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# ASHRAE Ottawa Valley Chapter

DATE: Tuesday September 15, 2020

1600 - 1730 Hrs EST

**LOCATION:** Zoom Webinar

PROGRAM: IAQ and Cognitive Functioning in High Performing Buildings

Achieving balance among desired goals for indoor air quality (IAQ), energy consumption, and occupant comfort within the built environment is challenging. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) endeavors to achieve this through guidelines and standards focused on advancing building science as it relates to environmental quality. This presentation will review the commonly used design quides found in ANSI/ASHRAE Standard 62.1, "Ventilation for Acceptable Indoor Air Quality."

The current form of ANSI/ASHRAE Standard 62.1 employs two mechanical ventilation procedures to provide acceptable IAQ in buildings: The Ventilation Rate Procedure and the Indoor Air Quality (IAQ) Procedure. While the Ventilation Rate Procedure provides only a dilution solution for the control of typical offending contaminants for a specified occupancy, the IAQ Procedure provides a directed approach by reducing and controlling the concentrations of selected air contaminants of concern through both dilution and enhanced air cleaning.

Rather than relying only on diluting the concentration of contaminants with outdoor air, designing with enhanced filtration of both recirculated and ventilation outdoor air can improve IAQ and result in the protection of the occupied space. This presentation will focus on the application of enhanced particle, gas-phase and biological filtration for compliance with Standard 62.1. An outline of the design aspects to consider will be reviewed, with the focus on achieving acceptable levels of contaminants of concern within the occupied space while considering the desire to meet high-performance building standards and improved cognitive functioning.

SPEAKER: **Brian Monk** 

P.Eng., ASHRAE DL, Carrier Corp.

Brian Monk is National Sales Manager, responsible for Carrier Custom Air Handling Solutions, specializing in design of air treatment systems, including airborne contaminant control and dedicated outdoor air systems with energy recovery. (cont.)

Please register online at the link below

ASHRAE Associate/Affiliate/Member: \$0 Non-Member: \$10.00 ASHRAE Student: \$0 Non-MemberStudent: \$10.00

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

Mr. Monk is also an instructor for Carrier University's Sustainability Symposiums under the International Association for Continuing Education and Training (IACET) program which provides CEU Credit for Professional Engineering Licensure.

His academic background comprises of a college degree in Ap-

plied Science (Building Systems Engineering Technology) from Vanier College of Montreal and a Bachelor of Building Engineering from Concordia University of Montreal. He is a Registered Professional Engineer with the Province of Quebec, Canada.

Mr. Monk is an ASHRAE Distinguished Lecturer, and Part-Time Professor in the Faculty of Building Engineering at Vanier College. He is also a member of the IAQA (Indoor Air Quality Association) and a member of Carrier's Healthy Building Center of Excellence commit-

# **President's Message**

Welcome to the Ottawa Valley Chapter of the American Society of Heating, Refrigeration Air-Conditioning Engineers (ASHRAE). We are open for business! Established in 1952, our chapter has continued to grow and flourish. We have always had members who are on the forefront of the industry in all manner of ways. This year is yet another chance to showcase the talent and dedication of our chapter.

I'm incredibly excited to be able to celebrate this new chapter year with you all. While there are challenges that we will face, there has never been a better team (meaning all of our ASHRAE OVC) to take these on, and champion our industry into a wonderful season.

With a storied history dating back to 1894, ASHRAE is an international organization of 54,000 persons. Its sole objective is to advance, through research, standards writing, publishing and continuing education, the arts and sciences of heating, ventilation, air conditioning and

refrigeration (HVAC&R) to serve humanity and promote a sustainable world.

Our meetings will continue to be hosted on the third Tuesday of the month, though the timing will be changed to better attract our membership in the online setting. We will also continue to update our membership on technical sessions, presentations, and all manner of engagement, throughout the year. Please be sure to stay tuned for information regarding all the options for you, your teammates, your friends and family to participate.

The program for the remainder of 2020 is dynamic, and my thanks goes out to our team for their hard work in securing the speakers we have. We will be beginning with Brian Monk. Brian is a talented and engaging presenter, and I look forward to having him break the ice for both this season, as well as our virtual meetings for the OVC.

We will have a stronger social media presence this year in an effort to best



President Adam Moons 2020-2021 **OVC President** Master Group

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you all informed and engaged. The Ottawa Valley Chapter has always had a community focus, and we will continue to work diligently to ensure that we all grow in the years ahead. To that end, I ask that you all take a minute to reach out to any of our board or executive, should you have any thoughts or insights into the betterment of our chapter.

I hope that this finds you all well!

With Thanks and Warm Regards, Adam Moons – Master Group 2020-2021 OVC President

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# **Membership Update**

Greetings Everyone,

It is now September, which means the nights get colder, the leaves begin to change, and best of all, another ASHRAE season is upon us!

This year I attended my first CRC. Although it was virtual due to the current circumstances, it was an amazing experience. Many great discussion topics were circulated at this workshop. A question that was brought up, which I challenge you to ask yourself is, "What opportunities and learning experiences would I have missed out on if it weren't for ASHRAE?" Even if you don't have a concrete response right now, you hopefully will be more equipped to answer this question in 8 months.

With the expectation that this

upcoming year being different than any year before, please understand how much we appreciate your continued support throughout these times. We are excited with the virtual meetings we have planned, and just like our in-person meetings in the past, we are confident we will be able to provide you with interesting and relevant information. Please don't hesitate to reach out to "e-introduce" yourself. I look forwarding to catching up with as many of you as possible over this ASHRAE year.

Below is a list of new members to our Ottawa Valley ASHRAE Chapter. Welcome aboard!

- Ahmad Khadijah
- Daniel Vivian
  - Andrew Kazmirchuk
- Rishav Goel



**Membership Promotion** Josh Bourbonniere 2020-2021 **OVC Membership** Committee TRANE

**E-mail:** josh.bourbonniere@trane.com

- Joshua Foster
- Akaal Dhaliwal
- Allen Holman
- Matthew Van Gurp
- Elisabeth Girgis
- Enrique Chavarria
- JR Montsion
- Edgar Djia
  - Jalal Zaitouni
- Zoya Malekmohammadi

# **Student Activities**

We would like to congratulate the Carleton ASHRAE Student Branch for winning the Best Student Branch 2019-2020 award for Region 2! This is the second year in a row that the Carleton ASHRAE Student Branch has received this honor.

To continue strong student activities within the Ottawa Valley during COVID-19 measures we will be launching a new initiative to connect students with members of the

chapter in an informal discussion format. This will include groups (3-10 university students) and one mentor from the Ottawa Valley Chapter discussing their work, providing advice, and fielding questions. If you have an hour of free time and are interested in sharing your knowledge and professional experience with eager students please contact me at jaysonbursill@cmail.carleton.ca and I will add you to my roster for these



**Student Activities** Jayson Bursill 2020-2021 **OVC Student Activities** Carleton University

E-mail: jaysonbursill@cmail.carleton.ca events.

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# **News Update**

#### ASHRAE Epidemic Task Force Releases Updated Building Readiness Guide

ATLANTA (August 18, 2020) – As many buildings are preparing to reopen during this pandemic, the ASHRAE Epidemic Task Force has updated its reopening "Building Readiness" guidance for HVAC systems to help mitigate the transmission of SARS-CoV-2.

"The Building Readiness Guide includes additional information and clarifications so that owners can avoid operating their HVAC systems 24/7," said Wade Conlan, ASHRAE Epidemic Task Force Building Readiness Team lead. "By rolling out this updated guidance, we are hoping to provide a more robust structure for building owners to complete the objectives of their Building Readiness Plan and anticipate the needs of building occupants."

Specific updated recommendations to the building readiness guidance include the following:

Pre- and Post- Flushing Strategy: The intent of this strategy is to ensure the ventilation assist in removing bioburden during, pre-, and post- occupancy of the building. The building is flushed for a duration sufficient to reduce concentration of airborne infectious particles by 95%. For a well-mixed space, this would require three air changes of building volume based on outside air cfm (or three equivalent changes air including the effect of filtration and air cleaners) as detailed in the calculation methodology. There is also some guidance on methods to potentially increase the quantity of outdoor air introduced by systems.

o Energy Recovery Ventilation (ERV) Systems Operation: Helps determine if your energy wheel is well designed and/or well maintained and whether it should remain in operation. Keep in mind, that if any issues are fixed it could be reengaged. Helpful links and information to the ERV Guide which

will help owners determine if their energy wheel should remain in operation.

o Building Readiness Modes of Operation for the Building: These should include the following:

Epidemic Operating Conditions in Place (ECiP)

Occupied- at pre-epidemic capacity

Occupied- at reduced capacity o Unoccupied temporarily

Operation during building closure for indefinite periods

Post-Epidemic Conditions in Place (P-ECiP)

Prior to Occupying

Operational Considerations once Occupied

The guidance still addresses the tactical commissioning and systems analysis to develop a Building Readiness Plan, increased filtration, air cleaning strategies, domestic and plumbing water systems, and overall improvements to a systems ability to mitigate virus transmission.

# ASHRAE Introduces Updated Reopening Guide for Schools and Universities

ATLANTA (July 22, 2020) – The ASHRAE Epidemic Task Force has developed guidance on the operation of HVAC systems to help mitigate the airborne transmission of SARS-CoV-2 as schools prepare to reopen for the fall academic year.

The 41-page Presentation includes convenient checklists to prepare educational buildings to resume occupancy such as starting up HVAC systems as well as checks and verifications to maintain during the academic school year. The guidance is meant to provide practical information to school districts and university campus environmental health managers, facility managers, administrators, technicians, and service providers.

"As schools prepare to reopen for the fall academic semester, it's important



CTTC Chair Elizabeth Primeau 2020-2021 CTTC Chair Total HVAC

E-mail: elizabethp@totalhvac.com

to keep children and school staff safe," said 2020-21 ASHRAE President Charles E. Gulledge III, P.E. "ASHRAE's school reopening guide will serve as a resource to school leaders as they work in lockstep with health experts to finalize plans to keep everyone safe." The guide includes the following topics:

- Determining Building Readiness
- Equipment & System Specific Checks & Verifications During the Academic Year
- New/Modified Facility Design Recommendations
- Filtration Upgrades
- Operations of Occupied Facilities
- Controlling Infection Outbreak in School Facilities
- Higher Education Facilities
   Recommendations

Also included is guidance formulated to help designers retrofit and plan for the improvement of indoor air quality and to slow the transmission of viruses via the HVAC systems as well as new guidance on student health facilities, laboratories, athletic facilities, residence halls, and large assemblies, lectures and theatres.

"School and university officials are challenged with making very difficult decisions on how to best protect both students and staff as education facilities reopen, said Corey Metzger, ASHRAE Epidemic Task Force Schools Team lead. "This guidance offers a solid framework on ventilation control, filtration and maintenance that can be applied to different climate zones, building types and HVAC systems."



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#### **New Advanced Energy Design** Guide Course Available Achieve **Zero-Energy** School **Buildings**

ATLANTA (August 4, 2020) - A new eLearning course is now available from industry leading organizations to demonstrate how to achieve cost effective advanced levels of energy savings in schools.

The eLearning course, Achieving Zero-Energy Building Design, is adapted from the Advanced Energy Design Guide for K-12 School Buildings and establishes a set of performance goals for achieving zero-energy in all climate zones, in both site and source energy. The course was developed by the U.S. Department of Energy (DOE) through the National

Renewable Energy Laboratory (NREL), in partnership with ASHRAE, the American Institute of Architects (AIA), the Illuminating Engineering Society (IES) and the U.S. Green Building Council (USGBC). The course will be offered through each partnering organization's eLearning platform.

"The goal of this eLearning course is to prepare engineers, architects, designers building owners and other practitioners with in-depth knowledge to improve skills in high-efficiency building design," said Paul Torcellini, project committee chair. "There are many incentives for schools to reach zero energy usage including budget benefits of lowered energy consumption and increased student performance due to a healthier learning environment. This

course includes the information and real-life best practices needed to encourage practitioners and school administration officials to consider that zero energy school buildings are within their reach."

The eight-hour course consists of twelve modules with content that applies to commercial buildings, including case studies that focus on zero-energy K-12 schools. The format includes open-ended thought questions, reference lists additional reading, real-life case studies, video testimonials from design professionals and separate learning paths for architects and engineers. Certificates of completion will be available for download for the successfully completed course.

## Research Promotion

Thank you very much for your **ASH**RAE continued support of Research Canada, especially at this time. We hope that especially right now in all of the research going on in our field to deal with the current pandemic it is independent research like the projects funded by ASHRAE Research Canada that can make a huge difference.

Many of you are aware that ASHRAE research plays an important role in our everyday lives. Our built environment including everything from our homes, offices and hospitals quality of food and living conditions in airplanes are dependent upon the research conducted by ASHRAE to keep people healthy and

comfortable. Every dollar raised by ASHRAE Research Canada stays in Canada to further research in the HVAC&R industry. Furthermore, for every dollar raised, two to three dollars are invested in research, here in Canada.

Thanks to the dedication of our **E-mail:**adrianne.mitani@smithandandersen.com donors and the efforts of the 2019-2020 RP Campaign Team, the Ottawa Valley Chapter has raised \$20,859 for 2019-2020. A total of \$20,859 was raised for Research Promotion. Thank you very much for all of your support! We have started assembling our committee for the 2020-2021 RP year and will be in touch about annual donations for the



Research **Promotion** Adrianne Mitani 2020-2021 **OVC Research** Promotion Smith+Andersen

Thank you for your continued support!

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

ASHRAE OVC link: https://ashraeottawa.simplesignup.ca/en/4883/index.php?m=eventSummary

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### Women in ASHRAE

Thank you all to those who sponsored, volunteered and participated in last year's Women in ASHRAE events. They were great turnout and hope to continue this on for this year.

The mission of the Women in ASHRAE (WiA) committee is to promote the addition and retention of women in the built environment by encouraging opportunities for professional development and leadership. We strive to unite women from various occupations including engineering, construction, project management, property development & ownership, equipment sales & manufacturing, architecture and more.

This year our main goal is to foster

mentoring relationships among these professions to create a network of women supporting women in our Region.

With this committee still being so new, there is a lot of room to get involved and assist with our goals. We are always looking for more candidates to join and get involved! Please do not hesitate to reach out to me with any questions or comments at:

cbaribeau@bpa.ca

Thank you and looking forward to this year!



Governor
Celine Baribeau
2019-2020
OVC WiA Chair
BPA

E-mail: cbaribeau@bpa.ca



# **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.



Treasurer
Ryan Dickinson
2020-2021
OVC Treasurer
V&R Engineering

E-mail: ryand@vreng.ca

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: <a href="https://ashraeottawa.simplesignup.ca/en/2590/index.php?m=eventSummary">https://ashraeottawa.simplesignup.ca/en/2590/index.php?m=eventSummary</a> Link: <a href="https://ashraeottawa.simplesignup.ca/en/2593/index.php?m=eventSummary">https://ashraeottawa.simplesignup.ca/en/2593/index.php?m=eventSummary</a>

# 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.



Publicity
Rod Lancefield
2019-2020 Publicity
Committee Co-Chair
HTS Engineering
Ltd.

E-mail: rod.lancefield@hts.com

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 2019-2020 Publicity Committee Co-Chair**HTS Engineering Ltd.

E-mail: rod.lancefield@hts.com

2020-2021 Adam Moons **President-Elect** Adrianne Mitani Treasurer Ryan Dickinson Secretary Celine Baribeau Governors Joe Della Valle Mike Swayne Joel Primeau **Evans Mutua** Trevor Thomson **Past President** Aaron Dobson Committees Attendance Sandy Taylor Aúdit Abbey Saunders Capital Communiqué **Evans Mutua** CRC **Evans Mutua Donald Weekes** CTTC Trevor Thomson **Grassroots Government Affairs** Adrianne Mitani **Financial** Sandy Taylor Greeter Mike Swayne History Zachary Lanthier <u>Membership</u> Promotion Josh Bourbonniere Nominations & **Awards** Steve Moons Abbey Saunders **PAOE** Adam Moons **Program** Zarna Kakadiya **Publicity** Samir Elchomaa Research **Promotion** Adrianne Mitani Special Events Colleen Fox Rod Lancefield Adam Moons Michael Callaghan Adam Graham **Student Activities** Jayson Bursill Table Top David Michelin YEA Jordan Hansen Website

Ryan Dickinson