** of our **2015-2016 RP Campaign Goal** of **\$27,000**. Great work everyone, and let's keep this momentum going for **2016!** Remember no donation is too small, and all money raised goes to

ASHRAE Research Canada.

The **January** program meeting RP raffle tickets for the upcoming **February 6th Leafs v. Sens** game raised a total of **\$660** for **ASHRAE Research**. Your support continues to amaze me! A special thanks to **Engineered Air** for donating the tickets. Congratulations to **Patrick Albert** for finally making it back to an **ASHRAE** meeting and winning the tickets.

A list of current **2015-2016 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 **2015-2016 RP Campaign** are by clicking either of the links below.

However, should you wish to make



President-Elec Abbey Saunders
2015-2016
Research Promotion
National Research Council Canada

E-mail: abbey.saunders@nrc-cnrc.gc.ca
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 **ASHRAE Research Canada!**

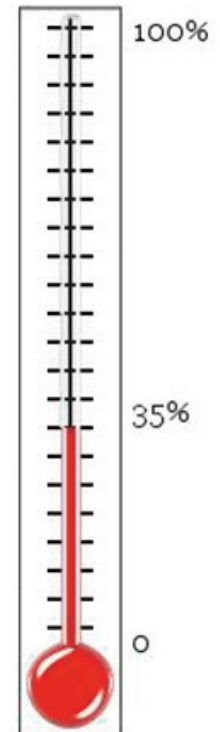
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Ottawa, ON K1A 0R6

ASHRAE OVC link: <https://ashraeottawa.simplesignup.ca/en/171/index.php?m=eventsList>
ASHRAE Society link: <https://xp20.ashrae.org/secure/researchpromotion/rp.html>

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Student Activities

Ladies and Gentlemen,

The **2016 ASHRAE Career Fair** is Tuesday March 22nd, and will be hosted again at **Carleton University's Fenn Lounge**. It is always a great opportunity to network with current and graduating students from **Carleton, OttawaU** and **Algonquin**. Deadline for booths and sponsorships will be **March 16th**. If you are not interested in a booth this year, we also offer a sponsorship option to lend your support to the event. See the full page flyer for employers in this Communique, come out and support the students and the chapter! Check the website or email

for more information.

ASHRAE Student Chapters are looking for some book donations:

- ASHRAE Fundamentals 1993 books, up to 5 copies.
- 15 copies of the more recent 2005/2009 versions of fundamentals.
- 20 ASHRAE handbook sets
- HVAC handbooks, guidelines or old standards.

To prevent us from being flooded with books, please contact me prior to the next meeting with the number of books you are willing to donate to get confirmation.



Committee Chair

Adrienne Mitani

2015-2016 Student

Activity Chair

Smith and Andersen

E-mail:

adrienne.mitani@smithandandersen.com

Other information for Students:

The **ASHRAE Scholarship** program is now accepting applications for undergraduate engineering scholarships at **\$3,000 to \$10,000** each, **Engineering Technology Scholarships** deadlines are **May 1st 2015**.

Membership Update

Many of you know that being part of the **ASHRAE** community allow you to have access to many benefits. What are these benefits exactly?

ASHRAE Community

Your ASHRAE membership instantly connects you to over **54,000** of your peers and colleagues throughout the world. You will meet like-minded engineers who join together at the local, regional, and international levels both in-person and online.

Access to Valuable Information

ASHRAE Members and **Associates** receive the **ASHRAE Handbook** each **June** as part of their membership package. In addition, new members receive a complimentary one-year subscription to the **ASHRAE Handbook Online** which provides instant access to all four volumes. Members also gain access to valuable information through:

- Discounts in the ASHRAE Bookstore

- ASHRAE Handbook
- Publications and Resources
- Standards, Research & Technology
- The ASHRAE Journal
- High Performance Buildings Magazine
- E-Newsletters

Personal and Professional Growth

ASHRAE members are lifelong learners, and have endless resources to help accelerate their career through both personal and professional development:

- ASHRAE Learning Institute
- Online learning
- YEA Leadership Programs
- ASHRAE Jobs
- Become ASHRAE Certified

More information regarding your benefits can be found at the link below.

The **Ottawa Valley Chapter** would also like to introduce and welcome



Committee Chair

Celine Baribeau

2015-2016

Membership

Committee Co-chair

BPA

E-mail: cbaribeau@bpa.ca

the following new member:

Mr Tarek Yakub
Ms Kristen Jacsko
Mr Brandon Zagronik
Ms Sara Gilani
Mr Beesan Elfarrar
Mr Jason Juurlink
Mr Anthony Mach
Mr Saad Alqahtani
Mr Spencer Cripps

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

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 **60+** people.

We are currently have some table top

openings for the **April** and **May** meetings.

The featured table-tops for the **February 16th** meeting are **Belimo** and **EH Price**.

Please contact **Shayan Mirza** to secure yours today! Cost for table

Committee Chair

Shayan Mirza

2015-2016

Table Top Committee Chair

Total HVAC

E-mail: shayanm@totalhvac.com

tops is **\$225** and spaces are filling up quickly, so book your table-top today!



BELIMO



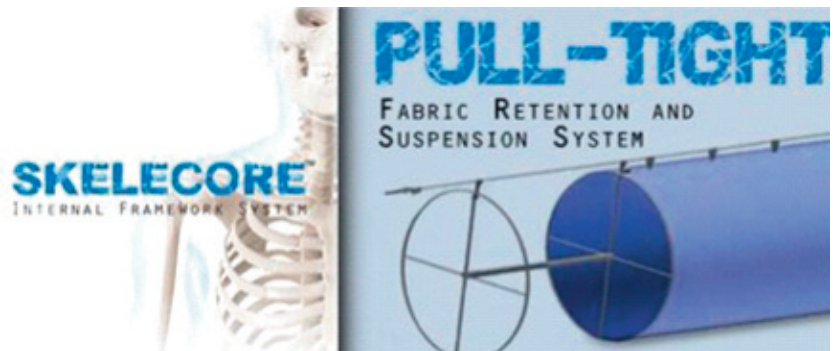
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LabSox Products are **Textile Air Dispersion Devices** designed for laboratory environments (vivarium's, pharmaceutical, research education, etc.) in critical applications commonly associated with a fume hood or other airflow sensitive equipment (scales, laser, microscope, etc.). LabSox are also applicable to industrial or commercial kitchen applications. Airflow in laboratories is a critical design factor as turbulent air can negatively affect research or even cause hood failure resulting in a compliancy issue. The LabSox advantage is clear as air passes through specialized fabric panels resulting in uniform, low velocity, radially diverging air patterns with little, if any, turbulence. LabSox products are not only ideal for labs of the future, but can be easily retrofitted to resolve air flow issues in existing facilities.



ASHRAE® Ottawa Valley Chapter



**AMERICAN SOCIETY OF HEATING REFRIGERATION AND
AIR CONDITIONING ENGINEERS**

Is looking for booth sponsors for: **CAREER FAIR '16**

Tuesday March 22nd, 2016

at
Carleton University – Fenn Lounge
(Residence Commons Bldg)
1125 Colonel By Drive

1. Affordable Booths - \$200.00 (cash, cheque, money order payable to ASHRAE – OVC or Credit card) see information below for what is included.
2. If you would prefer to just have your company logo in the program guide as advertisement along with other ASHRAE supporters, this is available for \$100.00.
3. Schools that are being canvassed; University of Ottawa, Carleton University, and Algonquin College.

Booth Information:

- Booth Size 10' x 8' (Approximately 24 available)
- 120 VAC Available (bring your own extension cords and power bars)
- Tables, Skirts, and Chairs Provided
- Contact Adrienne Mitani for any special requirements
(613-230-1186x3115, adrienne.mitani@smithandandersen.com)
- Invoices will be sent out upon RSVP

Schedule:

- **14:30 – 15:00** – Access to room and Set-up
- **15:00 – 15:30** – Career Panel
- **15:00 – 18:00** – Career Fair
- **18:00 – 18:30** – Clean-up

Please RSVP by March 1st 2014 to Adrienne Mitani:

By Phone: 613-230-1186x3115
By Email: Adrienne.mitani@smithandandersen.com ;

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Contact: _____

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News Update

Innovative Buildings Recognized By ASHRAE With Technology Awards

ATLANTA – Wind turbines, sub cooled glycol/water, geothermal wells, reuse of coil condensation water and a central heat pump water heating system are among the innovative measures used in the five buildings receiving **ASHRAE Technology Awards**.

The awards recognize outstanding achievements by members who have successfully applied innovative building design. Their designs incorporate **ASHRAE** standards for effective energy management and indoor air quality. Winning projects are selected from entries earning regional awards.

First place awards will be presented at the **ASHRAE 2016 Winter Conference, Jan. 23-27, Orlando, Fla.**

Following are summaries of the winning projects:

Walgreens Net Zero Store

Benjamin A. Skelton, P.E., BEMP, president, Cyclone Energy Group, Chicago, Ill., receives first place in the new commercial buildings category for the **Walgreens Net Zero Store, Evanston, Ill.** The building is owned by **Walgreen Co.**

The global retail pharmacy brand set out with a vision to create a scalable retail building design that would serve as a showcase for innovative, sustainable and high performance design to sustainability, architecture, engineering and retail communities. The store is designed to achieve net zero energy use by the **National Renewable Energy Laboratory's** most stringent definition of "renewable energy generated within the building footprint."

Among its innovative features are:

- 840 roof-mounted solar panels, generating enough energy to power 30 Illinois homes for a year
- Two 35-foot-tall wind turbines, using winds from Lake Michigan to generate enough power to offset annual greenhouse gas emissions

from 2.2 passenger vehicles

- Geo-exchange energy obtained by drilling 550 feet into the ground below the store
- LED lighting and daylight harvesting
- Carbon dioxide refrigerant for heating, cooling and refrigeration equipment
- Energy efficient building materials

The owner set out with a vision to create a store that would be an innovation laboratory to test products, materials, systems and equipment that could be incorporated into prototype designs and retrofit throughout existing stores. Walgreens also wanted to share the results from the design, construction and ongoing operation of the store with the public, design community and even their competition. The store is designed to facilitate tours, including hosting executives and designers from their retail competition.

DPR Construction's San Francisco Net Positive Energy Office

Dylan T. Connelly, associate, Integral Group, Oakland, Calif., receives first place in the existing commercial buildings category for **DPR Construction's San Francisco Net Positive Energy Office**. **DPR Construction** occupies the building and has a **10 year** lease with an option for **10 more years**.

A national construction company, **DPR** sought to lead by example and transform the building industry with its retrofitted net positive **22,000 square foot San Francisco** office. The office demonstrates the potential of the capabilities of integrated, innovated and replicable design, reducing energy use and improving indoor environmental conditions while being cost effective with today's technologies. The design includes a **118 kW** rooftop photovoltaic system, all electric systems, operable skylights, building management system controlled ceiling fans, enhanced daylighting and living walls.

A net positive energy office building



Program
Jacob Hough
2015-2016 Program
Committee Chair
Total HVAC

E-mail: jacobh@totalhvac.com

was achieved by reducing energy loads through use of efficient HVAC and electrical systems, and by installing photovoltaic and solar thermal systems on the roof to produce more energy than the building consumes. The target energy use index (**EUI**) was **23.6 kBTU/square foot/year** and achieved a first year EU of **20.4**, significantly lower than the code baseline of **49 EUI** and **20 percent** net positive energy. By retrofitting an existing building vs. building new, the project reduced its initial carbon footprint by over **70 percent**.

Occupant comfort and health is also a top priority. A dedicated outdoor air system delivers **30 percent** more ventilation than required **ANSI/ASHRAE Standard 62.1-2010, Ventilation for Acceptable Indoor Air Quality**. Heat recovery ventilators use MERV 8 pre-filters and MERV 13 final filters to filter out contaminants, increasing the efficiency of filtration and continuing to improve indoor air quality.

Another interesting feature is the use of dynamic elements, such as sunlight and plants, to activate the space, engage users and provide a connection of surroundings. Three living walls in the main lobby improve indoor air quality by absorbing volatile organic compounds while also increasing the overall wellbeing for occupants.

Anne-Marie Edward Science Building – John Abbott College

Nicolas Lemire, Ing., HFDP, president/principal, Pageau Morel and Associates, Montreal, Quebec, receives first place in the new educational facilities category for the **Anne-Marie Edward Science Building at John Abbott College, Sainte-Anne-De-Bellevue, Quebec**. The building is owned by the college.

The contemporary six-story facility is

named after a victim of a 1989 shooting at **Ecole Polytechnique** who was a science graduate of **John Abbott**. **Anne-Marie Edward** had been pursuing an engineering degree, and the community felt that through engineering, the pavilion demonstrated how humans are essential to environmental sustainability using applied knowledge and technology.

Energy diversification is accomplished with the use of geothermal wells, electrical heating and cooling, natural gas hot water heating and solar preheating. Potable water consumption is reduced with the use of low flow plumbing fixtures and resources are maximized through reuse and recuperation:

- Reuse of return air as compensation air in laboratories
- Reuse of coil condensation water to humidify exhaust air
- Recuperation on both general and laboratory exhausts
- Recuperation through heat pump extraction and storage in stratified tanks
- Recuperation of rainwater and fan-coil condensation water.

Laboratory ventilation requirements and large glazing surfaces can have devastating effects on energy efficiency. Nonetheless, the building's actual energy use is 45 percent lower than the baseline case and 10 percent lower than the proposed simulation.

Seattle-Tacoma (Sea-Tac) Airport Pre-Conditioned Air

Ken Warren, P.E., capital project manager, Port of Seattle (Wash.), receives first place in the new industrial facilities or processes category for the **Sea-Tac Airport Pre-Conditioned Air project**. The building is owned by the **Port of Seattle**.

The **Port's Century Agenda** sets a vision of reducing carbon emissions and air pollutants, increasing energy conservation, being socially and fiscally responsible and exceeding customer expectations. Its Pre-conditioned Air project is an important step in meeting an agenda objective of being the greenest, most energy efficient port in **North America**.

The system includes a pre-conditioned air plant (**PCAP**), piping and air handlers to provide cooling and heating for airplanes during boarding and deplaning to reduce costs for airlines, improved air quality, reduced noise and increased energy efficiency. The **PCAP** delivers sub-cooled glycol/water through 15 miles of piping to each of the 73 airplane gates in the existing facility, to serve the complete airplane **HVAC&R** needs. The system allows airplanes to shut off their jet-fueled on-board auxiliary power units (**APUs**), resulting in jet fuel savings and reductions in carbon dioxide and other gas emissions.

The reductions realized through the project include annual savings of:

- An estimated five million gallons in fuel; a \$15 million savings in airline fuel costs
- 40,000 metric tons of greenhouse gases, the equivalent of removing 8,000 cars from the road
- 73 tons of nitrogen oxides
- Noise pollution from aircraft parked at the gates operating their APUs

Stack House Apartments

Jonathan M. Heller, P.E., principal engineer, Ecotope Inc., Seattle, Wash., receives first place in the residential category for the **Stack House Apartments**. The building is owned by **Stack House Acquisition LLC**.

The project includes two new multifamily buildings and one adaptive reuse of a historic building, which helped to retain some of the historical character of the neighborhood. The project covers an entire city block in the **South Lake Union** neighborhood of **Seattle**.

Innovative mechanical systems include a central heat pump water heating system in the largest of the two multifamily buildings, ductless heat pumps for 40 percent of the apartment units and common spaces, and rainwater catchment and reuse for urban agriculture on the roof. The historic building was included in the City of Seattle's pilot of an outcome-based energy code; the first program in the nation to predicate energy code compliance on post-occupancy proof of highly

efficient operations. The project also participated in a stormwater treatment pilot project with Seattle Public Utilities with two biofiltration swales providing primary treatment to stormwater run-off from the Capitol Hill neighborhood before discharging to **Lake Union**.

The apartments are among the most energy efficient in the **Pacific Northwest** with measured **EUIs** of 19.8 kBtu/square foot/year for the West Building and 27.1 kBtu/square foot/year for the Southeast Building.

New ASHRAE Application Automates Calculations for Standard 90.1-2010

ATLANTA – A new web application from **ASHRAE** automates the calculations needed to show a building project's compliance with **Standard 90.1-2010**.

The **90.1 ECB** web application is a tool for modeling compliance with **ANSI/ASHRAE/IES 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings**, using the **Energy Cost Budget (ECB)** method in the standard.

*"The application allows users to input project parameters and then calculate the proposed design's projected performance and compliance, with the results exportable in a workable spreadsheet for project use," Drake Erbe, chair of the **Standard 90.1 committee**, said.*

The application is accessible from desktop, tablet or other device. It allows users to store project information in one place for easy reference and comparison.

The app is free of charge to users. To learn more, visit 901ECB.ashrae.org.

Job Posting 2016-001

Intermediate Structural Engineer - OTTAWA

Job ID:	2016-001	# of Positions:	1
Location:	Ottawa, Ontario	Experience (years):	3-7
Posted Date:	January 7, 2016	Status:	Permanent full-time
Job Title:	Intermediate Structural Engineer	Category:	Structures

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 Structural Engineer in our Ottawa Office. Jp2g provides opportunities for work on a wide variety of projects, with emphasis on federal, commercial, and institutional clients. Focus of structural work includes: new building design, renovation, restoration and adaptive renewal, investigations and reports.

Responsibilities

- Develop designs and complete calculations of structural systems and components.
- Complete structural engineering investigations of existing buildings or structures and prepare reports as required.
- Develop engineering concepts, concept reports and construction estimates.
- Attend client meetings.
- Attend co-ordination meetings with design team.
- Undertake feasibility studies.
- Provide marked up sketches to CAD operator or update CAD drawings as required; back-check drawings for quality control.
- Ensure proper coordination of documents with the other design disciplines.
- Review shop drawings during construction and visit construction sites to review general conformance of structural components.
- Train and assist junior staff as required.
- Complete tasks assigned by Section Manager as required to assist in the continued success of the firm.
- Build and maintain positive relationships with colleagues, other consultants, and key stakeholders to ensure projects run smoothly and to resolve concerns promptly and efficiently.
- Maintain existing business and inform Section Manager of new business opportunities, if they arise.
- Assist in the preparation of fee proposals.
- Assist in researching new systems, resources, analyzes processes, procedures and working practices to identify and implement changes to increase efficiency, productivity and overall profitability.
- Maintains familiarity with current techniques and developments to sustain and improve technical skills.

Qualifications

- Bachelor's Degree in Structural Engineering, as a minimum.
- 3-7 years of experience in the field of structural engineering services – design and construction services.
- Licensed Professional Engineer, or able to obtain License in Ontario within one year.
- Ability to work in a complex environment, dealing with multiple projects and clients.
- Sound communications skills (oral and written).
- Demonstrated experience working with other consultants and contractors, and coordination of significant projects.
- Knowledge of OBC, NBCC, CSA S16, CSA A23.3, CSA O86 and CSA S304.
- Proficiency with structural analysis and design software (such as ETABS, S-Frame, S-Concrete, etc.)
- Strong sense of initiative and ability to prioritize tasks.
- Excellent problem solving and decision-making skills.
- Working knowledge of MS Office
- Basic AutoCAD experience is considered an asset.
- Reliable vehicle access is required.

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



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

Job Posting 2016-P01

Project Manager – Building Services - PEMBROKE

Job ID:	2016-P01	# of Positions:	1
Location:	Pembroke, Ontario	Experience (years):	7+
Posted Date:	January 9, 2016	Status:	Permanent full-time
Job Title:	Project Manager	Category:	Building Services

Overview

Our Pembroke office is seeking a talented and motivated Project Manager to join our team. The ideal candidate is hard working and eager to increase their responsibilities and to take on a significant leadership role within the company. At Jp2g, you will work with a dynamic multi-disciplinary group of engineers, technicians, project managers and planners. Our team members are loyal, resourceful and committed to success. Jp2g believes in employee empowerment.

Job Description

Perform project management, professional engineering project management, administration and business development related to building services including planning, design, studies, asset management programs, investigation and construction review.

Responsibilities

- Report to Director of Building Services.
- Maintain existing business and develop new business.
- Manage workloads and resources in a highly collaborative, yet stressful environment.
- Establish priorities and long-term planning objectives.
- Monitor for changes, quality, schedule and cost adherence.
- Provide technical supervision, mentoring, and peer review.
- Prepare proposals.
- Prepare engineering studies, designs, specifications, and cost estimates
- Manage contract administration during construction.
- Identify critical design issues and provide technical soundness and reliability.
- Review deliverables for conformance to requirements.
- Make changes where required.
- Confirm acceptance of deliverables.
- Provide professional and reliable service delivery, on time and on budget.

Leadership

- Provide day-to-day supervision of assigned employees.
- Recommend appropriate training/coaching, prepare evaluation reports and recommend any necessary disciplinary action.
- Direct, motivate and appropriately influence others.
- Build a strong sense of teamwork, purpose and group identity.
- Display a positive attitude, serve as credible model, and set high standards for the group.
- Articulate clear goals and expectations.
- Delegate appropriate levels of authority to others.
- Deal effectively with people's concerns and problems.

Qualifications

- P.Eng. designation
- 7+ years' experience in building systems
- Previous experience in managing technical staff

Compensation and Benefits

- Friday afternoon's off year-round (36 hour/week)
- Group RSP planning opportunities
- Professional development and advancement opportunities
- Competitive compensation and benefits package
- Shareholder opportunities

Please submit resumes for consideration to:

Ottawa@jp2g.com

Subject line: 2016-P01 Project Manager – Building Services - PEMBROKE

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



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Note: You may register up to 24 hours prior to an online course. Courses are in US Eastern Time.

Combined Heat & Power: Creating Efficiency through Design & Operations

Mon, March 28, 2016 – 1:00 pm to 4:00 pm EDT

Commissioning Process & Standard 202

Wed, March 30, 2016 – 1:00 pm to 4:00 pm, EDT

Advanced High-Performance Building Design

Mon, March 23, 2016 – 1:00 pm to 4:00 pm EDT

IT Equipment Design Evolution & Data Center Operation Optimization

Wed, April 6, 2016 – 1:00 pm to 4:00 pm, EDT

Complying with Standard 90.1-2013: HVAC/Mechanical

Wed, April 13, 2016 – 1:00 pm to 4:00 pm, EDT

Laboratory Design: The Basics and Beyond

Mon, April 18, 2016 – 1:00 pm to 4:00 pm, EDT

Standard 188-2015 – Successfully Managing the Risk of Legionellosis

Mon, April 25, 2016 – 1:00 pm to 4:00 pm, EDT

Air-to-Air Energy Recovery Applications: Best Practices

Wed, April 27, 2016 – 1:00 pm to 4:00 pm, EDT

Instructor: Paul Pieper

Fundamental Requirements of Standard 62.1-2013

Mon, May 2, 2016 – 1:00 pm to 4:00 pm, EDT

Instructor: Hoy Bohanon

Variable Refrigerant Flow System Design & Applications

Mon, May 16, 2016 – 1:00 pm to 4:00 pm, EST

Instructor: Dermot McMorrow

The following courses are comprised of two parts. Registrants must attend both parts in order to receive CEU/PDH credits.

Exceeding Standard 90.1-2013 to Meet LEED® Requirements

Part 1: Mon, April 11, 2016 – 1:00 pm to 4:00 pm, EDT

Part 2: Wed, April 20, 2016 – 1:00 pm to 4:00 pm, EDT

Operations & Maintenance of High-Performance Buildings

Part 1: Tue, May 17, 2016 – 1:00 pm to 4:00 pm, EDT

Part 2: Wed, May 18, 2016 – 1:00 pm to 4:00 pm, EDT

ASHRAE HVAC Design Training

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HVAC Design: Level I – Essentials - Registration is \$1,264 (\$1,009 ASHRAE Member)

Gain practical skills and knowledge in designing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection using the newly renovated ASHRAE Headquarters building as a living lab.

HVAC Design: Level II – Applications - Registration is \$854 (\$699 ASHRAE Member)

HVAC Design: Level II — Applications provides instruction on HVAC system design for experienced HVAC designers and those who complete the HVAC Design: Level I – Essentials training. The training provides information that allows practicing engineers and designers an opportunity to expand their exposure to HVAC systems design procedures for a better understanding of system options to save energy.

Visit www.ashrae.org/hvactraining to register.

ASHRAE's HVAC Design Training

HVAC Design: Level I—Essentials

ASHRAE's *HVAC Design: Level I — Essentials* training provides intensive, practical training ideal for recent technology or engineering school graduates, engineers new to the HVAC field, those who need a refresher in new technologies, and facility managers, sales representatives and others who need to gain an understanding of HVAC systems.

In three days, gain practical skills and knowledge in designing, installing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection using the renovated ASHRAE Headquarters building as a living lab. Engineered drawings of the ASHRAE Headquarters renovations will be incorporated to expose attendees to plan reading and a graphical understanding of system design.

.....

Training Topics:

- Fundamentals
- Heating/Cooling Load Calculation
- System Selections
- HVAC System and Components
- Cooling System
- Basic Design of Hydronic Systems
- Basic Design of Air Systems
- Control/BAS
- Sustainable Design
- Project Management and Other Soft Skills
- Introduction to Technical Sales

HVAC Design: Level 1—Essentials

When: May 9–11, 2016 | Halifax, Nova Scotia

Cost: \$1,264 (ASHRAE Member: \$1,009)

Company Discount: Enroll 3 or more participants from the same company at the same time and SAVE!

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

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

Placement of an Ad

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

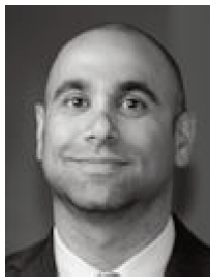
Please note that ads require prepayment made to the treasurer. Please register and pay online or for payment and other information contact **Adam Graham** at Adam.Graham@hts.com

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.

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.



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