



ISSUE XII | 2020

# DAYTON CHAPTER

## CURRENT OFFICERS

### **PRESIDENT**

**Brian Turner**

BTurner@elitairerecom  
ElitAire

### **PRESIDENT-ELECT**

**Matt Dill**

Matthew.dill@victaulic.com  
Victaulic

### **TREASURER**

**Jennifer Eller**

jmeller@heapy.com  
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### **SECRETARY**

**Trent Hayden**

thayden@energyoptusa.com  
Energy Optimizers, USA

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### **Main Presentation:**

Application Basics of ECM Technology  
**Presenter: Chris Willemsen, Applications Engineer for Q-PAC**

The Application Basics of ECM Technology presentation will review the history of EC motors, compare EC vs. AC motor efficiency, and explore the evolution of EC motor use in air handling units.

Chris started as an engineer in the custom AHU industry in 1990, doing refrigeration and controls for a custom manufacturer located in the Twin Cities. He started focusing on fan arrays in 2005, working with an AC induction motor/cube style solution. In 2016, he moved to Q-PAC to work exclusively with ECM based fan arrays. He is a very hands on person who thinks that getting as close to the install as possible makes for the most successful and budget friendly solution. When not working with Q-PAC arrays, he can be found working with his drag racing passion. He currently runs a pro-mod style door car powered by a blown alcohol hemi motor making approx. 3400hp. His home track is Northern Minnesota's Brainerd International Raceway, next run out will be Memorial Day weekend 2021.

## **December 14th Meeting**

**Social Hour: 11:30 AM to 11:45 AM**

**Chapter Business/Instructions: 11:45 AM—Noon**

**Main Presentation: Noon (Virtual Meeting, see below)**

### **Join Zoom Meeting**

Zoom Meeting Link: <https://us02web.zoom.us/j/83746826680?pwd=eFBsSkxDQ05ybFZLUHNYaWhiR3ZsQT09>

Meeting ID: 837 4682 6680

Passcode: 195775

One tap mobile

[+1646558865683746826680#](tel:+1646558865683746826680#),.....0#.,195775#US (New York)

[+1301715859283746826680#](tel:+1301715859283746826680#),.....0#.,195775#US (Washington D.C)

Find your local number: <https://us02web.zoom.us/j/kcKsQQSgm>

**\*\*Please login/display your first and last name when joining the meeting to help with attendance and sending out PDH certificates.**

# FROM THE PRESIDENT

Thank you to everyone who joined us for our November meeting. Samir Traboulsi, Ph.D, P.E. joined us to discuss Ethics & The Built Environment. November's meeting also included Membership Promotion and Research Promotion. Please join us on Monday, December 14<sup>th</sup> for our final meeting of the calendar year. Chris Willemsen will be presenting Application Basics of ECM Technology.

In November, the Board of Governors voted to make a donation to The Engineers Club of Dayton. Since we are currently unable to meet in person, we wanted to find a way to support the Engineers Club. We will continue to support the Engineers Club until circumstances permit us to resume in person monthly meetings.

For those who are interested in being more involved with Dayton ASHRAE please reach out to a member of the board. We are actively looking for multiple individuals to fill roles for next year.

Stay warm, stay safe, and enjoy the holiday season.



*Brian Turner* -  
President, Dayton ASHRAE



## Upcoming Events

**November 9th**  
ASHRAE Chapter Mtg.  
11:30 AM, Virtual Meeting

**November 18th**  
Board of Governors  
8:00 AM, Virtual Meeting

**December 14**  
ASHRAE Chapter Mtg.  
11:30 AM, Virtual Meeting

**December 16th**  
Board of Governors  
8:00 AM, Virtual Meeting

**January 20th**  
Board of Governors  
8:00 AM, Virtual Meeting

[See Additional  
Events & Volunteer  
Opportunities Here](#)

# CHAPTER HISTORY (1993-1994)

<b>President:</b>	<b>Chris Hapel</b>	<b>CAC Distributing Carrier</b>
<b>President Elect:</b>	Mark Neilheisel	Uptime Solutions
<b>Vice Pres.:</b>	John Mosgo	Landis & Gyr Powers
<b>Secretary:</b>	Dave Deger	Curtis Fan Sales
<b>Treasurer:</b>	Dennis Lewis	EG&G Mound
<b>Historian.:</b>	Phil Van Styn	Heapy Engineering
<b>Education:</b>	Russ Marcks	Sinclair Community Col.
<b>RP:</b>	Pedro Camejo	Lorenz & Williams
<b>Membership:</b>	Joe Ferdelman	Heapy Engineering
<b>News Letter:</b>	Chris Hampel	CAC Distributing Carrier

Meetings were held at the Dayton Engineers Club.

CRC held in Toledo.

Reginal Director: Bob Cappelletti

Plant Tour: DP&L New Tech Center

## Committee Chairs

### **MEMBERSHIP**

**Jeremy Fauber**

JPFauber@heapy.com  
Heapy

### **HISTORY**

**Bryan Schenck**

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Waibel Energy Systems

### **COMMUNICATIONS**

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### **RESEARCH PROMO**

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### **STUDENT ACTIVITIES**

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### **CTTC**

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### **GOVERNMENT AFFAIRS**

**Paul Hawkins**

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Waibel Energy Systems

**YEA (Chair)**

**Phillip Reid**

PAReid@heapy.com  
Heapy

## Board of Governors

**Jeremy Fauber**

Heapy

**Rick Pavlak**

Heapy

**Larraine Kapka**

Sinclair College

# MEMBERSHIP

## **New Members**

**The Dayton Chapter is happy to welcome its newest members. If you see them please give them a warm welcome!**



### **November**

Sara Kampf  
Paul Snipes

## **Do you know a colleague that would benefit from joining ASHRAE?**

You can go to [http://web.ashrae.org/connect\\_a\\_colleague/](http://web.ashrae.org/connect_a_colleague/) and quickly sign up for ASHRAE to send an email to ask them to sign up on your behalf.

## **Membership Recognition**

We would like to recognize the following members who have been with ASHRAE for the following years! Thank you for all your contributions to the field!

### **5 Years**

Brian Abels  
Joshua Foor



### **30 Years**

Russ Marcks

## **Membership Promotion Committee**

Looking for a way to get involved with your local ASHRAE chapter and meet new people? The membership promotion committee is looking for volunteers to join the committee. The committee's primary responsibility is to recruit new members and retain existing members. If you are interested in serving please contact Jeremy Fauber at [jpfauber@heapy.com](mailto:jpfauber@heapy.com). Or by calling 937-224-0861

## **Membership Application Here**

# ASHRAE RP

Thanks to all those who attended our Virtual Donors Awards meeting last month, and thanks again to all of our 2019-20 Donors. All donors should have received a Certificate via email. Please let us know that if you were a donor for the 2019-20 Campaign Year and did not receive one. As we have pointed out in this section of the Newsletter ASHRAE is out on the front lines working to combat transmission of COVID as well as other airborne and waterborne diseases. ASHRAE Research is a very important component of this and your donations go a long way in funding research aimed at combating disease. ASHRAE Research also helps to finance research aimed at energy efficiency, and innovation in the fields of HVCR, and health.

**IMPORTANT:** One change that you need to know about: To achieve “Honor Roll” status this year the minimum donation level is **\$150**. Honor Roll means that your name is published in the ASHRAE Journal, and you receive a Commemorative Gold Coin of a Refrigeration or HVAC Pioneer. We appreciate all donations and a donor your name will appear as a donor in our local newsletter. But if you want to keep your “Coin Collection” going and be “Published,” the NEW MINIMUM is \$150.

**2021 Goal = \$ 19,680**  
**YTD = \$ 1,750**  
**To go = \$ 17,930**

## Partner Level

Your Company Here

## Honor Roll

Lorraine Kapka  
Steve Meier  
Tom Mastbaum  
Evan Nutt  
Trent Hayden  
Nathan Lammers  
Brian Shenck  
Brian Turner  
Kyle Schroeder  
Jennifer Eller

## Honorable Mention

Joseph Ferdelman  
Jeff Turner  
Jeremy Fauber  
Thomas Monnig  
Mike Weisman  
Matt Dill

## Silver Level

Your Company Here

## Bronze Level

Uptime Solutions, Inc.

If you would like to donate NOW  
simply click this link:

[Donate NOW](#)

And make your donation to help ASHRAE  
in its Research Efforts. Thank you so much!!



# ASHRAE News

## History for 70 year anniversary for Dayton ASHRAE

The first decade of the 21<sup>st</sup> century brought with it another Chapter Regional Conference hosted by Dayton ASHRAE within the first few years as well as some challenges to Dayton ASHRAE as mid-decade there was a discussion to close the Dayton chapter unless members stepped up to take leadership roles. Tom Ferdelman stepped in as president of the chapter in 2006/2007, becoming the only person known to repeat as president of the Dayton chapter, with three other members agreeing to serve as the vice president/president elect, treasurer, and secretary behind Tom. During Greg Cohron's term revitalization of the chapter continued with a rebound in PAOE performance and holding the first "president's breakfast" to encourage donations to ASHRAE research, which started a long term improvement in Chapter donations for research. Rounding out the decade included development of a scholarship committee and bylaws for rewarding of an annual scholarship.

Throughout the first decade of the 21<sup>st</sup> century the various Dayton ASHRAE Chapter Presidents were beginning in 2000/01 with Joe Ferdelman, Jeff Evans in 2001/02, Russ Marcks in 2002/03, Bart Grunenwald in 2003/04, and Bruce Knapp in 2004/05. To round out the decade the remaining presidents were Mike Kirchens in 2005/06, Tom Ferdelman in 2006/07, Greg Cohron in 2007/08, Lorraine Kapka in 2008/09, who was followed in 2009/10 by Jeremy Fauber.

**Do you have any history for the Dayton ASHRAE chapter that you would like to share for between 1990-2007? If so please email it this month to Jeremy Fauber at [jpfauber@heapy.com](mailto:jpfauber@heapy.com). Thank you!**



## **\$\$\$ Dayton Chapter ASHRAE Scholarships Available!!! \$\$\$**

The Dayton Chapter of ASHRAE is offering 3 scholarships available to current college students (have completed at least 12 hours of instruction) for 2 and 4-year students in a field of study related to the Built Environment. The Keller Scholarship is \$1500 and restricted to a UD student (could be a student transferring into UD). The Rapier Scholarship and Chapter Scholarship are each \$1000 and are available to all. Please note that the applicant must either be a student ASHRAE member or a close relative (spouse, child, grandchild) of a current Dayton ASHRAE member. The ASHRAE number for the student or relative sponsor must be included in the application. Funds can be available as early as May 2021 paid directly to the school. All applications are electronic and can be submitted through the Dayton ASHRAE website [www.daytonashrae.org](http://www.daytonashrae.org). Applications are due January 31, 2021.



## **ASHRAE Signs Letter Supporting Funding for DOE's Building Energy Codes Program**

On November 23, ASHRAE, along with 20 other organizations, signed a letter encouraging Senate and House appropriators to provide \$10 million in funding for DOE's Building Energy Codes Program (BECP). BECP works to update methods for assessing and quantifying the cost effectiveness of code and standard provisions and assisting with their implementation. The \$10 million funding request is consistent with last year's funding and this year's House-passed amount. To read the full letter, [click here](#).

## **Energy Efficiency Training Opportunities in Canada**

Efficiency Canada has compiled a database of online training opportunities in energy efficiency, which will be expanding over the course of the summer and into the fall. Now is a great time to plan ahead for what the workforce might look like for next year, and to upgrade or learn new skills in our sector. You can browse courses, including those from ASHRAE [here](#).

# ASHRAE News

## **ASHRAE's New HQ Adheres to Epidemic Task Force Guidance**

ASHRAE has moved its global headquarters to a net-zero-ready facility in metro Atlanta. The retrofits place the building on its way to be net-zero energy next year. Prior to the COVID-19 pandemic, ASHRAE had already planned to provide 30% more outside air to the building than the required minimum ventilation rates from ASHRAE Standard 62.1 and will implement other applicable guidance that the ASHRAE Epidemic Task Force has developed for commercial office buildings. Click [here](#) for more information on ASHRAE's new global headquarters. [Read more](#)

## **Education Week Includes ASHRAE Resources in "COVID-19 Explainer for Schools"**

The publication *Education Week* has compiled a "COVID-19 Explainer" article for educators, parents and school building staff that includes suggestions and answers to frequently asked questions. As COVID-19 infection rates continue to rise and schools are also facing colder temperatures and increased indoor activity, many are looking for clear guidance for reopening buildings safely. The article includes a quote regarding air purifiers from Corey Metzger, Schools Team Chair for the ASHRAE Epidemic Task Force, as well as a link to the ASHRAE Reopening Schools and Universities Guidance. The Education Week article can be found [here](#).

## **Autonomous Sensor Tech Provides Real-Time Feedback about HVAC&R Systems**

Purdue University researchers have developed a new autonomous sensor technology that could help businesses monitor HVAC&R systems in real time much faster and easier. The sensor monitors the oil circulation ratio in real time for HVAC&R systems, which provides data on the health and functionality of the overall system. "Our technology is needed as more businesses use variable-speed HVAC systems," said researcher Orkan Kurtulus, Ph.D., Associate Member ASHRAE. [Read more](#)

### **Evaporative Cooling**

## **Desert Camels Inspire a New Cooling Technology**

How camels keep cool while conserving water in a scorching desert environment inspired MIT researchers' new system that could help keep pharmaceuticals or fresh produce cool in hot environments, with no power supply. A camel's coat can help to reduce loss of moisture while allowing enough sweat evaporation to provide a cooling effect. The new system developed by MIT engineers uses a two-layer material to achieve a similar effect. [Read more](#)

## **Commerce Department: U.S. Construction Spending Rose 0.3% Last Month**

U.S. construction spending rose 0.3% in September, making it the fourth straight monthly gain. The Commerce Department recently reported spending on single-family home projects jumped 5.7% and non-residential private construction fell by 1.5%, with churches and offices the only categories to see growth. [Read more](#)

## **Alternative Water Cooling Sources For Data Centers**

*By John Peterson, P.E., Member ASHRAE*

Water from lakes and rivers has long been used for industrial cooling for power plants and manufacturing, and this concept of using localized cooling sources can be applied to data centers. This November 2019 article discusses potential advantages, disadvantages and lessons learned from actual projects. [Download here](#)

## **Legislation Proposed in Canada to Achieve Net-Zero Emissions by 2050**

On November 19, the Canadian Minister of Environment and Climate Change, the Honorable Jonathan Wilkinson, proposed legislation entitled the "Canadian Net-Zero Emissions Accountability Act" that would require net-zero emissions by 2050. The legislation sets five-year targets and would establish the Net-Zero Advisory Body to help reach these targets. More information about this plan can be found [here](#).

# ASHRAE News

## **Winners, Finalists Named in 2021 AHR Expo Innovation Awards**

AHR Expo announced the winners of the [2021 AHR Expo Innovation Awards](#) in 10 industry categories. The awards recognize some of the most inventive and original products, systems and technologies in the industry. Show Management, co-sponsors ASHRAE and AHRI, and the Innovation Awards panel of judges wish to acknowledge and honor the 2021 award winners despite the recent cancellation of the live event. [Read more](#)

## **How Sustainable Design Choices Affect Noise Control**

As sustainable architectural design trends and mechanical design evolve, these innovative designs can directly affect acoustics. Mandy Kachur, P.E., Member ASHRAE, investigates adaptations that incorporate both good acoustic design and sustainability efforts to create a healthier, more comfortable environment for building occupants. [Read more](#)



## **Retrofitting University Buildings for Sound Masking**

The University of Minnesota, Twin Cities campus is retrofitting historical buildings for better acoustics, as some buildings are now used for purposes other than originally intended. One building is a theater that was originally built to carry sound. As that building is retrofitted to be an office space, acoustics is a challenge. [Read more](#)

Planar loudspeakers turn a room's rigid, flat surfaces into acoustic wave amplifiers.

## **How Occupants Affect Building Operator Decisions**

*By Zakia Afroz, Ph.D., Student Member ASHRAE; Brodie W. Hobson, Student Member ASHRAE; H. Burak Gunay, Ph.D., P.Eng., Associate Member ASHRAE; William O'Brien, Ph.D., P.Eng., Associate Member ASHRAE; Michael Kane, Ph.D., Member ASHRAE*

Building operators make essential decisions that affect energy and comfort performance. This article from the November *ASHRAE Journal* reports the preliminary results of a larger effort to understand how occupants affect the decision-making process of building operators. [Read more](#)

## **ASHRAE Sends Letter on New Jersey Bill Regarding COVID-19 Infection Control in Nursing Homes**

New Jersey Assembly Bill 4855 would establish a statewide plan for infection control and prevention infrastructure improvements in nursing homes. This bill does not currently include ASHRAE standards or guidance, and ASHRAE sent a letter signed by President Gulledge suggesting that ASHRAE's Guidance for Residential Care Facilities be incorporated into the bill's requirements regarding heating, ventilating, air conditioning and refrigeration systems in nursing homes. The letter can be found on ASHRAE's website [here](#).

## **ASHRAE Partners with the U.S. Army Corps of Engineers to Create Guidebook for Alternate Care Sites**

The U.S. Army Corps of Engineers requested assistance from ASHRAE's Epidemic Task Force to create a guidebook to provide engineering recommendations, solutions and guidance to address HVAC systems for alternative care sites, which are temporary facilities used as flexible patient care to help with the overload of hospitals. The guidebook provides extensive recommendations for design requirements, airflow, filtration and space conditions. The guidebook can be found [here](#).

## 2021 ASHRAE Virtual Winter Conference Registration Is Open

**ATLANTA (December 1, 2020)** – Registration is now open for the [2021 ASHRAE Virtual Winter Conference](#), February 9-11, 2021. The convenient online format of the conference will allow for global participation with a group of the world's leading presenters delivering timely and useful industry content.

"ASHRAE's Virtual Winter Conference will include three-days packed with learning and live discussions from top experts," said 2020-21 ASHRAE President Charles E. Gullledge III, P.E. "This is the perfect platform and opportunity for built environment professionals to take advantage of the Society's strong technical content. The conference will provide us the opportunity to amplify ASHRAE's important research and resources to address the challenges of the times we're living in."

The conference will feature nearly 98 live and on-demand sessions with updates from Society leaders and virtual networking events. Technical sessions will address building performance, COVID-19, energy conservation, refrigerants, ethics, equipment and standards. Conference registration is now open at [ashrae.org/2021winter](https://ashrae.org/2021winter).

During the weeks leading up to the conference, ASHRAE will also conduct virtual business, committee and technical meetings that are typically held during onsite at the Winter Conference.

The cost to attend the virtual conference is \$249 for ASHRAE members (\$479 for non-members, which includes an ASHRAE membership for one year). For additional pricing, please visit [ashrae.org/2021winter](https://ashrae.org/2021winter).

Registration includes:

### **Tuesday, February 9 – Thursday, February 11 – Live Event**

- More than 35 technical sessions presented live, including sessions scheduled for live participation from attendees in different time zones across the globe.
- Leadership Moments providing updates from Society leaders.
- Keynote presentation hosted by Women in ASHRAE.
- Live 30-minute forum sessions for interactive participation.
- Opportunities to interact with fellow attendees in 30-minute round table discussions and meet-ups.
- Recognition of more than 150 award recipients of ASHRAE's most prestigious society awards.
- Conference proceedings. Download the technical papers, conference papers and extended abstracts.

### **Post-Conference**

- 26 live Q&A chat sessions for on-demand paper session for the opportunity to chat with speakers scheduled on Friday, February 12.
- All sessions presented live will be recorded and available on-demand until August 11, 2022.
- Over 80 additional on-demand sessions accessible on your terms for 18 months.



## DOE's Better Buildings Webinar Schedule

The U.S. Department of Energy has released the schedule for its Better Buildings Webinar Series:

- ◆ [\*\*SCALING IMPACT: MULTI-BUILDING APPROACHES TO CARBON REDUCTION\*\*](#) – December 1, 2020 from 3:00 - 4:30 PM ET
- ◆ [\*\*SAVE ENERGY AND MONEY WITH THE BUILDING ENVELOPE CAMPAIGN\*\*](#) – December 8, 2020 from 3:00 - 4:00 PM ET
- ◆ [\*\*BEYOND ENERGY SAVINGS: QUANTIFYING THE ADDITIONAL BENEFITS FROM ENERGY EFFICIENCY\*\*](#) – January 12, 2021 from 11:00 AM - 12:00 PM ET
- ◆ [\*\*DAVID & GOLIATH: FINANCING ENERGY RETROFITS FROM THE TINY TO THE GIANT\*\*](#) – January 19, 2021 from 3:00 - 4:00 PM ET
- ◆ [\*\*RISK ASSESSMENTS: EVALUATING BUILDINGS SITES FOR PORTFOLIO RESILIENCE\*\*](#) February 2, 2021 from 3:00 - 4:00 PM ET
- ◆ [\*\*PERSPECTIVES ON RESILIENCE: INSURANCE AND CREDIT UNDERWRITING\*\*](#) – February 9, 2021 from 3:00 - 4:00 PM ET
- ◆ [\*\*SMART TOOLS FOR SMART LABS\*\*](#) – March 2, 2021 from 3:00 - 4:00 PM ET
- ◆ [\*\*LEVELING THE SLOPE: HELPING STATE AND LOCAL GOVERNMENTS REACH THEIR ENERGY GOALS\*\*](#) – March 16, 2021 from 3:00 - 4:00 PM ET
- ◆ [\*\*YOU HAVE A DATA CENTER - NOW WHAT? STORIES FROM THE FIELD\*\*](#) – April 6, 2021 from 3:00 - 4:00 PM ET

# More Education

## Live ASHRAE Training Now Available Online

Learn from ASHRAE experts via live, instructor-led online training. Check out scheduled courses at [www.ashrae.org/onlinecourses](http://www.ashrae.org/onlinecourses) or bring a live online course to your chapter or organization. View the full course list, including CoV-2 mitigation topics at [www.ashrae.org/ALI](http://www.ashrae.org/ALI).

### ASHRAE Learning Institute Announces 2020 Fall Online Course Series

*Post COVID-19 Building Reopening Course Among New Training Offerings*

**ATLANTA (August 21, 2020)** – ASHRAE Learning Institute (ALI) has opened registration for its [2020 Fall Online Instructor-led Course Series](#). The series which begins on September 10 and concludes on December 15, features 18 new or updated courses.

"ASHRAE's online course series successfully engages built environment professional through in-depth, practical instruction on a wide variety of topics," said Charles E. Gullledge III, P.E. "This course series is structured to expand knowledge and provide professionals with an exceptional level of understanding to address today's building challenges."

[Evaluating Your HVAC System's Readiness to Mitigate the Spread of SARS-CoV-2](#) expounds on the online ASHRAE COVID-19 details for reopening buildings and the Building Readiness Plan for HVAC systems. The course will focus on the re-occupancy of existing buildings through the evaluation of HVAC systems and how they can be altered to improve their ability to mitigate the transmission of a virus, like SARS-CoV-2 that creates the COVID-19 disease and how to potentially future proof them for the next epidemic.

Three-hour short courses are \$299 (\$224 ASHRAE Member), two-hour courses are \$198 (\$149 ASHRAE Member) and one-hour courses are \$99 (\$74 ASHRAE Member).

The following is the full fall online course series schedule:

For more information and to register, please visit [ashrae.org/onlinecourses](http://ashrae.org/onlinecourses).

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Dec 3, 2020 Updated - [Laboratory Exhaust Stacks: Safe and Energy Efficient Design](#)

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Dec 8, 2020 Updated - [Successfully Managing the Risk of Legionellosis Using Standard 188-2018](#)

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Dec 15, 2020 [Avoiding IAQ Problems](#)

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#### Can't Miss Featured Sessions

Full session list and details will be available soon at [ashrae.org/2021winter](http://ashrae.org/2021winter).

+ Lessons from Managing Infrastructure through the COVID Shutdown

+ MERV 13, HEPA & UVC: What did Buildings do During this Pandemic and How to Make your Buildings More Resilient for the Next Outbreak

+ Avoid the Headlines! Today's Top 10 Security Best Practices for Controls Methods for Improving HVAC Efficiency Globally



CELEBRATING 125 YEARS