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- TE: Tuesday May 21, 2019 Social: 17:30, Dinner: 18:30, Program: 20:00
- LOCATION: Centurion Conference & Event Centre 170 Colonnade Rd, Nepean, ON K2E 7J5

**THEME:** History

### PROGRAM: Centre Block Rehabilitation

**Centre Block** is a vivid example of **Canadian** confidence in the future; forged in a time of war a century ago. **Centre Block** is home to the nation's federal **parliament** and is a symbol of the country's commitment to **democracy** and the principle of **freedom**. It is the place of work for parliamentarians and their staff, and the centerpiece of **Parliament Hill**, the country's most significant gathering place for public **expression** and **celebration**.

The Centre Block we know today was rebuilt following the fire of February 1916. With its monumental **Gothic Revival** style, the reconstruction symbolized the **imagination**, **will** and **resources** of a fledgling nation, mustering the best of **Canada** through the innovative use of **material**, construction **techniques** and **technologies** of the day. Over the years, the building has undergone numerous small interventions to address maintenance issues and accommodate changing needs and technologies, but it remains essentially the building reconstructed more than 100 years ago.

Today, the building does not meet the contemporary functional and operational requirements of **Parliament**. Centre Block's base building systems have reached the end of their life cycle, and neither its structure nor its systems comply with contemporary standards and requirements. Major interventions are required to modernize the building's aging infrastructure and meet contemporary expectations of wellness, safety and sustainability. (*Continued pg.2*)

### SPEAKER : Martin Sing, P.T., LEED AP BD+C Sustainability & Energy Team Lead, Centre Block Rehabilitation CENTRUS (Joint Venture of WSP and HOK)

Over his past 11 years at **WSP**, **Martin** has applied his passion for **design**, **resource conservation** and **technology** to delivering enduring **sustainable solutions** for his clients. In the process, his **vision** and **leadership** contributed to elevating **WSP**, both locally and nationally, to one of the top sustainability teams in **Canada**. Having recently played a key role in shaping the federal government's policies on **sustainability**, **carbon** and **climate action**, **Martin** is now focusing his passion to implementing the government's vision to the rehabilitation of Canada's most significant and iconic building, **Centre Block**.

Space is limited so please register online at the link below

Chapter Members: \$48.00 Student Members: \$35.00 Past President: \$0.00

Guests: \$65.00 Life or Fellow: \$48.00 Past President Companion: \$0.00

https://ashraeottawa.simplesignup.ca/en/4020/index.php?m=eventSummary

#### (Continued)

The project represents a 'once in several generations' occasion to both conserve treasured spaces and symbols of **Canada's heritage**, and to enhance the experience of parliamentarians, staff, citizens, and global visitors with renewed and expanded accommodations that embody the ongoing **growth**, **development** and **diversity** of the institution and the nation it represents.

The recent closing of **Centre Block** marks a new chapter in the life of the building. Over the next decade, more than 1,000 **architects**, **engineers**, **designers**, **conservators**, and **construction trades** and **professionals** will participate in the rehabilitation of **Centre Block**. **Martin Sing**, **Sustainability & Energy Team Lead** from the **CBR Design Services** joint venture **CENTRUS**, will introduce us to the **Centre Block Rehabilitation Project** and provide insight on the scope of the project, the **challenges** of rehabilitating an iconic heritage building and the **approach**, **strategies** and **objectives** to be explored.

### **President's Message**

As we move through April and into May, the 2018-19 ASHRAE year nears an end. I would also like to thank everyone who joined us at the Centurion Centre on April 16<sup>th</sup> where we had the fantastic opportunity to hear Society Past-President **Bjarne Olesen** speak about research into radiant heating and cooling systems.

We had the pleasure at the April meeting to Awarding the first ever **Ottawa Valley Chapter ASHRAE Scholarship**. At the April meeting, **Matt Woods** from **Carleton** was presented with the \$3,000 award to put towards his education in **Sustainable and Renewable Energy Engineering** at **Carleton University**.

Our next meeting will be the last for the 2018-19 ASHRAE year. We wish to invite all of our Past Presidents and their Companions to join us for the evening as we celebrate the history of the chapter. Martin Sing from WSP will present on the Centre **Block** Rehabilitation. This major significant project undertakes renovation to the Parliament **Buildings** and will set the stage for the buildings for many decades to come. This truly is a 'once in several generations' type of project which is sure to be of interest to all and

connects very well to our theme of **History** for the evening.

Please go to our website at www.ashrae.ottawa.on.ca and click on the registration link to sign up for the program meeting.

The year has passed remarkably quickly and it seems like just yesterday we were preparing for the May 2018 meeting. We have had a busy year and had many people work tirelessly to provide a good mix of technical program topics, technical sessions, seminars and events. I have thoroughly enjoyed serving the Chapter and appreciate all of the hard work and dedication from the many people that have helped to make this year a success. We are very fortunate to have such a strong Chapter here in **Ottawa** which is the direct result of the contributions of many volunteers and members. Thank you to all of the volunteers for all your help!

Moving forward, the Chapter is in great hands and we look forward to the installation of the 2018-19 **Board of Governors** and **Executive** at the May meeting. Please give your full support to the incoming **President Aaron Dobson** and his team next year as they prepare to deliver great things to the Chapter.

MECHANICAL SERVICES

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President Daniel Redmond 2018-2019 OVC President Carleton University

E-mail: daniel.redmond@carleton.ca

Thank you very much. I hope everyone has a safe and happy summer and I look forward to seeing you soon!



5845 Kennedy Road Mississauga, ON L42 2G3 Tei: 905-712-3118 Toll Free: 866-805-7089 Cell: 416-659-0823 Fax: 905-712-3124 clark.campbell@ca.bellmo.com www.bellmo.ca

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senior project manager

Ameresco Canada Inc.

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### 2018-2019 Research Promotion

Thank you very much for your continued support of **ASHRAE Research Canada!** 

ASHRAE Research plays an important role to improve the quality of life and to answer tomorrow's questions through research today. For every dollar raised towards Research Promotion in Canada, four dollars are invested towards research projects in Canada by ASHRAE Society.

The 2018-2019 **RP Campaign** Team includes: **Rob Lefebvre**, **Frank Bann**, **Michael Swayne**, **Georges Maamari**, **Abbey Saunders**, **Adam Graham** and **Dan Redmond**.

To date, the **RP campaign** has raised 92% of our \$34,300 goal for 2018-2019. Thank you to everyone

who made this possible.

Thank you to **Ainsworth** for donating **Ottawa RedBlacks** football tickets which helped raise \$695 towards the **RP campaign**. Congratulations to Pierre De Gagné who was the lucky winner.

The following list of current 2018-2019 **RP campaign** donors will be provided in each monthly **newsletter** and updated on the **website**, so donate quickly to see your name appear!

Two of the easiest ways to make your donation to the 2018-2019 **RP Campaign** are by clicking either of the links below.

Should you wish to donate by cheque, please make payable to



President-Elect Aaron Dobson 2018-2019 OVC President-Elect Ainsworth

E-mail: aaron.dobson@ainsworth.com

#### **ASHRAE**

**Ottawa Valley Chapter.** My contact details are below, and I will gladly make arrangements to pick-up any cheques if needed.

Aaron Dobson Ainsworth Inc. 100-2935 Conroy Road Ottawa, ON K1G 6C6 aaron.dobson@ainsworth.com p: 613.203.1951

Goal \$31,545 Raised	<b>ASHRAE Partner</b> \$5,000 - \$9,999	<b>ASHRAE Associate</b> \$2,500 - \$ 4,999	Major Donor Silver \$1,000 - \$2,499
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	Special Thank-You to the following Donors for their contribution Belimo Aircontrols (CAN), David Michelin, Chris Brown, Ross MacLaren, ProEng Consulting, Aerodynamics & Associates, T.P. Crawford, Alan Moreau		

ASHRAE Society link:https://xp20.ashrae.org/secure/researchpromotion/rp.html ASHRAE OVC link:<u>https://ashraeottawa.simplesignup.ca/en/2594/index.php?m=eventSummary</u>

### What You Missed

The April program meeting of the 2018/2019 **ASHRAE** season was held at the **Centurion Conference & Event Center** on **Colonnade road**, and the theme for the evening was **Research Promotion**. The meeting was attended by seventy-six guests, which consisted of forty-nine **members**, seventeen **guests**, and ten **students**. The program for the evening was **Radiant heating and cooling** presented by **Bjarne Olesen**.

President Daniel Redmond called the meeting to order, and introduced the Executive and Board of Governors. Secretary Adrianne Mitani introduced the guests for the evening and Membership Chair Andrew Brown introduced the new chapter members and called up RVC Genevieve Lussier.

**President Elect Aaron Dobson** spoke about the current **Research Promotion** campaign, which is currently at 70% of our goal. The night's raffle was for four tickets to see the Ottawa Red Blacks versus the Hamilton Tigercats on June 1st. President Daniel Redmond introduced the new student scholarship for the chapter, handed out to one undergraduate student each year, which was then presented to Matthew Woods currently in his third year at Carleton University for Sustainable and Renewable Energy Engineering. He also spoke about the awards given out at the Ottawa Regional Science Fair to three student groups who did projects on **Passive House** design, Green Roofs, and HVAC filtration effectiveness.

Secretary Adrianne Mitani spoke about the upcoming YEA event for the Batl Axe throwing, which has been moved to May 10<sup>th</sup>. James Pady spoke about the past seminar and tomorrow's seminar presented by Bjarne Olesen. TotalHVAC tabletop is presented by Steve Moons, who spoke about Twa radiant heating and cooling

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### panels.

Andrew Douma shared sad news that Ed Cassidy passed away earlier this morning. He was a cofounder of TotalHVAC and will be greatly missed by the community.

Dinner was an assorted buffet. The tickets were raffled off with \$695.05 raised for **ASHRAE Research** and they were won by **Pierre De Gagne**.

**President Daniel Redmond** introduced past **ASHRAE president Bjarne Olesen**. **Bjarne** has been working in thermal comfort for over 45 years including his **PhD**.

Radiant heating and cooling use large surfaces to exchange heat to their environment, and since the low heating and high cooling temperatures are closer to room temperature, they more are efficient and comfortable. They are more efficient because they transfer 100% of their energy to the environment.

If radiant systems are **embedded** then measures must be taken to insulate it from the main structure to ensure all of the energy goes towards the occupied spaces. The other option is to **suspend** the panels above occupants.

Types of surfaces are **floor**, **ceiling** and **wall**, where in heating floor is the most efficient and ceiling is the least. In cooling ceiling is the most efficient while floor is the least. Surface temperatures are limited by comfort since people dislike warm heads and cold feet, and prefer warmer feet and cooler at head height.

Radiant heating and cooling work well with **DOAS** (direct outdoor air supply) systems, which can also take care of some of the **space cooling**. Radiant cooling requires careful monitoring of the **relative humidity** and **dew point** in the space to maintain the cooling supply water



Secretary Adrianne Mitani 2018-2019 OVC Secretary Smith+Andersen

E-mail:

*adrianne.mitani@smithandandersen.com* temperature above the dew point and prevent **condensation**.

These hydronic systems tend to be **slow reacting** since they use **thermal mass**, they will not react quickly to changes in the internal loads. Therefore preheating of cooling a space can help moderate **temperature swings**.

For a building in **Bangkok** radiant floors were used at low level and the air was allowed to stratify at high level, with supply air at a moderate 18degC. Condensation with mitigated through tight dew point control, dehumidification of the outdoor air and putting the radiant manifolds within the supply diffusers.

In **India** there was a direct comparison of VAV with radiant cooling, published in the **ASHRAE** journal, both buildings were identical except for the **HVAC** systems. The radiant building used 30% less **energy**. They also used the radiant panels in **daylighting** and **sun shading** strategies.

There are **limitations** of radiant design, including too much **glazing** and **sun load** into the building, **acoustics** because of the exposed slabs and **latent load control** required for **condensation control**.

**President Daniel Redmond** thanked the speaker and presented a gift of a commemorative coin to **Bjarne Olesen**. He reminded attendees of the survey which will be emailed. The next meeting is May 21st at the **Centurion Conference** and **Event Center**.



May 2019

## **News Update**

# ASHRAE and IIR Establish New Definitions of Five Refrigeration Keywords

ATLANTA (Apr. 11, 2019) – ASHRAE and the International Institute of Refrigeration (IIR) announced the establishment of new definitions for five refrigeration keywords. The keywords are cooling, refrigeration, chilling, freezing and cold chain.

The definitions are the result of more than a year of discussions and were established to clarify the meaning of basic terminology used in the **HVAC&R** industry.

"The new definitions will help those within our industry, as well as the general public, gain a clearer understanding of important refrigeration keywords that are often misused or too broadly defined," said **2018-2019 ASHRAE President Sheila J. Hayter, P.E.** "We appreciate the contributions of IIR and anticipate that the adoption of these definitions will be positive."

To avoid confusion, the official definitions are:

#### Cooling

 Removal of heat, usually resulting in a lower temperature and/or phase change
 Lowering temperature

#### Refrigeration

(1) Cooling of a space, substance or system to lower and/or maintain its temperature below the ambient one (removed heat is rejected at a higher temperature) (2) Artificial cooling

(2) Artificial cooling

Rod Lancefield, P.Eng., LEED®AP

### Chilling

Cooling of a substance without freezing it

### Freezing

HTS Ottawa

ontario.htseng.com

Solidification phase change of a liquid or the liquid content of a substance, usually due to cooling

#### **Cold Chain**

Series of actions and equipment applied to maintain a product within a specified low-temperature range from harvest/production to consumption

"It was important that the differences that might exist in these definitions between the IIR and ASHRAE be erased for more consistency. It now seems important for us to reach even greater harmonization on an international level to establish universal definitions," said Jean-Luc Dupont, head of the Department of Scientific and Technical Information of the IIR.

**IIR** has called on all national and organizations regional and associations to adopt and disseminate the new definitions. The definitions will be included in **ASHRAE** Terminology, its free comprehensive online glossary of 3,700 terms and more than definitions related to the built environment, with a focus on heating, ventilating, air conditioning, and refrigeration (HVAC&R), as well as building envelope, electrical, lighting, water and energy use, and measurement terms.

### About the International Institute of Refrigeration (IIR)

The International Institute of Refrigeration (IIR) is an independent intergovernmental science and technology-based organization which promotes knowledge of refrigeration and associated technologies and applications on a global scale that improve quality of life in a cost effective environmentally and sustainable manner. Visit www.iifiir.org to learn more.

### ASHRAE Publishes New Guideline on Energy Efficiency for Historic Buildings

**ATLANTA** (April 18, 2019) – **ASHRAE** published a new guideline for increasing **energy efficiency** in

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f 613-722-5486 x 223 C 613-262-6293 F 613-722-2817



Governor Jacob Hough 2018-2019 OVC Program Committee Total HVAC

E-mail: jacobh@totalhvac.com

historic buildings while minimizing the disturbance of the building's historic character and significantly historic characteristics and materials. ASHRAE Guideline 34-2019, Energy Guideline for Historic Buildings, provides comprehensive and detailed descriptions of the processes and procedures for the retrofitting of historic buildings to achieve greater measured efficiency. The guideline is particularly aimed at providing guidance for 'listed' historic buildings; i.e., those formally designated or eligible to he designated as historically significant by a governing body.

Guideline 34 provides а step-by-step procedure for sensitive energy upgrading, beginning with forming the project team and gathering building and energy use histories, to instituting energy efficiency measures (EEM). Building envelope improvements, environmental control strategies, energy system analysis, HVAC selection and lighting design considerations are all addressed in the guideline. All recommendations are made in consideration of preserving the integrity of the building historically valuable character, materials and associated artifacts.

"The committee members writing this guideline are exceptionally knowledgeable about the special issues related to historic buildings and the care needed to preserve them," said **2018-2019 ASHRAE President Sheila J. Hayter, P.E.**, who also served as chair of the international guideline committee. "The committee's intent was to

Jp2g Consultants Inc.

Mark MacIsaac, P.Eng. Mechanical Team Lead

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provide guidance for worldwide communities and specifically for entire project teams—not just engineers."

Many historic buildings were constructed without insulation and designed without active air conditioning systems—especially for mechanical cooling. Retrofitting such buildings requires specialized techniques during construction and operation, as well as sensitivity to respecting and preserving historical significance.

With nearly two-thirds of existing buildings estimated to still be in service by 2050, project teams retrofitting any historic building for energy efficiency can benefit from the content of the guideline.

The cost of ASHRAE Guideline

**34-2019**, Energy Guideline for Historic Buildings is \$53 for **ASHRAE** members (\$62, non-members). To order, visit www.ashrae.org/bookstore or contact **ASHRAE Customer Contact Center** at 1-800-527-4723 (United States and Canada), 404-636-8400 (worldwide) or fax 678-539-2129.

### **Membership Update**

Greetings Everyone,

Another great year in the books. I'd like to thank you all for your support being my first year as Membership Promotion Chair. As of the end of the third quarter (3/31/2019) we have reached approximately 80% of our growth goal. This puts us in a great place to finish the year strong. I will conduct a telethon this month to close the gap. If you are interested in giving me a hand feel free to contact me. We will see you all at the last meeting of the year.

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

Karine Huberdeau Eric C. Perrault Frederik David Joyal Faizal Sudoolah



Membership Promotion Andrew Brown 2018-2019 OVC Membership Committee Master Group

E-mail: aabrown@master.ca

## **ASHRAE Table Top Displays**

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.

This is your last chance to host a table top for this **ASHRAE** season...And there is only one spot left! Book your display before it is gone!

Please contact **David Michelin** (david.michelin@hts.com) to secure yours today!

Cost for a table-top is \$225!

Payment is to be made through the online system prior to the date reserved.

Follow the link below:



Table Tops David Michelin 2018-2019 OVC Table Tops HTS Engineering

E-mail: david.michelin@hts.com

https://ashraeottawa.simplesignup.ca/en/3654/index.php?m=eventSummary



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Sylvain Chenier, P. Eng., ing., LEED@AP Vice President - Mechanical Sylvain.Chenier@mckeeottawa.ca

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# **Regional Science Fair**

Happy spring! The **OVC** was happy to be invited and to attend the **Ottawa Regional Science Fair** again this year. on April 5<sup>th</sup> and 6<sup>th</sup>, the Chapter was represented by many members including some from the OVC executive board: Dan Redmond, Aaron Dobson and Mitani. From Adrianne great selection of student projects, three were chosen for their quality and their relation to the **HVAC** industry. Congratulation to our winners: Cece Weiser a grade 8 student who did a project on `Reconceptualizing Home Design', Kathlyn Buckley a grade 7 student who did a project on `Rooftop Gardens: the new cool', and Valerie Han and Karen Wang

two grade 8 students who did their project on 'Furnace Cleanliness'. The science fair was once again a reminder that the future of our industry is **students**. We are happy to see there are many bright minds getting interested in science and engineering at a young age. I can't wait to see what they come up with next!

On Wednesday April 17th, Bjarne Olesen gave a talk at Carleton **University** for over 20 students. The talk was very well received and relevant to many of the projects that are ongoing at the Carleton **University** . A big thank you to **Bjarne** for taking time to see the



Activities Elizabeth Primeau 2018-2019 **OVC Student Activities Total HVAC** 

E-mail: elizabethp@totalhvac.com students and to Jayson Bursill and **Dan Lowcay** for organizing the event.

If you are interested in getting involved with student activities or have any ideas for events, feel free to reach out to me! Always happy to talk about new ways to get students involved.





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### Ottawa Valley ASHRAE Technology Awards

### **Call for Submissions**

WHY?	<ul> <li>Recognize local ASHRAE members for innovative designs proven through operation</li> <li>Communicate these designs to other ASHRAE members</li> <li>Highlight achievements of ASHRAE to other professionals</li> </ul>
	and societies including building and facility owners
HOW?	<ul> <li>Short form (click here) for chapter level awards</li> <li>Single page application form</li> <li>11x17" system schematic diagram</li> <li>Two page narrative</li> <li>Long form (click here) for region and society level awards</li> <li>Three page application form</li> <li>Ten page report including schematics &amp; diagrams</li> </ul>

Submissions due May 2nd, 2019

Contact: Jacobh@totalhvac.com

#### Smith + Andersen

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Michael St. Louis B.Eng., P.Eng. Associate Principal d 613 691 0265 m 613 316 7297 Michael.St. Louis@smithandandersen.com

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David Yin, P.Eng., LEED AP Senior Associate, Buildings Engineering

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## **ASHRAE OVC Golf** Tournament 2019

Registration for the 2019 edition of the **ASHRAE Golf Tournament** is now full! This year we will be returning to The Marshes Golf Club and the tournament is going to be held on Tuesday June 25th. The format for the tournament remains unchanged, we will be playing a **four player** scramble (also known as **Best Ball**) and **dinner** is included as part of the entry fee. Event details, costs and a payment link are all listed below.

E-mail: rod.lancefield@hts.com

**Publicity** 

Rod Lancefield

It is also worth noting that Sponsorships of the Tournament can be purchased online and are still available. A Sponsorship includes a sign on the course at either a green or tee-off and recognition at the dinner portion of the event as well. This Tournament is a fund raiser for ASHRAE Research and the local ASHRAE Chapter, so what better way to support **ASHRAE** while getting some advertising and industry awareness at the same time. Finally, if you have somebody who is interested in joining the dinner portion only then the option is also available to purchase a seat for the dinner.

### Date: Tuesday June 25, 2019 Location: The Marshes Golf Club, 320 Terry Fox Drive, Ottawa, ON K2K 3L1

Registration/Lunch:	11AM
Golf:	12PM (noon shotgun)
Dinner:	6PM (immediately following golf)

### Note: A BBQ lunch is included and will begin at 11am.

https://ashraeottawa.simplesignup.ca/en/4509/index.php?m=eventSummary

If you have any questions or if you need any additional information please contact **Rod Lancefield** (Telephone: 613-728-7400, Email: rod.lancefield@hts.com). Please also contact Rod if you would like your name added to the waiting list should any spots become available.



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### 2018-2019 Publicity Committee Co-Chair HTS Engineering Ltd.

# 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 E-mail: amoons@master.ca 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 Adam Moons (amoons@master.ca) with any questions. Follow the link below for payment.

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.

Link: https://ashraeottawa.simplesignup.ca/en/2590/index.php?m=eventSummary Link: https://ashraeottawa.simplesignup.ca/en/2593/index.php?m=eventSummary

## **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.lancefield@hts.com for more details.

Payment will be made through the online system. Follow the link below for payment. https://ashraeottawa.simplesignup.ca/en/2591/index.php?m=eventSummary

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

**Publicity** 2018-2019 Publicity Committee Co-Chair HTS Engineering Ltd. E-mail: rod.lancefield@hts.com



Treasurer Adam Moons 2018-2019 **OVC** Treasurer Master Group

Publicity Rod Lancefield

2018-2019 Publicity Committee Co-Chair HTS Engineering Ltd.

E-mail: rod.lancefield@hts.com

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