



ASHRAE Ottawa Valley Chapter

DATE: Tuesday May 16, 2017

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

LOCATION: Centurion Conference & Event Center

170 Colonnade Rd S, Nepean, ON

THEME: History

PROGRAM: Principles of Leadership and Group Dynamics

Effective leadership is essential in ASHRAE committee work. The distinctions between management and leadership are brought forth, together with major concepts defining effective leadership. Concepts of group dynamics, including non-verbal communication styles are also presented.

SPEAKERS: Victor W. Goldschmidt, Ph.D.

Victor W. Goldschmidt, Emeritus Mechanical Engineering Professor, served at Purdue University from 1964 through 2000. He is currently serving as a Leelanau County Planning Commissioner as well as a facilitator and engineering consultant. During his 36 years at Purdue University, Mr. Goldschmidt was responsible for educating mechanical engineering students, including the direction of graduate research in the HVAC area. Most of his service with graduate students was with the Ray W. Herrick Laboratories with heavy support from the HVAC industries. During early stages of his career, he served as Director of the Engineering Purdue Fellows in Latin America; during later stages, he served as department head for Freshman Engineering. Prior to his academic involvement, he worked in Applications Engineering and Development Engineering with Honeywell. Mr. Goldschmidt has taught almost every course in thermal sciences offered at Purdue, as well as a special upper level technical course on the "Creative Process in Engineering." He is trained as a Synectics (special brainstorming) facilitator and is currently engaged in the development of strategic plans and problem solving sessions. A past ASHRAE Director-at-Large, he also has served as a member of Publishing and Technology Councils. He is an ASHRAE Distinguished Service Award recipient and Fellow, as well as Honorary Member of IIR, ACAIRE, ASURVAC and AAF. He resides in North Michigan, above Traverse City.

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

It seems so recently that I was very nervously delivering my speech and assuming the role of **President** at the **May** meeting, but here we are a year later with me writing my final President's Message. I'm amazed at how quickly the year has flown by. May marks our final monthly program meeting of the **2016-2017 ASHRAE** year. Our May meeting is designated as our **Past President's** and Companion Evening, and fittingly so the theme is **History**. We are fortunate to have a number of our Past Presidents regularly in attendance at our May meeting, and it is great to see so many familiar faces year after year. Our History co-chairs **Aaron Dobson** and **Jeremy Strong** will have a table top history display to showcase the evolution of our chapter over the last **60+ years**.

Again, we return to the **Centurion Centre** for the May meeting. Our program for the evening will be presented by **ASHRAE DL Victor Goldschmidt** and focus on **Leadership**. Refer to the program article for more details. To register for the upcoming May meeting please visit our website at: www.ashrae.ottawa.on.ca

I'd like to take a moment to thank everyone involved in the **Ottawa Valley Chapter**. First and foremost, I'd like to thank the Executive, Board of Governors, committee members,

and **Sandy Taylor** for all the support. It is the dedication of these individuals that makes the Ottawa Valley Chapter one of the most successful **ASHRAE** chapters. Thank you.

Although at first I must admit I was hesitant to join the executive, I've thoroughly enjoyed the experience, and it has been an honour to serve. I look forward to continuing participation in the future. There are several things I will take away with me from my Presidential year. On a personal note, your patience and understanding has certainly helped me become more comfortable with public speaking. So much so that when I recently visited the University of Ottawa to speak with engineering students about my career and the importance of getting involved with industry specific organizations such as ASHRAE and the benefits that come along with participation I wasn't even nervous. Some items we as a chapter can be particularly proud of include:

- Our membership numbers are up from previous years.
- We have two teams from local post-secondary institutes working towards submissions for the ASHRAE Student Design Competition.
- We offered a good mix of strong technical topics and other events,



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

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like the technical sessions and tours, to benefit our membership.

- We confirmed our commitment with ASHRAE Society to fund over the next **5-years** an **ASHRAE OVC Scholarship** to annually provide a source of funds to a worthy local student recipient, encouraging more young people to find a career in our industry.

Moving forward, the chapter is in very capable hands. Although next year's Board of Governors, Executive and many volunteers are a confident and extremely competent group of individuals, I ask everyone to please give your full support to incoming President **Adam Graham** next year and I look forward to the great things to come for the OVC. Enjoy your summer, and see you back at ASHRAE in the fall.

Thank you,

Abbey Saunders
2016-2017 OVC President

 <p>Chris Harrison President</p> <p>chrish@longhill.ca Phone and cell option: 613-226-3856 ext. 24 Fax: 613-226-2715 124 Reis Rd., Ottawa, Ontario K0A 1L0 www.longhill.ca</p> <p>The Energy Conservation People</p>	 <p>CHRISTOPHER FUDGE P.Eng. LEED® AP Commercial & Industrial Sales Engineer cfudge@master.ca</p> <p>TEL 613-829-2816 CELL 613-761-2173 FAX 613-829-3731</p> <p>The Master Group L.P. 25H, Northside Road Ottawa (Ontario) K2H 8S1 MASTER.CA</p>	 <p>Rod Lancefield, P.Eng., LEED® AP Engineering Sales rod@htseng.com C: 613.851.1997</p> <p>HTS Ottawa 1646 Woodward Dr. Ottawa, Ontario K2C 3R8 T: 613.728.7400 Ext. 221 F: 613.728.8032 Toll Free 888.280.8544 ontario.htseng.com</p>
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What You Missed

President Abbey Saunders called the seventh meeting of the 2016/2017 season to order. The meeting took place at **The Centurion Conference and Event Center**.

President Saunders introduced the Board of Governors and the Executive.

Secretary Chris Fudge introduced the evening's seven guests. Total attendance for the meeting was fifty five.

President Elect Adam Graham gave an update on **Research Promotion (RP)**. The **ASHRAE OVC RP campaign** is currently at \$22,000 for the 2016/2017 season. The research promotion prize for the night was be a **50/50 draw**.

President Abbey Saunders gave an update on **ASHRAE CTTC Awards**. The chapter awards program winners will be presented at the **May** meeting.

Nominations committee chair Bob Kilpatrick presented the results of nominations for the executive and board of governors. New to the Executive is **Aaron Dobson** for the position of secretary and new to the board of governors is **Jacob Hough**.

CTTC chair Jacob Hough gave an overview of the technical tour done at the **Dilfo** sheet metal shop.

President Abbey Saunders gave an update on chapter service awards and encouraged members to update their BIOS. Many members of the Ottawa Valley chapter have served the membership in ways other than chapter committees or the executive and might qualify for a service award.

Peter Shaw-Wood gave an update on student activities. He discussed a recent presentation done at the **University of Ottawa**. He also mentioned that many students are looking for jobs right now and that if company are interested in hiring a student to please contact him.

The evening's speaker **Dr. Paul**

Lebbin assisted Mr. Graham with the 50/50 draw. **Cathy Godin** won the draw. **270 dollars** was raised for ASHRAE Research.

The evening's program subject was **Aircraft Ventilation System Operation and Enabling the Canadian Industry to Improve its Design**. Dr. Lebbin is a **Research Council Officer** for the **National Research Council of Canada (NRC)**. Dr. Lebbin is the project manager for the new **Cabin Comfort & Environment Research Center** under construction in **Ottawa**.

One of the main points of the evening's session can be made by an overview of the differences between air craft ventilation systems and building HVAC systems. The market differences between HVAC and air craft ventilation are significant. The global construction market is in the area of **\$8.4 T** while Aerospace market is **\$300 B**. The costs are vastly different though with aerospace being roughly ten times the cost per "bolt". Buildings are also typically custom while aerospace systems are mass produced. The aerospace industry is extremely risk averse while construction industry has low to moderate risk aversion.

Many of the standard terminology is also different from one industry to the other. AHU's are called air cycle machines or "Air Pack", reheat is called trim for example. Operational environments are also very different. Certifications are done at **8,000 ft** in aerospace and wind chills in aerospace can reach **-180F**. Occupancy rates per square foot are over **10 times** greater in aerospace. There is essentially zero humidity at altitude. Fresh air content of supply air is typically **40% to 100%** fresh air, where in buildings it is **10%-20%**. Different standards are used to calculate ventilation rates. The results are that air change rates in aerospace are typically from **25 to 30 ACH**. There are also more detailed data on contaminants than typical buildings. IAQ standards in aerospace publish acceptable values for many different contaminants.



Secretary
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Pressurization must be provided. A human will remain conscious for maximum **15 seconds** at **45,000 feet** without pressurization. This is why flight attendants recommend you place the oxygen mask over your face prior to assisting anyone else, upon loss of cabin pressure. At **25,000 ft** that time is extended to a maximum of **5 minutes** without the cabin pressurization systems. Flights pressurization and depressurization rates are limited through industry standards. Reasons are for stress on human ear as well as the fuselage of the plane.

There are no limits for relative humidity in the aerospace industry. The only sources of humidity are the occupants and the hot/cold drinks served on the plane.

At ground operation the ventilation air is fed directly to the air plane from ground HVAC systems. Alternate ground operation of the ventilation system comes from the auxiliary power unit. This is not typical. For the rest of the operation; taxi, takeoff, climb, cruise and descent ventilation air comes from the engines. Bleed port locations vary by engine type however the air almost always comes from the engine. The air that is introduced from the engines is high temperature. This hot air is introduced into a pre-cooler. This device gets the air down to a temperature that will not harm the passengers. The air is then sent to the air cycling machine. Air craft cabin air distribution is normally a multi-zone system. The air temperature is controlled using trim air. This unit controls the cabin pressure and temperature. Delivery into the air craft is typically through slot diffusers located at the perimeter of the passenger cabin.

Environmental control system (ECS) other considerations are; avionics as they generate a lot of heat, galleys, personal airflow outlets (**PAO**), lavatories, crew rest area and cabin liner. Pressure control is normally accomplished through two valves at the rear of the aircraft.

ECS exceptions: **Boeing 787 Dreamliner**. These units have generators that are powered off the main engines. These generators provide power to turbo compressors that provide ventilation air to the air changer machine. These compressors are variable speed so as to improve energy efficiency of the air craft. The standard bleed systems requires regulating pressure down through modulation of valves as the air is delivered at a constant pressure.

NRC value proposition, through collaboration helps airframers, the aerospace supply chain, operators and regulators to meet the growing consumer demand for economical and comfortable air transport:

- o Enhance passenger comfort
- o Improve flight operations efficiency
- o Increase cabin safety

Focus on integrated human systems engineering. NRC's partners will learn; new ways to improve cabin

comfort and crew effectiveness, evaluate new product designs and cabin layouts and reduce certification and installation risks. The aerospace industry is risk averse. NRC will provide an environment where systems can be tested at no risk to passenger safety. This will assist with introduction of new technologies and systems.

A new building is being constructed at the **Uplands Airport**. The purpose of the facility is to provide a realistic passenger environment. The facility is layout out like a typical airport terminal which serves a few purposes one being to acclimatize the passengers to controller environment prior to the experiments. The **ECS** system at Uplands does not have redundancy as in the event of failure there is no danger. There is a gas fired make up air unit which can provide temperature controlled and very dry air at 5% RH. The supply air is provided through standard air handler is lieu of the systems that provide pressurized air on an air craft. There are chillers used to cool supply air from the air handler as well as fresh air being treated by the make up air unit.

Dr. Lebbin gave a very detailed overview of the cabin environment that is recreated at the NRC Uplands

site. Thermal manikins are used to simulate passengers during some of the experiments. These manikins have roughly a **100W** heat output.

Other areas of study are acoustics. Many newer air craft are getting quite quiet which is not necessarily desirable. Systems are being looked at to provide ambient noise in order to mask cabin noise.

The cabin simulator is an order or two magnitude less expensive to modify for experiments. It creates a playground for companies to test new technologies. The NRC facility will allow smaller Canadian players to play on a global stage.

President Abbey Saunders thanked Dr. Lebbin for his presentation and presented him with a gift.

Mrs. Saunders reminded members that next month's meeting is at the **Centurion Conference and Event Center**. President Saunders also noted that the **ASHRAE HVAC essential course** is taking place this May in **Toronto** and spaces are still available.

Meeting adjourned.

Technical Tour Wrap-up

Dilfo Mechanical hosted a tour of their facility on **April 18** from **3pm to 4:30pm**. There was a group of **15-20ppl** in attendance. The tour began with an overview of the shop and fabrication process followed by a tour of the shop floor by the foreman. Following the tour, there was a presentation on the CAD/CAM

package that is used and how these models are created and implemented into fabrication.

The tour was very interesting and an impressive look at how new technologies are being implemented in the world of mechanical contracting. Thank you to **Pierre** for



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2016-2017
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organizing and to all of **Dilfo** for their help in putting this on.

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Chapter Technology Award

Greetings from the CTTC Chair,

I would like to thank those who took the time to submit an application for **ASHRAE Technology Awards**. We received the following submissions:

- **Georges Maamari for Ecole Des Cavallier**

- **Robert Lefebvre for Ciena; 5050 Innovation Drive**

- **Robert Lefebvre for Longfields-Davidson Heights Secondary School Addition**

We will be acknowledging the above

projects at this month's meeting and I encourage you all to come out and hear about some of the projects in our Region. I would also like to say thank you to **Matt Edmonds** and **Andrew Douma** for assisting during this year's search for suitable projects.

Finally, last month **ASHRAE** presented their annual webcast titled, "**Take Control: Using Analytics to Drive Building Performance**". If you happened to have participated in the webcast, I would love to hear some feedback with the overall presentation. Feel

Committee Chair

Jeff Watson

2016-2017

OVC CTTC Chair

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free to seek me out at the meeting or email me at:

jeff.watson@chorley.com

Any feedback is valuable to the Society as it can assist in improving the overall experience in the future!

Best Regards,
Jeff Watson

YEA

Hi YEA Ottawa Valley!

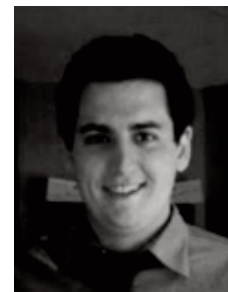
The summer months are quickly approaching and I would like to have one more event to cap off another great year.

At the end of this week I will be sending out an invitation for the final

YEA event. It will be held the on afternoon of **Friday May 26th**.

Thank you again for your continued support!

Joe Della Valle



Committee Chair

Joe Della Valle

2016-2017

OVC YEA Chair

Walmar Ventilation

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IR Ingersoll Rand.

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.



Governor

Adam Moons

2016-2017

Table Top Chair

Master Group

E-mail: amoons@master.ca

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>

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 restaurants are all affected and hopefully protected by their respective HVAC&R systems.

Our objective for the **2016-2017 RP Campaign** is **\$29,000**. Although this seems like a lot, our chapter history has shown us this objective is attainable. No donation is too small, and all money raised goes to **ASHRAE Research Canada**.

Georges Maamari, Abbey Sauders, Michael Swayne, Robert Lefebvre, and Frank Bann have all agreed to help support this cause as a part of the ASHRAE RP Committee. Please contact any of us with your RP questions. We have started our annual calling campaign so expect to hear from one of us shortly if you have not yet.

Last meeting's **50/50** helped support of our **2016-2017 RP**

Campaign. This event raised **\$272.50** for Research. A special thanks to all that have donated tickets. We are always looking for donors that may have something to contribute for our monthly raffles. Please contact me if interested in donating tickets for the upcoming year

As of **April 30, 2017**, we have raised **\$23,375** towards our campaign goal, approximately **81%** of our objective. Thanks to all our donors who continue to support the **RP Campaign**.

Thanks to all our donors who continue to support the RP Campaign.

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 your donation using cheques, please



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

E-mail: adam.graham@hta.com

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.

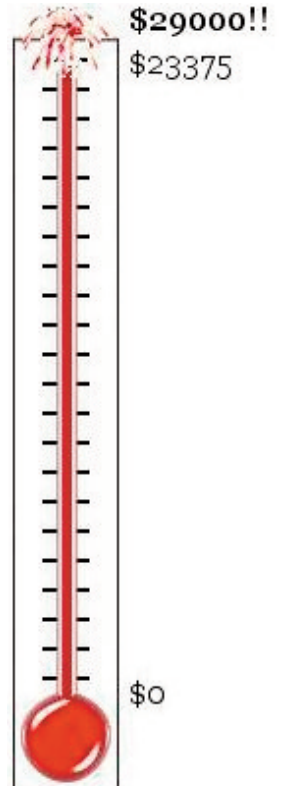
Again, I can't say this enough thanks for your continued support for **ASHRAE Research Canada!**

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>

News Update

ICC Partnership With ASHRAE, AIA, USGBC And IES Means Higher Performing Buildings Will Be Easier To Achieve

ATLANTA – A unified green building code that could become the foundation for **LEED** certification was created in **2011**, thanks to a partnership among **ASHRAE**, the International Code Council (**ICC**), the American Institute of Architects (**AIA**), the Illuminating Engineering Society (**IES**), and the U.S. Green Building Council (**USGBC**).

That effort got a boost in **August 2014**, when ICC and ASHRAE agreed to align the technical requirements of **ASHRAE's Standard 189.1 for High Performance Green Buildings** (189.1) with ICC's International Green Construction Code (**IgCC**) into one single model code.

With that agreement, and with the subsequent definition of each organization's roles, the **ASHRAE Standard 189.1** committee continued revising the standard so it could provide technical content for the IgCC, with the ICC responsible for the administrative sections and publication.

This integrated document, coined the "*IgCC powered by 189.1*," will become the **2018** version of the IgCC (**2018-IgCC**), due to be published in summer **2018**.

"*The 2018-IgCC will provide the design and construction industry with the single, most effective way to deliver sustainable, resilient, high-performance buildings,*" said **International Code Council Board President M. Dwayne Garriss**, Georgia State Fire Marshal. "*The 'IgCC-powered-by-189.1' joint initiative framed the essential sustainable construction building*

blocks on which future resilient initiatives can develop and expand. We appreciate the dedication and efforts of our partners, ICC Members and all who contributed to the development of the IgCC powered by 189.1."

By collaborating on developing the 2018-IgCC, these organizations envision a new era of building design and construction that includes environmental health and safety as code minimums. The goal of the 2018-IgCC is to provide fundamental criteria for energy efficiency, resource conservation, water safety, land use, site development, indoor environmental quality and building performance that can be adopted broadly.

With that foundation, local jurisdictions can build upon regulatory requirements by leveraging complementary leadership strategies that support and encourage the evolution of the building community. Initial steps in achieving these outcomes include publishing the 2018-IgCC, streamlining compliance for aligned strategies in **LEED** certification, and promoting the use and implementation of these tools.

The Integration of ASHRAE Standard 189.1 & IgCC

As a standing project committee, the **ASHRAE 189.1** committee has updated the technical aspects of **Standard 189.1-2014** using ASHRAE's continuous maintenance procedures. To publish the updated version of the standard in **2017**, the committee has deadlines for the many revisions being proposed so they can be included in the **2018-IgCC** publication.

ASHRAE's ANSI-approved process for these proposed changes to the

Committee Chair

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2016-2017

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standard will be wrapping up this summer, with final addenda undergoing public review now. Later this year, the final set of changes for the **2017** version of **Standard 189.1** will be delivered to **ICC**. At that time, ICC will develop the administrative procedures for the technical content and codify the document into the 2018-IgCC.

In anticipation of this timeline, **ICC** did not retain the IgCC committee in **2015**. Members of the ICC Sustainability, Energy & High Performance Building Code Action Committee (**SEHPCAC**) have, however, contributed to the 189.1 process, providing recommendations and proposals within the 189.1 process that seek to carry over provisions from the **2015 IgCC** into 189.1.

These proposals, and those from other stakeholders, have resulted in several dozen changes to the **2017** version of **Standard 189.1**, and in these efforts, the integration of these two documents has begun to take shape. The further integration of green building strategies will continue since Standard 189.1 is on continuous maintenance, meaning the revision process is ongoing, but those further revisions will not affect the 2018-IgCC content.

USGBC Alignment with Green Codes and LEED



Since the initial announcement of the "*IgCC powered by 189.1*" in **2015**, the USGBC has made progress on recognizing the important role of green building codes for voluntary

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rating systems and **LEED** certification.

In the summer of 2015, Green Business Certification Inc. (**GBCI**) announced a package of measures required by **California's** statewide Green Building Standards Code (**CALGreen**) that can now be streamlined when a project seeks **LEED** certification. More streamlining is anticipated in **California** and, importantly, this breakthrough in aligning code requirements with **LEED** pioneered an approach that the **USGBC** can leverage for aligning with forthcoming versions of the **IgCC**.

Once the technical content of the **2018-IgCC** are known (following the handoff from **ASHRAE** to **ICC** later this year), the **USGBC** will undertake an analysis of the measures from the model green code and compare them to **LEED** requirements. This process will begin while the **2018-IgCC** is being codified. The **USGBC** and **GBCI** anticipate being able to communicate further progress on alignment at **Greenbuild** this year.

Promoting the IgCC in 2018

While the publication of the 2018-IgCC in a little over a year will be a milestone achievement, it is only the beginning. In forming the historic agreement among **ASHRAE, ICC, AIA, IES** and **USGBC**, these organizations envision a new era of design and construction where green codes become widespread.

To help realize the vision, a concerted effort will begin to actively promote the 2018 model green code with the goal of gaining wide-scale adoption. The details of this promotion are being formed now, but efforts will begin in early 2018.

Additional details of this co-promotion will be announced later this year.

ASHRAE Enhances ELearning Catalog, Launches New Courses On Professional Ethics And Controlling Moisture In Buildings

ATLANTA – ASHRAE has added two new courses to its eLearning Center catalog – “Ethics for the Built Environment Professional Engineer” and “School of Hard Knocks: Controlling Moisture & Humidity in Buildings.”

The “Ethics for the Built Environment Professional Engineer” course provides an overview of engineering ethics – including explaining the common framework for ethical decisions and providing key definitions needed by every professional engineer in today’s workplace. **ASHRAE’s Code of Ethics** and the **National Society of Professional Engineers’ (NSPE) Code of Ethics** are also discussed. Additionally, a review of several ethical case studies from the NSPE helps course takers better understand the duties and decisions faced by professionals within the built environment industry.

The “School of Hard Knocks: Controlling Moisture & Humidity in Buildings” course provides a wealth of lessons about moisture and humidity-related imperatives of design – both architectural and mechanical – and about moisture issues in construction and operation. The training shows specifics on how dry buildings are more resilient, comfortable and energy-efficient than damp or moldy buildings.

“There is a clear need for easily accessible and effective training for our industry professionals, and ASHRAE is committed to providing those resources. That is why we launched the ASHRAE eLearning Center last year,” says **ASHRAE President Tim Wentz**, Fellow ASHRAE, HBDP. “Offering all of ASHRAE’s world-class educational products – including these two new

courses – in one location is a significant step forward for the industry. The ASHRAE eLearning Center is helping our industry’s engineers meet their professional goals more efficiently, which in turn, better equips them to create a future where the built environment is healthier, more comfortable and more energy efficient.”

In addition to these two new offerings, the **ASHRAE eLearning Center** is full of interactive courses designed by **ASHRAE** professionals that provide educational resources on a wide range of selected building technology topics.

Whether it is enhancing and extending in-person training, growing core technical skills through self-guided study or peer-to-peer collaboration in discussion forums, ASHRAE’s eLearning Center brings convenience and value to industry professionals through distance learning opportunities. Because they’re web-based, all courses and trainings are available **24 hours** a day, **seven days** a week.

Additionally, ASHRAE’s eLearning courses are recognized by most states for **Professional Development Hours (PDHs)** or **Continuing Education Credits (C)**. ASHRAE recommends users check with their specific State Board for professional development requirements.

Visit www.ashrae.org/elearning for more information about **ASHRAE’s** growing catalog of online training in HVAC, refrigeration, high-performance buildings and more.

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Membership Update

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

Blake Strachan
Connor Algie
Luc Taillefer
Wesley Orr
Lee Sgarbossa
David Coyle

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

I would also like to remind everyone to update your Biographical Information in your ASHRAE Member Profile.

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
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E-mail: cbaribeau@bpa.ca

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 President
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Advertising

Advertising career opportunities on the **ASHRAE Ottawa Valley** website makes good business sense. We offer a unique way to reach technical professionals and make your ad dollars work hard for you.

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

Rates for career opportunities ads are as follows:
Chapter Member: \$50/month, \$80/2 months, \$100/3 months
Non-member: \$250/month

Note: Purchase of additional months will only have a discounted rate if purchased up front. Otherwise the standard rate will apply for additional months.

Placement of an Ad

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

Please note that ads require prepayment made to the treasurer. Please register and pay through the online system and contact **Daniel Redmond** (danielredmond@cunet.carleton.ca) with any questions. Follow the link below for payment.

<https://ashraeottawa.simplesignup.ca/en/1774/index.php?m=eventSummary>

The ads will appear on the website until the end date for publication provided in the submitted form. To extend the ad, please resubmit the form with the new publication dates and the required prepayment amounts.

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
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