

HRAE Ottawa Valley Chapter

DATE: Tuesday January 18, 2022

15:00 - 17:30 Hrs EST

LOCATION: Zoom Webinar

PROGRAM: The future of Multi-unit Residential Buildings: Challenges and

Opportunities from building performance research

DESCRIPTION:

There were thousands of residential towers built during the post-war housing boom and, once again, we're seeing multi-unit residential buildings represent the fastest growing housing sector in Canada. Despite their material- and space-efficiency, these multi-family buildings are often similar in energy-intensity to detached homes and also face a slew of occupant comfort and well-being challenges. We'll start by discussing the numerous performance issues which plaque this building type, including transmission of airborne contaminants, thermal, acoustic and visual discomfort, uneven heating and ventilation, summertime overheating, and limited controllability for occupants. Then, we'll explore some of the current research related to improving occupant comfort and control through innovative retrofit approaches also intended to reduce energy consumption and associated greenhouse gas emissions. Current projects examining the impacts of building retrofits on inhabitant and community well-being will also be shared.

Marianne Touchie, Ph.D., P.Eng. **SPEAKER:**

Marianne Touchie joined the University of Toronto as an Assistant Professor in July 2016 and is jointly appointed in the Department of Civil & Mineral Engineering, and the Department of Mechanical & Industrial Engineering. As the director of the Building Energy and Indoor Environment (BEIE) Lab, Dr. Touchie's research team focuses on improving the energy performance and indoor environmental quality of existing buildings to make them more comfortable, healthy and sustainable through comprehensive retrofits. This work includes field monitoring of building energy performance and indoor environmental parameters as well as occupant behaviours and perceptions through surveys and interviews. Much of her research has been in the high-rise residential sector and particularly social housing buildings. Dr. Touchie is also the President of the Building Science Specialist Board of Canada and the former Chair of ASHRAE's Technical Committee 2.1 of Physiology and Human Environment.

January Tech Session

Topic What is Exergy? And how is it to be used in HVAC design?

Speaker Joel Primeau Time 3:00PM-3:45PM

January Program Meeting

Topic The future of Multi-unit Residential Buildings

Speaker Marianne Touchie, Ph.D., P.Eng. Theme Young Engineers in ASHRAE

4:00PM-5:30PM Time

Please register online at link below (below prices for VIRTUAL attendance only)

ASHRAE Associate/Affiliate/Member: \$5 Non-Member: \$10.00 ASHRAE Student: Non-Member Student: \$10.00

https://ashraeottawa.simplesignup.ca/en/10514/index.php?m=eventSummary

TECH SESSION: What is Exergy? And how is it to be used in HVAC

design?

DATE: Tuesday January 18, 2021

15:00 - 15:45 Hrs EST

LOCATION: Zoom Webinar

SPEAKER: Joël Primeau, P.Eng., ing., LEED AP, HBDP

Description:



Governor
Joël Primeau
2021-2022
OVC Research
Promotion Committee

Many innovative technologies in HVAC aim to minimize a system's exergy by using air and water temperatures that are closer to ambient conditions. This tech session will explain what exergy actually is. It will also cover several examples of design strategies with low exergy and explain what benefits beyond higher efficiency they provide to building systems.

President's Message

Happy Holidays everyone and we hope everyone had an excellent holiday season. We are very excited for 2022, although as with everyone we may not be able to do all of the things we had hoped. Regardless we continue to monitor the Provincial and City guidelines on what we are able to do and we will continue to do what we can to serve and support this community. As always we welcome and hope for your support in any way that you feel that is right and comfortable to you.



President
Adriane Mitani
2021-2022
OVC President
Smith + Andersen

E-mail: adrianne.mitani@smithandandersen.com

Thank you to everyone who joined us at the November meeting at Centurion and on Zoom with Robert Bean presenting remotely about Thermal Comfort, something that comes up in ASHRAE often but there is still always more to learn and Robert was a fantastic and engaging speaker that we were very fortunate to have for the chapter. It was always great as always to see everyone in person and thank you for bearing with us for all of the new rules.

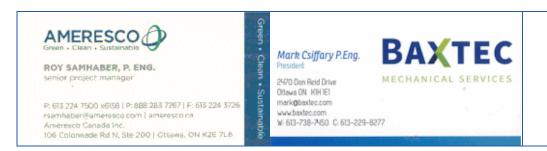
December and January are always a good time to recognize all of the volunteers who make this chapter great, we have a fantastic group this year who are working to keep the community engaged and holding events. Thank you to our newest volunteers Connor Patterson from JP2G taking on Table Tops, and Connor Ruprecht who has joined the CRC committee as Secretary. As well as all of the volunteers who continue year after year, we appreciate all of the time and energy they give us. We have many new volunteers this year and we are always looking for more people to get involved, please reach out if you are interested!

Our theme for January is Young Engineers in ASHRAE, which includes anyone under 35 years, though we never discriminate and everyone is always invited to events held by the YEA group. Feel free to chat with Jeremy Strong who is the YEA chair this year, he has collaborated with a few chairs to start back with social events and we are looking forward to events we are able to hold in the next few months.

A reminder if you are looking at ways to support the chapter and the industry, consider donating to the ASHRAE Research campaign online at anytime!

https://ashraeottawa.simplesignup.ca/en/9710/index.php?m=eventSummary

Take care everyone, and I look forward to seeing you all soon, either virtually or in person!



BELIMO*

Gordon Inkpen
District Sales Manager - Eastern
Canada, Atlantic & Ottawa

Belimo Aircontrols (CAN), Inc. 5845 Kennedy Road Mississauga, ON L42 2G3 Direct: +1 905-712-2046 Cell: +1 902-922-8599 Fax: +1 905-712-3124 gordon.inkpen@ca.belimo.com www.belimo.ca

What You Missed

The third meeting of 2021-2022 was held on November 16th and was the second hybrid meeting, with some members turning up for the in-person meeting while others watched it virtually through Zoom and YouTube.

The tech session was presented by Joel Primeau, P.Eng. The topic of the talk was 'Writing Better Sequences of Operation'. Mr. Primeau explained the importance of writing clear and comprehensive sequences of operation and the importance that sequences play in communicating the design intent.

Secretary

Evans Mutua 2021-2022 OVC City of Ottawa

E-mail: Evans.Mutua@ottawa.ca

The program meeting was led by Robert Bean, retired engineering technology professional (ASET and APEGA) who specialized in the design of

indoor environments and high-performance building systems. He talked about factors that influence perception of comfort, beyond the thermostat showing that the temperature set point has been met.

The videos of both events are available on ASHRAE Ottawa-Valley Chapter YouTube channel. We encourage you to view them.

YEA Joint Event

On November 9th, a group of 17 ASHRAE members attended the Ottawa 67's game against the Kingston Frontenacs. This was one of our first in person events since March of 2020, and it was nothing short of a blast. It was an exciting game that went to a shootout, and 6 ASHRAE members were selected to be on the ice during the second intermission for a game of dodgeball. Keep an eye out in 2022 for more events like this. Happy Holidays!



Committee Chair Josh Bourbonniere 2021-2022 **OVC Membership** Committee Chair **TRANE**

E-mail: josh.bourbonniere @trane.com





Danny Dillon, MBA, GSC President & CEO

E: Danny.Dillon@DILFO.com T: 613.741.7731 | C: 613.880.8504 1481 Cyrville Road, Ottawa, ON K1B 3L7

Rod Lancefield P.Eng. LEED® AP rod.lancefield@hts.com C 613.851.1997 HTS Ottawa

830 Campbell Avenue Ottawa, Ontario K2A 2C2 T 416.661.3400 Ext: 2803 F 613.728.8032 Toll Free 1.800.850.0567 hts.com/ontario







Brevin MacKay

Engineering Sales / Account Manager Gorski, Plener and Associates (GPA inc) Ottawa, ON

Direct: (613) 218-9686 Office: (343) 488-3000 Email: bmackay@gpainc.ca



J.L.Richards

Jim Evenson P.Eng., ing., LEED AP









Chief Mechanical Engineer www.jlrichards.ca J.L. Richards & Associates Limited 864 Lady Ellen Place

Membership Update

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

- David Banbury
- Brevin MacKay
- Connor Ruprecht
- Caleb Ouellette
- Shivam Kumar
- Mihai Mateescu
- Samir Naik
- Michael Carr



Committee Chair Josh Bourbonniere 2021-2022 **OVC Membership** Committee Chair TRANE

E-mail: josh.bourbonniere@trane.com

At any time, if you have any questions or comments regarding your ASHRAE membership, please do not hesitate to contact me. Thank you all for the continued support and participation with your local ASHRAE chapter during these times. Wishing everyone a safe and happy holiday season. Looking forward to seeing everyone at the next ASHRAE meeting in January.

Student Activity

We have seen a few memberships lapse in recent days. I've reached out and encouraged them to rejoin.

Jayson and I took the first steps in getting invitations out to local companies and students for the virtual career fair. We think this year could be very successful.

Committee

Chair Noah Goddard 2021-2022 OVC Student Activities Chair Longhill Energy

We've had some success in touching base with faculty - there is interest for in- E-mail: noahg@longhill.ca

class presentations when the new January class schedules are released. I will be following up on that soon and hopefully we can get more than a couple presentations done.

Jp2g Consultants Inc.

Mark MacIsaac, P.Eng. Mechanical Team Lead

1150 Morrison Drive, Suite 410 Ottawa, ON K2H 8S9 Cell: 613.697.4721 Email: markm@jp2g.com







Sylvain Chenier, P. Eng., ing. Associate Partner - Mechanical Sylvain.Chenier@mckeeottawa.ca

ENGINEERING

1785 Woodward Drive Ottawa, ON K2C 0P9 Tel.: (613) 723-9585 x128 www.mckeeottawa.ca

Longhill Energy

Chris Harrison

Phone and cell option: 613-226-3856 ext. 24 Fax: 613-226-2715 124 Reis Rd., Ottawa, Ontario K0A 1L0 www.longhill.ca

The Energy Conservation People



CURTIS BOYCE, P.ENG Director of Operations | Major Projects



Benjamin Moore, P.T. Regional Sales Director Eastern Ontario & Western Quebec Applied, Commercial, Heating, Ventilation & Engineered Sales bmoore@maste

T 613-829-2816 #41118 C 613-324-3087 F 613-829-3731

The Master Group 25H, Northside Road Ottawa (Ontario) K2H 8S1

MASTER.CA



idellavalle@odellassoc.com

Cell: 613-897-6604 Tel: 613-225-9774 ext. 254

24 Gurdwara Rd Nepean, ON K2E 8B5

www.odellassoc.com

News Update

Check out ASHRAE's 'Fully' Net-Zero-Energy Global Headquarters:

AASHRAE's new global headquarters will operate at net-zero-energy (NZE) performance following the recent installation of a large photovoltaic (PV) system.

"Completing the installation of our PV system marks a tangible milestone for ASHRAE that will demonstrate to others how to successfully move on the path to NZE status," said 2021-22 ASHRAE President Mick Schwedler, P.E., Fellow ASHRAE, LEED AP. "This project is special because it's a testament to ASHRAE's leadership and commitment to sustainability and showcases innovative built environment technology. We are extremely proud of this important accomplishment."



CTTC
Committee
Member
Elikem
Wotortsi
2021-2022
OVC
Stantec

E-mail: elikemaw@outlook.com

In January 2020, ASHRAE began a \$20 million renovation project on its new global headquarters building, located in the popular tech-based corridor at 180 Technology Parkway, Peachtree Corners, Georgia. Built in 1978, the existing 66,770 ft2 building on 11 acres of land became a demonstration project intended to prove the economic viability of a NZE operation.

"An important part of getting to NZE is the low energy consumption of the building (low EUI of 21 kBTU/sf/year) – while maintaining excellent ventilation and IAQ," said Ginger Scoggins, P.E. Fellow ASHRAE, CEM, CxA, ASHRAE treasurer and former chair of the ASHRAE Headquarters Building Ad Hoc Committee. "The installation of the PV panel system is a great of example of how to reduce grid-energy consumption and greenhouse emissions in an older, existing building to create a sustainable and innovative environment."

Find out more here: ASHRAE Global Headquarters Reaches 'Fully' Net-Zero-Energy Milestone

Research Promotion

Thanks for helping; you're making a difference!

Joel Primeau ASHRAE RP Chair

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

ASHRAE OVC link: https://ashraeottawa.simplesignup.ca/en/9710/index.php?m=eventSummary

ASHRAE Research to address COVID-19: https://xp20.ashrae.org/secure/foundation/covid.html



Governor
Joël Primeau
2021-2022
OVC Research
Promotion Committee



Stéphan Riffault, P.Eng. Branch Manager

2310, St-Laurent Blvd., Unit 203 Ottawa (Ontario) K1G 5H9 613 565-2129, ext. 2128

sriffault@regulvar.com www.regulvar.com 3 Smith + Andersen

Elaine Guenette P.Eng., LEED AP Principal

E Elaine.Guenette@smithandandersen.com D 6136911853

M3439612244

530 - 1600 Carling Ave., Ottawa ON, K1Z 1G3 | T 613 230 1186

David Yin P.Eng., LEED AP Principal, Buildings Senior Mechanical Engineer

400-1331 Clyde Avenue Ottawa ON K2C 3G4

david.yin@stantec.com Direct: 613-725-5573 Mobile: 613-323-4964 Fax: 613-722-2799

Stantec

ASHRAE Curling Bonspiel

The Around this time each year we would normally be preparing for the annual curling bonspiel. Due to the Nepean Sportsplex Curling Rink being used to host a COVID-19 vaccination clinic, we had to make the difficult decision to cancel the 2022 curling bonspiel.



Special Events
Colleen Fox
2021-2022
OVC Special Events
Trane

E-mail: cfox@trane.com

Since 2010 this event has afforded us the opportunity to contribute approximately \$18,000 towards ASHRAE Research and local charities. It's also been an event where we could come together socially for some fun and good sportsmanship.

We would like to take this opportunity to thank all those who have contributed and made this event such a success over the years. Without your contributions we could not have achieved this success.

Although we are unable to come together again this year, we ask you to reflect on all the great memories and friendships we have made over the years. We are hopeful that we will be able to continue this great event in 2023 and we look forward to seeing you all there to help support such an important and fun event!

Stay safe and take care,

Colleen Fox

CRC Update

The CRC committee is proud to announce that the 2022 Region II CRC will be held at Ottawa's Lord Elgin hotel from Friday August 26th to Sunday August 28th! The Lord Elgin Hotel is one of the most centrally located downtown Ottawa luxury hotels, just a stone's throw away from the Rideau Canal, Confederation Park, the Shaw Centre and Parliament Hill. In addition, there are many quality establishments not far down the road on Elgin Street. We hope all who attend will enjoy the venue and a post-Covid return to in-person meetings.

If you want to get more involved at both the chapter and regional level being a part of the CRC committee is a great opportunity. If you are interested to be part of the CRC committee please reach out to Jayson Bursill at jayson.bursill@qmail.com



Committee
Chair
Jayson Bursill
2021-2022
OVC CRC Co-Chair
Carleton
University

E-mail: jaysonbursill@cmail.carleton.ca



Government Affairs

To stay current on ASHRAE COVID-19 Response resources check out https://www.ashrae.org/technical-resources/resources including guidance's on infection aerosols, position documents and more.



President-Elect Ryan Dickinson 2021-2022 **OVC GAC Chair** V&R Engineering

E-mail: ryand@vreng.ca

ASHRAE Member Corey Metzger Gives Presentation to Ontario School Boards

On December 3, Corey Metzger, ASHRAE member and Schools Team Lead for ASHRAE's Epidemic Task Force, gave a presentation to the Operations, Maintenance, and Construction Committee for a group of school boards in Ontario, Canada. Officials representing 72 school boards in Ontario, which cover approximately 5,000 schools, attended the presentation. Corey Metzger's presentation on a design guide for facilities was followed by a discussion in which the school board officials asked questions about filtration, MERV-13, purging strategies, equivalent air change formulae, and other topics. This presentation was at the request of Norm Vezina, the Energy Officer for the Ontario School Boards.

City of Halton Hills, Canada Pledges Net-Zero Emissions by 2030

In November, the City of Halton Hills in Ontario, Canada, approved an ordinance that established an ambitious municipal goal of net-zero emissions by 2030. Halton Hills, a town of around 60,000 people, is the first municipality in Canada to commit to this 2030 target, while the federal government is currently aiming for zero emissions by 2050. The city's "Low-Carbon Transition Strategy," approved last month, outlines ways that the town plans to reduce its carbon footprint by addressing emissions from transportation and buildings, and increasing renewable energy generation. The strategy focuses on reducing emissions from the two largest sources of pollution, transportation, and buildings: 44% of the town's carbon emissions are from vehicles, while 33% are from buildings. The buildings component of the strategy includes utilizing federal grant money the city recently received for retrofits to start a pilot program. More information can be found here.

Efficiency Canada Releases its Provincial Energy Scorecard

Efficiency Canada, a research and advocacy organization housed at Carleton University's Sustainable Energy Research Centre, released its second annual Scorecard of provincial energy efficiency policies. The report analyzes Canadian provinces using 42 separate metrics, including energy savings from public utility programs, electric vehicle registrations, building code adoption, and industrial energy management. To view the report, click here.

Global Climate Agreement Reached

At the United Nations conference, a new global agreement was reached on climate change called the "Glasgow Climate Pact," in reference to the location of the summit. The agreement was signed by about 200 countries and was the first global agreement to explicitly plan to reduce coal, even though the language was weakened in the final minutes of the negotiations. The agreement presses for more urgent emissions cuts, in line with the Paris Agreement. Adaptation funding and financing were included, as was a framework for carbon markets and for countries' reporting of their targets and emissions. While Alok Sharma, UK President of COP26 concluded the agreement has "kept 1.5 degrees alive," many were disappointed in the outcome, finding the agreement fell short of commitments needed to address emissions reductions as well as financing and funding in response to the climate crisis. The full text of the agreement can be found here.

The next international climate summit - the "COP27" - will be held in Egypt in 2022 in Sharm el-Sheikh on the southern tip of the Sinai Peninsula. The United Arab Emirates will host the conference in 2023.

Table-Top Display

On 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.



Committee
Chair
Connor
Patterson
2021-2022
OVC TableTops
JP2G

E-mail: connorp@jp2g.com

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

Please contact Connor Patterson (connorp@jp2g.com) to secure yours today! Cost for table tops is \$225.00 and spaces are filling up quickly, so book your table-top today!

Payment is to be made through the online system prior to the date reserved. Follow the link below: https://ashraeottawa.simplesignup.ca/en/10165/index.php?m=eventSummary

Table Top Product Descriptions:

Total HVAC

Total HVAC works hard to help our consulting and contracting customers lives easier by providing an unparalleled HVAC equipment purchasing experience. By putting your team first, we promote a culture of teamwork, professionalism, and engagement where everyone is valued. We professionally represent equipment manufacturers with exceptional sales support and accountability.

Our table top for the January ASHRAE OVC monthly chapter meeting will focus on our offerings for multi-unit residential applications. The quality products that we are proud to represent include Temspec vertical stacked fan coils, with optional energy recovery, FirstCo packaged DX/Heat pump and fan coil units, Williams fan coils, AAON vertical and horizontal heat pumps, among others.

Please see us on January 18th, or call our office to find out more.



Longhill Energy

LG VRF

How did VRF Systems Evolve?

Variable Refrigerant Flow (VRF) systems are an updated approach to building HVAC – and the 40 years of use and development only seems recent when compared with a century of water-based climate control. At the same time, the refrigeration cycle remains our most effective means of providing cooling.

Improved Heating Efficiency and Top-Notch Performance

With improvements in controls and refrigeration technology, VRF systems allow us to take a step further, and eliminate the water in our building-wide energy control schemes.

Some of the advantages of modern day VRF systems are:

- **Flexibility and versatility:** VRF systems enable the use of refrigerant to move energy throughout buildings with similar efficiency and even greater energy density than hydronic-based systems. This means even greater flexibility in installation, and broad application in retrofits.
- Environment-friendly features: The smart controls within the units also allow for efficient recycling of energy between zones with contradictory calls; moving one occupant's unneeded heat to an occupant that is too cold. Being an electricity-centric technology also offers extensive de-carbonization opportunities as our energy distribution strategies and expectations continue to change.

Innovative VRF Systems for your next HVAC Project or Upgrade

Now in their 5th generation of major development, our LG VRF systems and equipment provide more flexibility than ever before. These units are designed for operation on our 575V power, in our -40 degree climate, with the components necessary to integrate with custom air handling units or even supplementary hydronic heat where available.

Explore our complete range of <u>VRF systems and solutions</u> from LG and get in touch with our technical experts today.



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
Celine Baribeau
2021-2022
OVC Treasurer
BPA

E-mail: cbaribeau@bpa.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 **Celine Baribeau** (<u>cbaribeau@bpa.ca</u>) 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.

https://ashraeottawa.simplesignup.ca/en/9709/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 \$275.00 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

https://ashraeottawa.simplesignup.ca/en/9711/index.php?m=eventSummary

Ads will **now require prepayment**. All 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
Rod Lancefield
2020-2021
OVC Publicity
Committee Co-Chair
HTS Engineering
Ltd.

E-mail: rod.lancefield@hts.com

2020-2021 **President** Adrianne Mitani President-Elect Ryan Dickinson Treasurer Celine Baribeau Secretary **Evans Mutua** Governors Joe Della Valle Mike Swayne Joel Priméau Matt Moore Trevor Thomson **Past President** Joël Primeau Committees Attendance Sandy Taylor Audit Aaron Dobson Capital Communiqué Pat Melville **CRC** Jayson Bursill Donald Weekes Connor Ruprecht CTTC Elikem Wotortsi **GAC** Ryan Dickinson **Financial** Sandy Taylor Greeter Mike Swayne **History** Zachary Lanthier Membership Promotion Josh Bourbonniere Nominations & **Awards** Steve Moons Abbey Saunders **PAOE** Ryan Dickinson **Program** Elizabeth Primeau **Publicity** Samir Elchamaa Research **Promotion** Joël Primeau Special Events Colleen Fox Rod Lancefield Abbey Saunders Trevor Thomson **Student Activities** Noah Goddard **Tabletop** Connor Patterson YEA Jeremy Strong Website Samir Elchamaa

10