



**2017-2018 Officers**



*Mike Gilroy*  
President



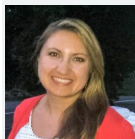
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**October Meeting**

Thursday, October 19, 2017

**Presentation and Tour of  
Boston University's  
Rajen Kilachand Center  
for Integrated Life Sciences  
& Engineering**

Please see **page 3** for more information.

**Where:**

Boston University's  
610 Commonwealth Avenue  
Boston, MA 02215

**Meal:**

"Back Bay Barbecue"

Buffet style dinner including open-fire Brisket, Grilled Mediterranean Chicken, and Vegetable Kebabs.

Sides include corn on the cob, wild rice salad, assorted baby greens, and more!

**Time:**

5:30 - 6:30 PM    Networking

6:30 - 7:00 PM    Building Overview  
Presentation

7:00 - 8:00PM    Building Tours

**Cost:**

ASHRAE Boston Members:        \$50

Non -Members / Walk-Ins:        \$60

ASHRAE Student Members

**Special thanks to our 2017-2018 Sponsors:**

*Platinum:*

*HTS New England*

*Gold:*

*RST Thermal*

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*Investor Recognition:*

*Jim Armstrong*

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Caron*

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*Jeffrey Zajac*



Please register online at [www.ashraeboston.org](http://www.ashraeboston.org).

RSVP by 12:00 PM (noon) Monday, October 16th, 2017.

If you have any questions, you may contact Christopher Pietrocarlo, Attendance Chair, at [ashraebostonattendance@outlook.com](mailto:ashraebostonattendance@outlook.com).

Thank You



## PRESIDENT’S MESSAGE

By: Mike Gilroy

Thanks to all who attended our initial meeting of the 2017-2018 ASHRAE year! We had a high number of registrants, 111 to be exact, who enjoyed a unique technical presentation.

A big thanks to JS Rancourt and Greg Hosselbarth who collaborated on a VRF presentation that focused on the current VRF exposure in the US and New England markets, reviewed the technology and application of VRF products, and reminded us all to be sure to review ASHRAE 15 when designing VRF systems.

Since our last newsletter was issued, we have been busy working behind the scenes to ensure a smooth October meeting at BU’s Center for Integrated Life Sciences and Engineering, to complete the remaining technical programs, and look ahead to April’s Product Show and June’s Golf Outing.

At our October meeting, we are fortunate to be able to tour one of the newest life sciences buildings in the area. Boston University, Payette, and ARUP, have all worked seamlessly with the ASHRAE Boston Chapter to ensure a great presentation on the building’s architectural integration into BU’s campus, mechanical systems, and energy efficient features. After the presentation, we will break into groups to tour the building.

Please email me at [coo1@ashrae.net](mailto:coo1@ashrae.net) or contact any of the volunteers with questions, concerns, or suggestions to help improve our chapter.

Our next meeting will be a technical meeting on November 7th, 2017 at Metro Meeting Center (located at 101 Federal St. Boston, MA 02110). The meeting is titled “Transforming an Existing Building Into a High-Performing Facility” and has been approved for 1.5 PDHs .

Presidential Award of Excellence								
Boston Chapter - 2017-2018								
Chapter Members	Membership Promotion Points	Student Activities Points	Research Promotion Points	History Points	Chapter Organization Points	Chapter Technology Transfer Points	Grassroots Government Affairs Points	Chapter PAOE Point Totals
1052	775	410	0	100	680	0	0	1965



## EDITOR’S NOTE

By: Deanna Adkison

Materials for the November newsletter are due by **October 30, 2017**.

Please submit employment/want ads in .pdf, .doc or .jpg format. A company logo may also be included. Feel free to send any ideas you would like to share or include in next month’s issue.

For additional information, refer to our website at [www.ashraeboston.org](http://www.ashraeboston.org).

For more information, please e-mail [northeastaire@gmail.com](mailto:northeastaire@gmail.com)

## October Meeting Information

### Presentation and Tour of Boston University's Rajen Kilachand Center for Integrated Life Sciences & Engineering

#### Presentation Outline

John Mackenzie, PE, Senior Engineer, ARUP



John MacKenzie is a senior mechanical Engineer in Arup's Boston office. He has an extensive background in mission critical facilities, including all phases of engineering from initial design concepts and optimization comparisons through construction documentation, specifications, and construction administration. John is equally experienced in designing systems for new buildings and systems that are integrated within existing facilities.

Leon Auvil, AIA, CSI, Senior Associate, Payette



Leon Auvil is a registered Architect and Senior Associate at Payette in Boston, Ma. Having joined Payette in 1989, Leon Auvil brings over 35 years of architectural experience to our practice. Leon's project role and experience with Payette spans several different building typologies but most recently, he completed the Harvard University Art Museums Building and the Boston University Kilachand Center for Integrated Life Sciences and Engineering Building.

Leon received his Associate Degree in Architectural Engineering Technology from Wentworth Institute of Technology in 1979 and his Bachelor of Architecture Degree from Boston Architectural Center in 1984.

Leon has excelled in office-wide roles as a mentor to junior staff, in a consulting role in the technical aspects of design, documentation, specifications and methodologies, and as the leader for the quality management program. Leon is passionate about architectural detailing and was instrumental in the development of the office quality standards.



## Sustainability

By: Lance Brown

The office environment is a relatively comfortable one compared to other working environments. However, owners pay a high price in terms of energy to keep it comfortable, and many office occupants end up being uncomfortable for a variety of reasons, especially in shared spaces. There are several approaches to address occupant satisfaction with varying results in terms of energy consumption and comfort:

- Put on a sweater – may be effective in some cases; doesn’t address overheating
- Fans and space heaters – can be noisy or costly to operate, among other potential problems
- Adjustable thermostats – in shared spaces, can lead to “thermostat wars”
- App-based control – a new approach to controlling thermostats lets users vote using their smart phones to communicate discomfort, and an algorithm arbitrates in shared spaces
- “Personal comfort systems” – takes the fan & space heater approach to another level; see below

As [reported](#) at this past summer’s ASHRAE Annual Conference, researchers field tested chairs equipped with fans and heating strips in a government office. They found that occupant comfort with the chairs was significantly better than a typical office. The chairs, which consume 16 W or less, resulted in 96% occupant thermal satisfaction (N=40), compared to typical rates of about 60% (N=20,000).

While these systems are likely to come to market gradually, they may eventually lead to changes in operating paradigms for office HVAC. According to one study by the Center for the Built Environment at UC Berkeley, personal comfort systems can enable the dead band between heating and cooling setpoints to be widened significantly (to 66-79 degrees F or even wider) while still keeping a high degree of occupant thermal satisfaction. This suggests the potential to significantly reduce HVAC costs with a modest investment in personal comfort equipment.

ASHRAE BOSTON UPCOMING EVENTS	BOSTON AREA UPCOMING EVENTS
<p>Visit <a href="https://ashraeboston30.wildapricot.org/resources/Documents/Save%20the%20Date%205.pdf">https://ashraeboston30.wildapricot.org/resources/Documents/Save%20the%20Date%205.pdf</a> for more information.</p> <p><b>TOUR OF BOSTON UNIVERSITY'S CILSE BUILDING</b> When: Thursday, October 19, 2017 5:30 PM Where: 610 Commonwealth Avenue, Boston, MA 02215</p> <p><b>ASHRAE BOSTON NOVEMBER MEETING</b> When: Tuesday, November 07, 2017 5:30 PM Where: Metro Meeting Center - 101 Federal Street, 4th Floor, Boston, MA 02110</p> <p><b>WOMEN IN ASHRAE BOSTON DECEMBER MEETING</b> When: Thursday, December 07, 2017 6:00 PM Where: Barlow’s Restaurant - 241 A St. Floor, Boston, MA 02110</p> <p><b>ASHRAE BOSTON DECEMBER MEETING</b> When: Tuesday, November 07, 2017 5:30 PM Where: Embassy Suites - 550 Winter Street, Waltham, MA 02451</p>	<p><b>AFE Boston Chapter 33</b> <a href="http://www.afechapter33.org">www.afechapter33.org</a></p> <p><b>IFMA Boston Chapter</b> <a href="http://www.ifmaboston.org">www.ifmaboston.org</a></p> <p><b>BOMA Boston Chapter</b> <a href="http://www.gbreb.com/boma/">http://www.gbreb.com/boma/</a></p> <p><b>Sustainable Performance Institute</b> <a href="http://www.sustainable-performance.org/">http://www.sustainable-performance.org/</a></p> <p><b>AFE Chapter 74-Worcester Area-Central MA</b> <a href="http://www.afe74.org">www.afe74.org</a></p> <p><b>USGBC Massachusetts Chapter</b> <a href="http://www.usgbcma.org">www.usgbcma.org</a></p> <p><b>AEE New England Chapter</b> <a href="http://www.aeenewengland.org/">www.aeenewengland.org/</a></p> <p><b>IBPSA Boston Chapter</b> <a href="http://ibpsa-boston.com/">http://ibpsa-boston.com/</a></p>



CTTC

By: Mark Leonard

### **China raises use of geothermal energy**

BEIJING, Oct. 3 (Xinhua) -- China plans to raise the annual utilization of geothermal energy to 70 million tonnes of coal equivalent by 2020 as the country seeks to ease reliance on coal and curb pollution.

The annual utilization of geothermal energy for heating purposes should reach 40 million tonnes of coal equivalent by 2020, according to a plan formulated by government agencies including the National Development and Reform Commission and the National Energy Administration.

Geothermal energy is heat energy stored in the Earth, which is clean and sustainable. The push for clean energy comes as the government has intensified efforts to fight pollution.

By the end of 2020, renewable energy facilities will supply 1.9 trillion kilowatt-hours of electricity, accounting for 27 percent of total power generation, according to the government's 2016-2020 plan for renewable energy.

Official data showed China's energy structure has continued to improve in the first half of 2017 amid the government campaign for greener growth.

Coal consumption, which stood at around 1.83 billion tonnes in the first six months, accounted for 59.8 percent of the overall energy use during the period, down 0.6 percentage point from the same period last year.

In contrast, the share of natural gas and non-fossil fuels in the mix rose 0.3 percentage point to 20 percent.

China aims to bring the share of coal in the country's energy mix down to below 58 percent by 2020.

*Source: Xinhua | 2017-10-03 18:42:55 | Editor: Yamei*

## **Employment Ads**

### **ASHRAE Boston Chapter – Employment Ads**

The NorthEastAire is published monthly, September through June. It is posted on the Chapter website at [www.ashraeboston.org](http://www.ashraeboston.org). A link is sent each month to all members of the Chapter, currently over 1000.

**Newsletter Rate:** \$400 for 1/2 page, \$800 for full page

**Website Rate:** \$300 per calendar month

**Discount for Both Newsletter & Website:** \$630 - 1/2 page in newsletter and website (10% discount)  
\$935 - full page in newsletter and website (15% discount)

**Format:** Word format, company logos in .jpg or .gif

**Deadline for October Newsletter: October 30, 2017**

Any questions, please contact Deanna Adkison, Newsletter Editor at 617-535-8236 or [northeastaire@gmail.com](mailto:northeastaire@gmail.com)



## HISTORICAL NEWS

By: Eric Edman



As this newsletter rolls across your computer screen, something changed....

The weather outside turned colder, and some of us are thinking about old man winter returning. (You are probably only thinking, and not doing anything to help yourself)

Yes, snow-blowers, and cold nights are due back despite all your best efforts. You could move to Florida-well maybe not.

We wanted you to stop, and think of what life was like for your great grandparents 100 years ago. Yes, in the year 1917.

Most homes were heated with wood fireplaces, as a child, or young person, a great deal of your possible free time was spent splitting wood. The lucky ones had coal fired furnaces- or how about a significant invention- a steam boiler!

Someone had to shovel a heck of a lot of coal (and ashes). The dirt and smell would be unbearable-but so was the darned cold.

Oil and gas was coming of age. Hunting for wood and coal was becoming a memory. What a thought.

As you sit in your living room- and turn on the TV- or laptop, or even grab a cold beer. Say thanks to engineers like us for making these creature comforts possible. As I sit around the Thanksgiving table, I quietly thank Eversource for the gas, Weil McLien and Grundfos for my boiler and pump so all I have to do is adjust my thermostat.

I did stack some of my own fire wood just to be able to say I did something.

As always, your historical committee is happy to hear from you. If you want to share something, please use the telephone on your desk before it goes away and call. We really do like to hear from you.

Thank you

Eric Edman

Direct dial 617-925-8325



## Webmaster's Notes

By: Kevin Doty

On August 19<sup>th</sup>, 2017, The Boston Chapter was recognized with the "Websitation of Excellence" award for the 2<sup>nd</sup> straight year at the Region I CRC in Long Island, NY. Thank you to everyone for your feedback throughout the past year. As always, comments and suggestions can be sent to [c001web@ashrae.net](mailto:c001web@ashrae.net).

Please make sure to add [admin@ashraeboston.org](mailto:admin@ashraeboston.org) to your "safe sender" list to prevent emails from going to your



## ASHRAE Government Affairs Update

By: Christine Reinders

### U.S. Government Affairs Federal Funding Update

On September 8, President Trump signed into law a Continuing Appropriations bill, which provides funding for the U.S. Government through December 8, 2017, and also raises the debt ceiling. In addition, the legislation provides \$15.25 billion in emergency funding to support disaster response and assistance to address hurricane damages and extends the authorization of the National Flood Insurance Program through December 8, 2017.

### U.S. DOE Recognizes ASHRAE's BCxP and BEAP Certifications

### U.S. DOE Requesting Comment on the Costs and Benefits of Net Energy Metering

DOE is seeking stakeholder input on studies assessing the costs and benefits of net metering to utilities, ratepayers, and the electrical grid. DOE is accepting written comments, with a deadline of October 30, 2017. [Click here](#) for more information about the studies and process for comment submission.

### U.S. Energy Information Administration (EIA) International Energy Outlook Report

On September 14, 2017, the EIA released its [International Energy Outlook 2017 report](#), which assesses the outlook for international energy markets. Some highlights from the report concerning the buildings sector are provided below:

- Energy use in buildings is projected to increase by 32% between 2015 and 2040. Most of the increase occurs in large, emerging non-OECD countries, where the population continues to shift from rural to urban areas.
- Electricity use in buildings grows 2% annually between 2015 and 2040 as rising standards of living in non-OECD countries increase the demand for appliances, personal equipment, and commercial services.
- Natural gas consumption in buildings grows by 20% over the period of 2015–40 as increased demand in non-OECD countries is partially offset by improvements in space heating equipment.
- The consumption of coal, used primarily for space heating, water heating, and cooking, continues to decline in the residential sector and remains relatively flat in the commercial sector.

### GGAC Helps Coordinate Response at Energy Code Hearings in Kentucky and Indiana

ASHRAE members in Kentucky and Indiana have provided comment for recent public hearings on commercial energy codes (CEC). The Kentucky Housing, Buildings, and Construction Advisory Committee was to consider a recommendation to roll back the state's CEC to IECC 2009 from its current use of IECC 2012. Both of Kentucky's ASHRAE Chapters sent representatives to the HBCAC meeting in opposition to this proposal. Bluegrass Chapter member Christian Taber, who is also on SSPC 90.1, was prepared to make a statement on behalf of ASHRAE but, at the last minute, the Commissioner of Housing, Buildings, and Construction announced no oral comments would be allowed and ASHRAE's statement was provided to the Committee electronically. The Commissioner sent the proposal forward without taking a vote of the Committee.

The Indiana Fire Prevention and Building Safety Commission held a hearing on September 14, 2017 to consider re-adopting the state's CEC, which is ANSI/ASHRAE/IES Standard 90.1. ASHRAE BOD member Doug Fick of Indiana provided comments on behalf of the Society at the hearing. The Indiana CEC almost expired at the end of 2016 but was extended by an Executive Order of the state's Governor. This hearing was to re-adopt the CEC. An additional public hearing may be scheduled on in Indiana on October 3, 2017 though that has not yet been finalized. Comment provided on behalf of ASHRAE to government officials may be found in the "Letters and Testimony" section of the [website](#).

### State of Texas Issues Final Rules for Mold Assessors and Remediators

The *Texas Register*, published September 2, 6451, gives notice that final rules have been established for mold assessors and remediators that were first announced in the April 21, issue of the *Register*. [View](#) the final rule.

The effective date of these rules is November 1, 2017. These rules were filed with the Office of the Secretary of State on August 28, 2017. For more information, contact Brian E. Francis, Executive Director, Texas Department of Licensing and Regulation at (512) 463-8179.

### City of Denver Moving to 100% Renewable Energy

In December of 2015, the Department of Environmental Health released an updated Climate Action Plan. As part of that plan, Mayor Michael B. Hancock announced Denver's goal of reducing community Greenhouse Gas (GHG) emissions 80 percent below 2005 levels by the year 2050 (80 by 50). Mayor Hancock also committed the City to pursuing a robust stakeholder process to identify and vet potential strategies to get Denver to that goal. Since the Mayor's announcement, DEH has been hosting the stakeholder process. DEH is supported in this effort by Lotus Engineering & Sustainability.

The City is now advancing strategies for meeting its big climate change goal, including pushing Xcel Energy to supply electricity only from renewable sources before 2030. If Denver reaches this goal, it will join more than 35 cities around the country that have committed to using only renewable energy.

**GGAC** By: *Jeremy Caron*

Welcome to the ASHRAE Boston Chapter’s Government Affairs Update! This monthly publication features information on government affairs-related activities of interest to ASHRAE Boston Chapter members and others interested in the built environment. Archives of previous updates are available in the newsletter from the chapter website at <http://www.ashraeboston.org/pastnewsletters>.

News from the Commonwealth of Massachusetts:

**Event: Heat Pump Technology and Incentives in Massachusetts**

An event for building owners/managers, engineers, contractors, and others interested in finding out more about air-source heat pumps for commercial scale facilities is being held on October 26<sup>th</sup> at the Home Builders Association of Western Massachusetts. MassCEC will discuss its heat pump rebate programs for both mini splits and variable refrigerant flow (VRF).

**Greenbuild 2017**

Don’t miss Greenbuild 2017. This joint conference between the USGBC and the AIA Boston will host sessions and hundreds of conference goers for a week in Boston’s seaport at the Boston Convention and Exhibition Center. This is an excellent opportunity for ASHRAE Boston Chapter members to engage with new clients and learn about emerging topics of interest as well as visit booths with hundreds of products to help you design and engineer your next project.

News from ASHRAE Grassroots Government Advocacy

**Thursday October 5<sup>th</sup> is Energy Efficiency Day**

Celebrate all of the benefits of energy efficiency with ASHRAE, which is an Organizational Participant in this effort. Energy Efficiency Day is a collaborative effort among regional and national organizations, businesses, utilities, and individuals working to promote energy efficiency. Get your government involved by requesting an official proclamation from your mayor or governor.

**World Standards Week**

World Standards week is: Oct. 16-20. The week recognizes the important role of the standards community, which includes ASHRAE. The goal of the week is to raise awareness among regulators, industry, and consumers as to the importance of standardization to the global economy.

**Senators Shaheen and Portman Introduce Legislation to Commemorate Energy Efficiency Day**

Senators Shaheen and Portman plan to introduce a bipartisan resolution to commemorate October 5 as "Energy Efficiency Day." The resolution celebrates the positive impacts and benefits of energy efficiency technologies and practices. Contact your U.S. Senator and encourage him or her to co-sponsor the legislation. Contact information for U.S. Senators can be found [here](#).

**ASHRAE Sends Letters to Congress Urging Funding Support for Energy Efficiency Programs**

On September 26, ASHRAE joined with 25 other organizations and businesses in signing a letter to the U.S. Senate and U.S. House of Representatives urging them to support energy efficiency programs by providing clarity in funding bills and robust oversight in agency

that funds are spent in the way Congress intends, be it for technical assistance, research, development, demonstration or commercialization programs. Copies of these letters can be found [here](#).

**State and Territorial Legislative Sessions Scheduled for 2018**

The 50 states, the District of Columbia and the U.S. Territories have set their legislative dates for 2018. Four states have no legislative session next year and many states hold a "short session" to consider budget issues and unfinished legislation from the 2017 sessions. For states where the legislative session adjournment is not constitutionally or legally mandated, the Sine Die adjournment dates are approximate. Chapters may use these dates as guides to planning an ASHRAE Day on the Hill or other legislative events.

Session Dates for Massachusetts

State	Convene	Cross Over	Carry Over		Sine Date
			From '17	To '19	
Massachusetts	1/3/2018		Yes	No	1/2/2019

**ASHRAE Participates in U.S. State Department Meeting on Standards Development and Refrigerants**

The U.S. State Department invited ASHRAE to speak at a meeting held with a delegation from the Chinese Ministry of Environmental Protection on Standards development and refrigerants. ASHRAE Member Dunstan Macauley spoke on ASHRAE's standards development process and described Standard 15-2016, 15-2 (proposed), and 34-2016, along with ASHRAE's refrigeration research work. In addition to the State Department, attendees also included staff from the U.S. EPA, the Alliance for Atmospheric Policy, the Air-Conditioning, Heating, and Refrigeration Institute (AHRI), and Underwriters Laboratories, Inc. (UL).

**U.S. Department of Energy’s Solar Decathlon**

ASHRAE sponsored the U.S. Department of Energy's Solar Decathlon, which was held October 5-15 in Denver. [The Solar Decathlon](#) is a collegiate competition of 10 contests that challenge student teams to design and build full-size, solar-powered houses over the course of two years. As a long-time sponsor, ASHRAE has offered guidance and support to the Solar Decathlon by hosting student receptions, providing meals, participating in event committees, leading workshops and serving as judges. ASHRAE members in the Denver area served as volunteer greeters, docents, visitor liaisons, and "Education Day" mentors.

**State Planning for VW Settlement**

The US Department of Energy released a quick reference guide for states to reference as they develop a productive stakeholder engagement process for planning related to the Volkswagen (VW) Clean Air Act Civil Settlement. Under the settlement, states, territories, and tribes will receive funds to mitigate the excess emissions of nitrogen oxides (NOx) from Volkswagen diesel vehicles. States will receive between \$8 million and \$423 million in initial allocations, with 20 states receiving more than \$50 million. Each state will develop a plan to use these funds for eligible mitigation actions. [Learn more](#).

**ASHRAE TECHNICAL PROGRAM FOR WINTER CONFERENCE FOCUSES ON REDUCING ECOLOGICAL IMPACT**

Oct 6, 2017

**Contact:** Allen Haynes

Public Relations

404-446-1677

**ATLANTA** – Reducing the ecological impact of the built environment and integrated design are featured themes in the technical program at ASHRAE's 2018 Winter Conference.

The [2018 Winter Conference](#) takes place Jan. 20-24, at the Palmer House Hilton, Chicago. The ASHRAE co-sponsored [AHR Expo](#) will be held in conjunction with the Winter Conference, Jan. 22-24 at McCormick Place.

"The technical program provides attendees with the information they need to reduce the ecological impact of our built environment on the world around us," says Michael Collarin, chair of the 2018 ASHRAE Winter Conference. "The program features seven program tracks that focus on resources to design, build, control, commission and operate facilities and infrastructure that need to not only be efficient, but resilient."

The technical program features more than 200 presentations by nearly 300 speakers with tracks on Systems and Equipment; Fundamentals and Applications; Standards, Guidelines and Codes; Earth, Wind & Fire; Tall Buildings; Modeling Throughout the Building Life Cycle; and Heat Exchange Equipment. The [full technical program](#) is now available.

ASHRAE is also offering two program "mini-tracks" at the AHR Expo on Monday, Jan. 21. These sessions offer AHR Expo attendee updates on refrigerants and residential buildings. Attendance is free.

In keeping with ASHRAE's goal of continuing education, Professional Development Hours (PDHs) recognized by most U.S. states, along with AIA LUs and LEED AP credits are available through [ASHRAE Learning Institute \(ALI\)](#). ALI will offer 20 courses as well as two full-day, and five half-day seminars during the conference, many of which can be applied toward a professional engineering license. New and updated courses include: Optimizing Indoor Environment: Increasing Building Value; Understanding and Designing Chilled Beam Systems; Designing High-Performance Healthcare HVAC Systems; Complying with Standard 90.1-2016: HVAC/Mechanical; and Humidity Control I and II: Principles & Applications.

Additionally, ASHRAE will offer onsite administration of all six [ASHRAE certification exams](#) on Jan. 20 and Jan. 24. The exams being administered include: Building Commissioning Professional (BCxP and CPMP Recertification); Building Energy Assessment Professional (BEAP); Building Energy Modeling Professional (BEMP); High-Performance Building Design Professional (HBDP); Healthcare Facility Design Professional (HFDP); and Operations & Performance Management Professional (OPMP). Applications must be submitted by Dec. 20.

Another conference highlight are [the tours](#), some which include Method Home Soap Manufacturing Plant, the Gas Technology Institute (GTI) Lab, The Plant and 340 on the Park. Tours can be reserved for an additional fee during the registration process.

ASHRAE President Bjarne W. Olesen will provide an update on his presidential theme, "Extend" at the President's Luncheon on Monday Jan. 22. Major contributors to the ASHRAE RP Campaign will also be recognized at this lunch.

The keynote speaker at the opening plenary session on Saturday, Jan. 20 will be Debbie Sterling, Founder and CEO of [GoldieBlox](#), an award-winning company on a mission to "disrupt the pink aisle" with toys, games, and media for girls. Sterling, named TIME's "Person of the Moment" among other honors, is an engineer, entrepreneur, and one of the leaders in the movement toward getting girls interested in science, technology, engineering, and math.

Take advantage of [early bird registration](#) savings.

For complete conference and expo information, visit the [2018 ASHRAE Winter Conference](#) and the [AHR Expo websites](#).

# ASHRAE Learning 2017 Online Course Series

## REGISTRATION

**One-part course (3 hours):**  
\$284 (\$219 ASHRAE Member)

**Two-part courses (6 hours):**  
\$484 (\$359 ASHRAE Member)

[Register](#)

## MULTIPLE PARTICIPANTS

Site Licenses are Available when five or more attend. [Learn More >>](#)

## TIME FRAME

All courses are presented from 1:00 - 4:00 PM, Eastern Time.

## General Information

Information about the ASHRAE online course series. [Learn More >>](#)

**Note:** Course fees listed above are per person for a single presentation connection for individual use and may not be shared with other users. All registrants must individually register for the desired course to participate and receive continuing education credit.

All courses are archived for a period of time after their initial presentation.

Receive a 10% discount on the PDF format of the Recommended Reference. (Discount is included in item prices on registration form.)

## Two-Part Half-Day Short Course List

The following course carries 6 CEU/PDH credits and is comprised of two parts. Registrants must attend both parts in order to receive CEU/PDH credits. Archiving is available.

**Note:** Course fees listed are per person for a single presentation connection for individual use and may not be shared with other users. All registrants must individually register for the desired course to participate and receive continuing education credit.

Oct 23, 2017

[Introduction to Building Enclosure Commissioning](#) (Co-sponsored by Building Enclosure Commissioning Collaborative) This seminar introduces the Building Enclosure Commissioning (BECx) process by outlining key quality-based tasks that achieve a successful building enclosure. The seminar focuses on both design phase and construction phase BECx activi...

Nov 1, 2017

[New! Complying with Standard 90.1-2016, Parts I and II, ES Practices](#) The 2016 update of ASHRAE Standard 90.1 Energy Standard for Buildings is a major revision, containing more than 125 changes from the 2013 version. Together, Standards 90.1-2007, 90.1-2010, 90.1-2013 and 90.1-2016 produce almost 40% energy savings from the 2004 version. The 2016 edition offers a si...

## Half-Day Short Course List

The following courses each carry 3 CEU/PDH credits. Archiving is available.

**Note:** Course fees listed are per person for a single presentation connection for individual use and may not be shared with other users. All registrants must individually register for the desired course to participate and receive continuing education credit.

Jul 18, 2017

[NEW! Variable Refrigerant Flow System: Design & Application](#) Variable-refrigerant flow (VRF) systems are now becoming increasingly utilized across North America. This course provides nonmanufacturer-specific concepts of the unique operational characteristics of VRF systems and how to apply VRF systems to a wide range of building types. The course supplements...

**2017-2018 Meeting Schedule**

Date	Main Meeting/ Tech Session	Speaker	PDH Credits	Location/ Special Night
<b>October</b> Thursday October 19, 2017	Tour of Boston University's CILSE Building	Building Tours led by ARUP and Payette	Pending	Boston University 610 Commonwealth Avenue Boston, MA 02215  Past Presidents & History
<b>November</b> Tuesday November 7, 2017	Transforming and Existing Building into a High Performing Facility  <b>Tech Session: TBD</b>	James L. Newman, CEM  TBD	1.5  TBD	Metro Meeting Centers 101 Federal St. Boston  Student Activities/ Young Engineers in ASHRAE/Women in ASHRAE
<b>December</b> Tuesday December 12, 2017	Overview of vibration isolation for noise control and code requirements  <b>Tech Session: lessons learned involving systems</b>	Mr. Steven Tafone, P.E.  Mr. Karl Peterman, P.E.	TBD  TBD	Embassy Suites 550 Winter St. Waltham  Joint Meeting with ASPE
<b>January</b> Tuesday January 10, 2018	Smoke Control Systems and Integration Across Trades  <b>Tech Session: Smoke Control Systems Requirements</b>	Andrew Krenning & Ed Ledoux  Eric Montplaisir	TBD  TBD	Metro Meeting Centers 101 Federal St. Boston  Research Promotion/Membership Promotion
<b>February</b> Tuesday February 13, 2018	BAS Controls  <b>Tech Session: ASHRAE Guideline 36P (Control Sequences)</b>	TBD  TBD	TBD  TBD	Embassy Suites 550 Winter St. Waltham  Joint Meeting with I2SL
<b>March</b> Tuesday March 6, 2018	Energy / Indoor Environment with ASHRAE President  <b>Tech Session: TBD</b>	TBD  TBD	TBD  TBD	Metro Meeting Centers 101 Federal St. Boston  Joint Meeting with AEE
<b>April</b> Thursday April 19, 2018	Product Show 2018  ASHRAE CTTC Webcast	See Program  TBD	See Program  TBD	Lantana's 43 Scanlon Dr. Randolph, MA 02368
<b>May</b> Wednesday May 23, 2018	Installation of Officers  Brewery Tour at Night Shift	TBD  TBD	TBD  TBD	TBD  TBD
<b>June</b> Monday June 4, 2018	Golf Outing	Jim Liston	N/A	Granite Links 100 Quarry Hill Dr. Quincy, MA 02169  Research Promotion

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