March Meeting

Tuesday, March 8, 2016

Main Meeting:

Case Histories of Both Productive and Problematic Interactions Between Architectural Designs and HVAC

Tech Session:

GroundSource Case Study

Joint Meeting with AEE

Meeting Manager:
Mark Leonard
MCL@brplusa.com

Where:
Metro Meeting Centers
101 Federal St.
4th Floor
Boston, MA

Cocktail Sponsor:
Equipment Direct Sales

Meal:
Baked Lasagna
Traditional Marinara & Ground Beef
Creamy White Sauce & Vegetables (V)
Salad (V)
Garlic Bread
Pudding Cups

Time:
5:15 - 6:00  Technical Session (Room TBD)
5:30 - 6:45  Social/Registration/Dinner (in dining room & common area)
6:45 - 8:00  Dessert, Announcements & Main Program (in Lexington/Concord Meeting Room)

Cost:
ASHRAE Boston Members:  $50
Non-Members / Walk-Ins:  $60
ASHRAE Student Members with RSVP: Free

Parking:
Garage At Post Office Square, Zero Post Office Square, Boston, MA ($9 after 4:00 pm)

Special thanks to our Sponsors:

Gold:
RDK Engineers
J.S Flemings Associates

Silver:
- Daikin
- Filter Sales & Service, Inc.
- RG Vanderweil Engineers
- RST Thermal
- R. T. Forbes Company
- Stebbins-Duffy, Inc.
- Victaulic
- Equipment Direct Sales, Inc.

Refer to Page 3 for more information

Please register online at www.ashraeboston.org. RSVP by 12:00 PM on Friday, March 4, 2016

If you have any questions, you may contact Erin Popa, Attendance Chair, at ashraebostonattendedance@outlook.com.

Thank You

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Boston Members, we need your support. Please follow us on twitter ([twitter.com/ASHRAEboston](https://twitter.com/ASHRAEboston)), linkedin ([www.linkedin.com/grps/Boston-ASHRAE-Chapter-5053857/about)](https://www.linkedin.com/grps/Boston-ASHRAE-Chapter-5053857/about) and Facebook ([https://www.facebook.com/bostonashraeya](https://www.facebook.com/bostonashraeya)). In addition, our new website is up and running. Please check out [www.ashraeboston.org](http://www.ashraeboston.org). Kevin Doty has been working very hard to get the new website going.

ASHRAE Boston Chapter had its February meeting at Metro Metting Center located in 101 Federal St Boston. We were very pleased to let you know that the meeting was a success. It was Membership, YEA and Research Promotion night. We had four past presidents join us at the meeting and the BOG meeting, which was held prior to main meeting.

We need your support to get your feedback concerning the main meeting and technical session. Mike Gilroy, CTTC chair, sends out a survey via Survey Monkey to all attendees right after the meeting. We appreciate your feedback! Any questions, please contact Mike Gilroy at Mgilroy@brplusa.com

For members who couldn’t make it to the meeting and want to know more about the February meeting, please refer to meeting recap section written by Andrew Krenning for details on the February meeting.

I would like to first thank Steven Friedman (Memorial Sloan Kettering Cancer Center, NY) for a great presentation on Infrastructure Resiliency Design in Healthcare - Post Superstorm Sandy. Steven was very entertaining and engaged the audience to participate during the presentation. The presentation had many great photos during the Superstorm Sandy in NYC. Thank you Christine Reinders for a brief presentation on YEA; Dan Carrington/Bob Persechini on membership and Dan Diorio who spoke on Research Promotion. Please reach out to Christine at creinders@cannondesign.com if you are interested in being involved with YEA.

Secondly, I would like to thank technical session speaker Brad Selmon (M.A Selmon Company) for a great presentation on Power and Energy Metering. I would like to also thank all attendees at the February meeting. Special thanks to behind the scenes crew Mark Leonard, Erin Popa, Bill Garvey, Kevin Doty and Steve Bosland.

Next month’s meeting will be held on March 8th (Tuesday) at 101 Federal St in Boston, MA. Please join us in welcoming main meeting speaker Lew Harriman (Director of Research at Mason-Grant Consulting in Portsmouth NH). The meeting is on Real World Integrated Design - Case Histories of Productive and Problematic Interaction between Architectural Designs and HVAC Systems.

Hope to see you all at the March meeting! The March meeting is the last meeting for the year. I encourage all members to bring along non-members to this event. We need your support to keep the Boston Chapter growing and to share the good news with our local community.

ASHRAE Boston chapter has made available corporate sponsorship opportunities. Please contact Will Tang at wtang@brplusa.com for more information. We look forward to your sponsorship, which will support the Boston chapter greatly. A huge “Thank you” goes out to Daikin, RDK Engineers, RenewAire, RG Vanderweil, Stebbins Duffy, Filter Sales & Service, Inc, R.T.Forbes Company, J.S. Fleming Associates, Equipment Direct Sales and Victaulic who are already part of the sponsorship program and supporting the Boston Chapter.

The ASHRAE Boston Chapter will be hosting a product show in April 2016. Please sign up with Jeff Schultz. For more information go to [www.ashraeboston.org](http://www.ashraeboston.org).

I look forward to meeting all of you throughout the year. I would love to hear from you with any thoughts you might have regarding the ASHRAE Boston Chapter. You can email me at stacie@stebbinsduffy.com

Thank you

Stacie Suh

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Materials for the April newsletter are due by **March 18, 2016**.

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).

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**EDITOR’S NOTE**

*By: Deanna Adkison*

For more information, please e-mail northeastaire@gmail.com
Tech Session:  GroundSource Case Study

Description of Presentation:
The seminar will be given by a professional HVAC engineer who is experienced in engineering geothermal HVAC systems for buildings in the New England area. It will offer a basic level, but systematic knowledge in geothermal HVAC systems, their applications, the design and construction process in New England area.

Speaker Bio:  George Hu

George Hu is the founder and president of Air Water Energy Engineers, Inc. (AWE), a company focuses on engineering sustainable building systems. He has over 18 years of experience in the field of HVAC systems engineering and analysis, including Geothermal HVAC systems. Before founding AWE in 2007, George worked as an HVAC project engineer and then an associate at Bard, Rao + Athanas Consulting Engineers, a project manager and associate at AHA Consulting Engineers. George is a professional engineer licensed in Connecticut, Massachusetts, New Hampshire, Rhode Island, Vermont, Maine, Pennsylvania, and New York State. He is a member of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), and a LEED accredited professional by the U.S. Green Building Council (USGBC). He is also a Certified GeoExchange Designer (CGD) by the Association of Energy Engineers and International Ground Source Heat Pump Association (AEE / IGSHPA). George holds a Master's degree of Science in Building Technology from Massachusetts Institute of Technology. He also had a Master's degree of Mechanical Engineering, specializing in Computational Fluid Dynamics (CFD), from the University of Delaware. George obtained his Bachelor's degree of Engineering from Beijing University of Aeronautics and Astronautics.

MAIN MEETING:

Title of presentation: Real-World Integrated Design - Case Histories of Both Productive and Problematic Interactions Between Architectural Designs and HVAC Systems

Description of presentation:
Integrated design offers the potential for reductions in energy, as well as comfort improvements and cost reductions. But to achieve these benefits while avoiding problems, it’s important to understand the constant real-world interaction between the building’s enclosure and its HVAC systems.

Speaker Bio:

Lew Harriman (distinguished lecturer)

Lew Harriman is Director of Research at Mason-Grant Consulting in Portsmouth, NH. He has 40 years of experience researching and solving problems related to energy, humidity and moisture in buildings and industrial processes. In recognition of his accomplishments, in 2010 Lew was elected a Fellow of ASHRAE and in 2012 he received an appointment as an ASHRAE Distinguished Lecturer.

Lew received his degree in Visual studies/Architecture from Dartmouth. He served five years in the U.S. Air Force as a Captain in the Engineering & Services Division of the Headquarters, Strategic Air Command, and ten years working as application engineer for an international manufacturer of dehumidification equipment. Since 1986, Lew has been a building science consultant, building forensic investigator, researcher, lecturer and author. He has lectured on the topics of humidity control design and trouble shooting, ventilation system design, building moisture management, infrared analysis of building systems, mold prevention and building energy retrofits for architects, engineers, contractors and building operators throughout North America, Europe and Asia.
The first chapter meeting of 2016 at the Metro Meeting Center started with a networking and social hour.

The meeting portion of the evening was kicked off by ASHRAE Boston President Stacie Suh who welcomed everyone to Membership Promotion, Young Engineers and Research Promotion night. She started with introducing Dan Carington who gave an update on Membership of the Boston ASHRAE chapter. The YEA Chairperson, Christine Reinders, gave an update and brief overview of YEA for the Boston Chapter and the national program. She talked about the importance of getting new and young Engineers involved and how YEA can help members get involved with participating at a local and national level. The Research Promotion Chairperson, Dan Diorio, gave an update and talked about the meaning of the program and how important it is to the ASHRAE organization.

The main meeting presentation was given by Steven Friedman who is the Director, Facilities Engineering Design and Construction for Memorial Sloan Kettering Cancer Center in New York, NY. The presentation was on Infrastructure Resiliency in Healthcare facilities and how the world’s oldest and largest private cancer treatment center dealt with these issues after Super Storm Sandy and how they are preparing for the future. Mr. Friedman started by giving everyone background on the facility and its location within the area that was hit the worst during the storm and subsequent flood waters. He continued with showing the aftermath and damage that occurred to the building’s main infrastructure and how that affected the Center’s ability to serve its customers and its overall financial impact. With the lessons learned during the storm, Sloan Kettering’s standards moving forward are to incorporate flood prevention procedures and storm mitigation design strategies with regular Healthcare Facility MEP design criteria, requirements and standards. This includes adding flood protection at the property line, elevating all critical building infrastructures above the DFE and incorporating structural strategies that mitigate the risks associated with water infiltration through the building structure and walls. They have been able to study the cost associated with these additional measures in the new building and it would easily pay for itself if another similar storm were to affect the area.

Look forward to seeing everyone at the March meeting, which will be held at the Metro Meeting Center in Boston.

February Meeting Recap
By: Andrew Krenning

Don’t forget to follow us on twitter @ASHRAEboston and on LinkedIn for all the latest news and event updates.
FREE SUNDAY RIVER & SUGARLOAF DISCOUNTSKI VOUCHERS, SAVE $19 PER ADULT TICKET

The Boston Chapter is participating in the Sunday River/Sugarloaf corporate voucher program again this year. Each voucher entitles you to purchase up to four discounted lift tickets [$70 Adults, $58 Teen, $48 Junior/Senior] at either ski resort by presenting an ASHRAE membership card, picture ID, and voucher. The regular prices are $89/$69/$59. Contact Ed Waldman, ewaldman@verizon.net, if you would like any vouchers. The voucher is a PDF that can be e-mailed to you, but the resorts have become stricter about showing your ASHRAE card when you purchase the tickets. There is no charge for the vouchers and there are no blackout dates. Complete rules below:

How To Use Vouchers

1. Bring your corporate voucher to any participating resorts ticket window.
2. Present your voucher, photo ID, and valid ASHRAE membership card to the ticket seller. In the absence of the individual member, immediate family members defined as spouse and children, must present some form of ASHRAE identification, plus a photo ID in order to receive the discount.

Each person expecting the corporate pricing must be present with the corporate voucher holder at the time of ticket purchase. The ticket seller will take the voucher in exchange for up to 4 lift tickets.

Presidential Award of Excellence
Boston Chapter - 2015-2016

<table>
<thead>
<tr>
<th>Chapter Members</th>
<th>Membership Promotion Points</th>
<th>Student Activities Points</th>
<th>Research Promotion Points</th>
<th>History Points</th>
<th>Chapter Organization Points</th>
<th>Chapter Technology Transfer Points</th>
<th>Grassroots Government Affairs Points</th>
<th>Chapter PAOE Point Totals</th>
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<td>1040</td>
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<td>420</td>
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<td>865</td>
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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. A link is sent each month to all members of the Chapter, currently over 1000.

**Newsletter Rate:** $200 for 1/4 page, $400 for 1/2 page, $800 for full page

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

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

**Deadline for April Newsletter:** March 18, 2016

Any questions, please contact Deanna Adkison, Newsletter Editor at 617-535-8236 or northeastaire@gmail.com
Hello members, hope everyone has been keeping warm these last few weeks. Our March meeting is at Metro Meeting Center in Boston, this will be our 3rd of 3 meetings organized in Boston. Bring in a potential member or members to the meeting and network with everyone. As of February 12, 2016 we are at 1040 members strong. I would like to recognize our latest new Member(s) that have joined us in the last few weeks since the last newsletter went out:

Lui Walkit

Welcome aboard Member(s), wishing you many years of partnership and success with the ASHRAE Boston Chapter. We are so looking forward to seeing everyone at our next Boston Chapter ASHRAE events and meetings.

Recently I was asked what the differences were between the Affiliate Member and an Associate Member, and I responded with the information below. I am also taking this opportunity to go over the other member grades as well.

**Affiliate grade** is a low cost, introductory membership for those who are either: (1) under 30 years of age OR (2) someone who has been honorably discharged from the Military within the past 5 years.

**Dues:** Society dues for this 3 year program are:

- $54 (1st Year)
- $74 (2nd Year)
- $95 (3rd Year)

**Qualifications:**

- Interest in the advancement of the Society’s aims, and sufficient qualifications to cooperate with HVAC&R engineers in the advancement of the knowledge relating to HVAC&R engineering and its application.
- For new members only.
- Must be either: (1) under 30 years of age OR (2) honorably discharged from the Military within the past 5 years
- Can only hold this grade for up to 3 cumulative years.

*Note: Affiliate Members do not receive a free annual edition of the ASHRAE Handbook*

**Associate Grade** membership is for those who have been in the industry for a few years and are focused on developing skills, and growing their network. Associate grade membership is open to anyone who has an interest in matters of design, operation, or maintenance in HVAC&R-related fields.

**Dues:** Society dues for Associate Grade are $202 annually.

**Qualifications:**

- Experience in technical matters or in design, operation, or maintenance in HVAC&R fields
- Interest in the advancement of the Society’s aims, and sufficient qualifications to cooperate with HVAC&R engineers in the advancement of the knowledge relating to HVAC&R engineering and its application.

**Member Grade** is open to anyone who has a combination of education, professional licensure and work experience equivalent to twelve years in the HVAC&R industry. You will be asked to provide information regarding your education, work, and professional licensure when applying for Member Grade.

**Dues:** Society dues for Member Grade are $202 annually.

**Qualifications:**

The equivalent of 12 Society-approved years of experience composed of an approved combination of:

- Completed education beyond high school;
- Work experience (including research, teaching, design, contracting, engineering sales, or engineering management); and
- Professional engineering or related registration or license issued by a legally authorized body.

**Student membership** is designed for engineering students who may be considering a career in HVAC&R. Student members are given the opportunity to transfer to Associate grade membership after graduation using the SmartStart program.

**Dues:** Society dues are $20 annually

**Qualifications:**

- Must be studying or have an interest in an HVAC&R industry-related field.
- Matriculated in an approved course of study in the arts and sciences covered by the Society’s objectives.

See Benefits Matrix on next page for complete list of benefits.

Please share your experience as a member of the Boston Chapter. Email me and share what ASHRAE has done for you since becoming a member. It is one of my goals to post this in our newsletter to let other members and potential members see the benefit of being a member beyond the books and standards that are at our reach. ASHRAE has been a large part of my career since my involvement and I am sure it has been for you too and can be in the near future.
### Member Grades and Benefits at a Glance:

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Member &amp; Associate Grades</th>
<th>Affiliate Grade</th>
<th>Student Grade</th>
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<td></td>
<td>Regular</td>
<td>*Developing Economy Program</td>
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<td>Annual Membership Dues</td>
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<td></td>
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<td>$95 (yr 3)</td>
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<td>Yes</td>
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<tr>
<td>ASHRAE Handbook</td>
<td>FREE New Members and Associates receive the print volume with CD, plus a one-year complimentary subscription to ASHRAE Handbook Online.</td>
<td>New Members and Associates receive CD, plus a subscription to ASHRAE Handbook Online.</td>
<td>$33 Subscription to ASHRAE Handbook Online and 15% off printed edition</td>
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<td></td>
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<td>Education &amp; Certification Discounts</td>
<td>Yes</td>
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<td>Yes</td>
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<tr>
<td>Connect to peers at the local, regional, and international level</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Monthly ASHRAE Journal</td>
<td>Yes</td>
<td>Digital Only</td>
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<tr>
<td>Free Subscription to High Performing Buildings Magazine</td>
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<td>Yes</td>
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<td>ASHRAE Insights E-Newsletter</td>
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<td>ASHRAE HVAC&amp;R Industry Newsletter</td>
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<td>Hold Office and Vote at Chapter, Regional, and Society Level</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Participate on Committees</td>
<td>Yes</td>
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<tr>
<td>Access to member only web pages</td>
<td>Yes</td>
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<tr>
<td>Group Health Insurance Benefits: Various Products and services at a discounted rate for ASHRAE Members (residing in the US only)</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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</tbody>
</table>
On sadder news, we lost two of our members this pass month; Bill Chaisson and Thomas J. Gunning.

CHAISSON, William Thomas, P.E. Died peacefully at home on Sunday, February 7, 2016, at the age of 84.

Bill was predeceased by his wife of 62 years, Joan (McCarty) Chaisson. Bill is survived by his brother Robert Henry Chaisson of Newton and eleven children: William Kenneth of Hilton Head, North Carolina; Robert Edward of Auburndale; Jean Elizabeth and her husband Robert Persons, P.E. of Auburndale; Richard Ernest, M.D. and his wife Judith Harding of Baltimore, MD.; Donald Henry and his wife Catherine of Lancaster; Barbara Joan Altman of Waltham; Margaret Ann and her husband James Gilreath of Foxborough; Christine Ellen and her husband Kenneth Thompson of Weymouth; Deborah Jane and her husband Michael Boucher of Canton; John Stuart of Auburndale; and Thomas Daniel of Auburndale. He is also survived by fourteen grandchildren: Madeline Mercado, Daniel Persons, Mark Persons, Melanie Gilreath Chaisson, Lelia Chaisson, Michael Altman, Anton Chaisson Boucher, Dennis Gilreath Chaisson, Clara Chaisson, Bryan Gilreath Chaisson, C. Henry Chaisson, Derek and Meredith Gilreath Chaisson and Alejandra Chaisson; and three great-grandchildren: Mateo, Marcos, and Sofia Mercado. Bill was predeceased by his parents Clarence Henry Chaisson and Lelia Jean (Teasdale) Chaisson and brother Lloyd Burton Chaisson.

He was born on 24 March 1931 in Auburndale, and spent most of his life on the same street. After receiving his engineering degree from the University of Maine in Orono, where he was a member of an engineering honor society Tau Beta Pi, he returned to Newton and joined his father in the family HVAC business: Capitol Engineering. Bill was a well-known and innovative engineer, and active in numerous industry groups. He served as past president and founding member of Air Conditioning Contractors Association (ACCA), past president of the Boston chapter of American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), past president of Air Refrigeration Contractors of Boston (ARC), and active member of Sheet Metal and Air Conditioning Contractors’ National Association (SMACNA), Association of Energy Engineers (AEE), and American Conference of Governmental Industrial Hygienists (ACGIH).

Bill was also active in the community, serving on Newton’s Design Review Committee for decades. Bill maintained an active role as an engineering consultant, and never considered retiring. He enjoyed spending time with his family, both at home in Newton and in Wellfleet on Cape Cod, and will be missed by all those who had the privilege of knowing him.

Donations, in Bill’s memory, may be made to the charity of one’s choice.

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Gunning, Thomas J. of Canton died unexpectedly February 6, 2016. He was 48 years old.

Tom is the devoted husband of Kristen M. Gunning (Andersen). Proud father of Brendan M. Gunning, Shane T. Gunning and Owen A. Gunning. Beloved son of John Sr. and Elaine C. Gunning (Hohmann). Loving brother of John T. Gunning Jr. and his wife Dr. Kristen Gunning, Dianne M. and her husband Kevin Wright, and the late Michael J. Gunning 2nd LT U.S. Army., all of Canton.

Tom is also survived by his loving in-laws Andrew and Kathleen Andersen, Andrew Andersen, Steve and Kate Rooney, Lauren and Chris Staruski, along with several aunts, uncles, cousins, nieces and nephews.

In lieu of flowers donations may be made in Tom’s memory to the Thomas J. Gunning Scholarship Fund, c/o SMACNA Boston, 100 Grossman Drive, Braintree, MA 02184.

Tom has been a part of the Local #17 Sheet Metal Union for over 28 years. As the owner of Quality Air Metals, Inc. he is beloved by the entire sheet metal industry.

A devoted, loving husband and father, he was a giver in his everyday life, not only to his wife and 3 beautiful boys, but also to the entire Canton community.

A life-long Canton resident, he gave his heart to coaching both Canton Youth Hockey & Lacrosse and touched many children’s lives in doing what he loved.

Those who knew Tom will remember him as a devoted Catholic, a selfless man with a wonderfully goofy sense of humor.

Any comments or questions, please feel free to contact me at dpc@brplusa.com. Looking forward to hearing from you.
March 9-10, 2016
Boston, MA
Hynes Convention Center

Show Host
nationalgrid
HERE WITH YOU. HERE FOR YOU.

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AEE®
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AEE NE
Association of Energy Engineers New England

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For details, please visit
www.globalconeevent.com
Your Boston Chapter Webmaster welcomes your suggestions as we begin interacting with the NEW ASHRAE Boston homepage!

- The Boston Chapter thanks Kevin Doty for diligently working with Wild Apricot to establish our NEW website!
- Check out our New Roster - under “About Us” – it is called “Member Directory” and can be accessed by logging into the website. Search for people and their contact information.

Webmaster’s Notes

By: Steve Rosen
ASHRAE Government Affairs Update, 2/18/2016

As of July 1 2015 GGAC changed from Grassroots Government Activities Committee to Grassroots Government Advocacy Committee.

Federal Activities

2015 was the Earth's warmest year since records began in 1880, the National Oceanic and Atmospheric Administration (NOAA) announced on Jan. 20. In 2015, the average temperature across the Earth's land and ocean surfaces was 1.62°F (0.9°C) above average, the largest margin by which an annual global temperature record has been broken, NOAA said. Record warmth was broadly spread around the world, NOAA reported, with portions of central and South America, Europe, and central Asia seeing some of the warmest temperatures. A separate analysis of data from NASA agreed with NOAA's findings. According to NASA 15 of the 16 warmest years have occurred since 2001.

GGAC Regional and Chapter Activities

Worldwide Warming Trend Continues in January

January 2016 was the warmest January on record by a large margin, according to NASA's Goddard Institute for Space Studies. It was also the most anomalously warm month since such recordkeeping began in 1880. The month was 1.13°C (2.03°F) above normal. That was higher than December's record of 1.10°C (1.99°F) above average. It marks the fourth month in a row where average temperatures worldwide have been more than 1°C (1.8°F) above normal.

Global ‘Green’ Building is Expected to Double by 2018

There will be a marked increase in "green” building activities in the United States over the next three years, according to a new study by Dodge Data & Analytics. Nearly 40% of U.S. buildings industry representatives polled for the study said that more than 60% of their projects would involve green building by 2018. This is significantly higher than the 24% affirmative response in the 2015 version of the study. The greatest percentage of green-oriented construction will involve institutional projects, retrofits of existing buildings and new commercial construction. However, the “World Green Building Trends 2016: Developing Markets Accelerate Global Green Growth SmartMarket Report” also found that the U.S. still lags behind many other countries in terms of green building. Brazil expects six-fold growth in the percentage of companies expecting to make a majority of their projects green; five-fold growth is expected in China; and four-fold growth is expected in Saudi Arabia.

Your Boston GGAC committee welcomes your articles and event suggestions!

Please contact Christine Reinders, Stacie Suh or Steve Rosen.

creinders@CANNONDESIGN.COM
stacie@stebbinsduffy.com
steven_rosen@AHA-engineers.com
RDK ENGINEERS
Proud to be a sponsor for the ASHRAE Boston Chapter

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Every month prior to the main program, the Boston Chapter of ASHRAE’s Board of Governors (BOG) meet to discuss Chapter business. This article, based on the secretary’s meeting minutes, shall serve as an informative summary for members as to what is happening behind the scenes of the Boston Chapter. Please feel free to contact me with any questions or for additional information.

Meeting Date: February 9, 2016

Review of December Meeting Minutes

Each Board of Governors meeting begins with a review and eventual vote to approve the previous month’s meeting minutes. Any items that required follow-up are updated and closed or are determined to be carried forward once again.

The meeting minutes were approved for January 2016.

2015/2016 Schedule

Discussion of our February technical session and main program were approved for 1 PDH credit.

Discussion of our new Boston Chapter website was reviewed on its current contents. There was further discussion of the new Product and Energy Show. Our Chair discussed the Roster and Product Guide and new layout. Discussed High Profile advertisement magazine add. Jack’s Abby Brewery reorganizing tour fee so tour will need to be reevaluated with this tour or look somewhere else, back to square one.

Additional Miscellaneous Items Discussed

The following topics were briefly discussed:

- **Employer Recognition** – Plaque to be a virtual plaque on the website, three companies are to be determined this year, next year build on it to top 10 companies that participate at ASHRAE Boston meetings

- **Committee Chair Responsibilities** – Chapter President, Stacie Suh, suggested that all Committee Chairs stay on top of their Presidential Award of Excellence points accordingly.

- **Membership Update** – Membership numbers are at 1041 members strong. On sadder news mentioned the passing of a former Boston Chapter President William Thomas Chaisson and Thomas J. Gunning, both passed away last month.
How to Hack the Power Grid Through Home Air Conditioners

TENERIFE, SPAIN—THERE ARE many ways we know of to cause a blackout. You could hack industrial equipment to spin a generator out of control. You could hijack operator machines and remotely open breakers. Or you could launch a sniper assault on substations and shoot out transformers.

Now researchers have found another way to take down the power grid: by remotely manipulating home and office air conditioners to create a surge. It’s an attack that grid experts told WIRED has the potential to be very serious.

The hack targets remote shut-off devices that utility companies install on air conditioners to conserve energy during peak summer periods. Many power companies offer discounts to customers if they agree to install the devices, which let the utility company remotely turn off their air conditioner when it’s hot outside and demand for power is high.

The devices, which can be installed on both central air conditioning systems as well as window-installed units, can be easily manipulated by hackers, say Vasilios Hioureas of Kaspersky Lab and Thomas Kinsey of Exigent Systems, who conducted their research as part of the Securing Smart Cities initiative. The two presented their findings today at the Kaspersky Security Analyst Summit.

The way the system works is that operators at regional power centers send a command via radio frequency that gets amplified through repeater stations installed throughout a city to reach the devices and shut down air conditioners. But because the systems Hioureas and Kinsey examined don’t encrypt that communication and don’t use authentication to prevent unauthorized parties or systems from communicating with them, anyone in the vicinity who can emit a stronger signal than the one the utility company sends out through the repeater stations can manipulate the devices as well.

Anyone with $50 can generate a signal that can trump a repeater [to take out a few air conditioners]; and anyone with $150 can generate that through an [amplifier] and presumably take out a whole neighborhood,“ says Kinsey. “And obviously you can scale that up as much as you want to [depending on the strength of your signal].”

A hacker could directly attack a group of homes or offices by taking advantage of the fact that unique IDs are assigned to groups of devices, allowing them to be singled out.

A hacker could cut air conditioners during a heatwave—creating a potentially fatal condition for the elderly and sick—or turn air conditioners on during peak energy periods, causing a surge that creates a widespread blackout. Or a hacker could directly attack a group of specific homes or offices by taking advantage of the fact that unique IDs are assigned to groups of devices, allowing them to be singled out.

According to another researcher, the hack could be even worse. If an attacker were to turn the air conditioners on and off repeatedly, the could create disturbances and imbalances in the grid that could trip breakers beyond the neighborhood they’re targeting and cause an even more widespread blackout.

“This is bad, and that’s why we need better security so that we don’t have the ability to manipulate the load,” says Eric Johansson, founder of Management Doctors, a security firm in Sweden that specializes in SCADA. “You shouldn’t be able to do this.”

The attack against the devices requires little skill. All a hacker would need is to be on the same radio frequency as the utility company, and then they could monitor and record the commands the company sends to the devices (a technique known as sniffing). From there, they could just play back those recorded commands to other devices to get them to turn on or off (a so-called “replay” attack).

“This is the funny part, to show how ridiculously insecure it really is, you don’t have to even know anything or reverse-engineer anything and you can reproduce the result [by doing a replay attack],” says Hioureas.

An attacker could also simply jam the RF traffic with noise to prevent the power company from communicating with the devices to turn air conditioners on or off, simply preventing them from shutting down the devices during peak hours.

The two researchers wouldn’t identify the devices they examined since they’re still in the process of reaching out to vendors. But Kinsey says that the chips used in some of them are so out-dated and limited—one system they examined used a chip made in 1995—that even if the vendors wanted to add authentication to make the devices more secure he doubts they could do it.

“It doesn’t look like there’s room [to add authentication]...it looks like the hardware is not capable of doing something like that,” he says.
JOIN US THURSDAY MARCH 31st at 6PM for our 2nd Annual YEA Cornhole Tournament.

Boston Cornhole will be hosting our tournament at the Baseball Tavern 1270 Boylston Street.
It will be a double elimination tournament again with randomly selected teams.
Check your inbox for the invitation or check out our facebook page! https://www.facebook.com/bostonashraeyes
E-mail Christine with any questions creinders@cannondesign.com
You may also register through the evite page at http://evite.me/4NnWsdQf2n

ASHRAE BOSTON
UPCOMING EVENTS

Visit www.ashraeboston.org/upcoming-events/announcements.html for more information.

March Meeting
When: March 8, 2016
Where: Metro Meeting Centers, Boston

April Product Show
When: April 12, 2016
Where: The Lantana

May Installation of Officers
When: May 10, 2016
Where: TBD

June Golf Outing
When: June 6, 2016
Where: Halifax Country Club

BOSTON AREA
UPCOMING EVENTS

AFE Boston Chapter 33
www.afechapter33.org

IFMA Boston Chapter
www.ifmaboston.org

BOMA Boston Chapter
http://www.g abre.com/boma/

Sustainable Performance Institute
http://www.sustainable-performance.org/

AFE Chapter 74-Worcester Area-Central MA
http://chapters.afe.org/chaptersnew/index.cfm?chapterIndex=2

USGBC Massachusetts Chapter
www.usgbcma.org

AEE New England Chapter
www.aeenewengland.org/

IBPSA Boston Chapter
http://ibpsa-boston.com/
New England Association
Of
Fire Protection System Designers

AMERICAN SOCIETY OF CERTIFIED ENGINEERING TECHNICIANS

Save the Date!
2016 NEAFPSD 25th Chapter Anniversary and
Fire Protection Symposium
March 9, 10 & 11, 2016
Bartlett, New Hampshire

All Chapter Members, Engineers, Contractors, Industry Manufacturer Representatives
and their Friends and Family are welcome to attend our Chapter’s 25th Anniversary
and Symposium Event.

We have signed the Contract, reserved blocks of rooms and coordinated special features
for this long awaited, well attended event.

We have locked in Outstanding Speakers including our Opening Night Dinner Speaker,
founder father, Maurice Pilette, with an overview of our Chapter’s 25 year History.

There will be a formal Table Top Product Show
Technical Presentations with CEU Credits
Industry Networking with Latest Industry Topics and Products
Family Friendly Event with non-technical Activities to do around the Conference Center
and nearby North Conway for Family and Friends
Welcome Bag Giveaway’s, Free Raffles and Symposium Gifts to all Registered Guests

Your Symposium Committee has attached the registration form for all attendees and
separate affiliate sign-up sheets for the Product Show and Symposium Sponsorships

There is an early Registration Raffle incentive noted on the Attitash Form for all registrations received and
confirmed in good standing to Attitash by 3 PM, January 8, 2016.

Attitash
Grand Summit Hotel
& Conference Center

Early registration is very much appreciated
For all questions and information contact:
Paul Taylor - ptaylor@trob.com
The New Product & Energy Show 2016 Date: April 12, 2016

The Officers and Board of Directors of the Boston Chapter of ASHRAE are pleased to extend an invitation to your organization to participate / exhibit at the 15th Biennial Product Show to be held at Lantana's in Randolph, MA on April 12, 2016.

This show has always been well attended in the past, not only by the general ASHRAE membership, but also by others who work in this field, including Facility Engineers, Hospital Engineers, Building Owners and Mechanical Contractors. The local New Product & Energy Show targets a specific audience where you can talk to the customers who matter to you. Admission is free to all attendees.

Below are the specific details of the New Product & Energy Show. Please email Jeff Schultz if you are interested in participating at this event. Also if you are interested in trailer spot opportunity, please contact Bill Garvey at wgarv@aol.com.

**DATE:**
TUESDAY, APRIL 12, 2016; 1:00 P.M. TO 8:30 P.M.
Seminars 1:00 p.m. to 5:00 p.m.
Product Show 3:00 p.m. to 8:15 p.m.
Dinner 6:00 p.m. to 8:00 p.m.

**LOCATION:**
LANTANA'S
Routes 28 and 128
Randolph, MA

**EXHIBITOR REGISTRATION:**
Price $900.00 per single booth; Multiple adjoining booths are available.
Reservations are on a first come- first serve basis.
Registration forms will be mailed to vendors in early January.
If you have not exhibited at our show before, but would like to this year, please contact the show chairpersons to be placed on our permanent mailing list and have a blank reservation form sent to you.
Registration forms will be stamped in order of receipt. Booths are limited. Checks registration (completed) must be received by March 25, 2016. Please pay through Paypal: Ashraeboston@gmail.com with additional $25 processing fee for each booth.

**BOOTH:**
Single – 8 feet wide x 6 feet deep
Double – 16 feet wide x 6 feet deep
A pre-printed sign will be attached to the backdrop with your company name.

- Draped booths will be set up labeled prior to your arrival.
- Tables 72” x 30” will be available upon your advanced request.
- Electricity is available only upon your advanced request. No heavy electrical loads will be permitted. Please bring your own extension cords.
- Water and drains are not available.
- Internet connections available at an additional charge through Lantana’s.

**FOOD:**
A complementary buffet dinner will be available to all attendees of the show.

**SEMINARS:**
ASHRAE has reserved the facility for the entire day. Rooms are available for seminars from 3:00 p.m. to 6:30 p.m.
Please contact Jeff Schultz at Jeffrey.Schultz@dpsgroupglobal.com if you are interested in providing a seminar. An outline of the seminar material will need to be submitted prior to approval. The seminars are intended to be educational and not commercial in nature.

Thank you for your interest and participation in the Boston Chapter – ASHRAE Product Show. You will receive a confirmation letter with additional information, plus some invitations for you to distribute to your customers who may not have received one. Please visit www.ashraeboston.org for more information and also for updated booth layout of exhibits.

Please contact me at Jeffrey.Schultz@dpsgroupglobal.com should you have any questions.

Sincerely,
Jeffrey H. Schultz
I'd like to first say thank you to our most recent contributors to this year's Research Promotion fundraising campaign! Monthly donations have kept coming in, and that's important. That said, the real push is about to start as we have until June 30 to reach our Boston Chapter goal of $22,800.

If you're interested in making a contribution toward ASHRAE Research, I encourage you to spend some time on the RP website at www.ashrae.org/research. While you're there, take a look at the interesting section that I particularly enjoyed, ASHRAE Research and You.

https://www.ashrae.org/standards-research--technology/ashrae-rp

Under the ASHRAE Research and You, you will find several interesting lists of standards and projects that seem to apply to your everyday life. Enjoy!

Donations to ASHRAE RP can be made in several ways. You can donate online at ashraeboston.org or ashrae.org/contribute. Your company can become a Corporate Sponsor - where a portion of your sponsorship goes toward Research. A large portion of the proceeds from our New Product & Energy Show booth sales go directly to RP. You can also donate by mailing a check directly to me:

Dan Diorio  
Boston College – St. Clements Hall  
140 Commonwealth Ave  
Chestnut Hill, MA 02467

Feel free to contact me with any questions about ASHRAE Research, my fundraising campaign, or donations in general at dan.diorio@bc.edu.
You have almost made it to Spring Break. Following that, you are in the home stretch of the spring 2016 semester. Hang in there!

Speaking of hanging in there... I’d like you each to take some time to appreciate the job that your Student Branch Advisor does to support your chapter. Each year, ASHRAE recognizes the Student Branch Advisor of the Year with an award. Please take a look at the following form and consider nominating your advisor for this prestigious award.


Recently, your student chapter advisors received an invitation to an activity that I have been in the process of planning. Construction is winding down on the new 490-bed residence hall located on the northeast corner of Boston College’s Chestnut Hill Campus. 2150 Commonwealth Avenue will open for the fall 2016 semester and contain numerous state-of-the-art MEP systems and equipment. For interested Student Branches, I’d like to schedule a visit to the construction site that would include a short presentation on the project followed by a tour of the new building. These tours can be scheduled at your convenience. I realize that the spring semesters can be busy for students – so we’re flexible! Below is a link to more information regarding the project at 2150 Commonwealth Ave. I look forward to hearing from you and seeing you on campus.

http://www.bc.edu/offices/pubaf/specialreports/2150_Commonwealth_Avenue.html

Please contact me at any time via email at dan.diorio@bc.edu or stop by and say hello at one of the monthly meetings.
Society News

Attendance High for ASHRAE Winter Conference, AHR Expo

ATLANTA – High attendance was reported for the recent ASHRAE Winter Conference and AHR Expo, in Orlando. The 2016 ASHRAE Winter Conference, was held Jan. 23-27, with the AHR Expo held Jan. 25-27.

The Winter Conference had more than 3,000 attendees. Attendance this year was higher than the past eight Winter Conferences, except Las Vegas 2011. Attendees came from 67 countries. The 2016 AHR Expo, co-sponsored by ASHRAE, set a record by being the first show outside of Chicago to break 400,000 square feet of exhibitor space. The Expo featured 2,063 exhibitors, including 561 deemed international. The total attendance for visitors was 42,672, with total attendance of visitors and exhibitors at 60,926.


The Conference’s Technical Program ranked high in attendance, with new tracks focused on design-build practices and residential systems. Individual top-attended sessions in the technical program were related to Cooling with the Sun: Solar Thermal Cooling; Energy Submetering Fundamentals: Benchmarking, Baselining and Beyond!; The Impacts of Operable Windows on Building Performance; Highlights from the 24th IIR International Congress of Refrigeration; The Internet of Everything: How Smart and Connected Sensors Will Transform the HVAC Service Industry; HVAC Pumps: New ECM Motor and Control Technologies; Indoor Air Quality and Energy Efficiency: Measurement and Analysis of Multiple Approaches; Back to Basics: The Science, Application and Art of Load Calculations; Integrating Cutting-Edge Technology: Renewable Energy and Thermal Energy Storage; and Hydronic Systems: Doing More with Less.

Also offered were a combined 20 Professional Development Seminars and Short Courses from ASHRAE Learning Institute. The most popular Short Course offerings were Variable Refrigerant Flow Systems; Complying with Standard 90.1: HVAC/Mechanical; and Designing High-Performance Healthcare HVAC Systems. The Professional Development Seminars that drew the highest number of registrations were Energy Modeling Best Practices & Applications; Commercial Building Energy Audits; and Commissioning Process for New & Existing Buildings.


ASHRAE, founded in 1894, is a global society advancing human well-being through sustainable technology for the built environment. The Society and its more than 54,000 members worldwide focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability. Through research, standards writing, publishing, certification and continuing education, ASHRAE shapes tomorrow’s built environment today. More information can be found at www.ashrae.org/news.
## 2 Ways to Register

### Take 3 or more courses and save 15% off registration!

<table>
<thead>
<tr>
<th>Course</th>
<th>Duration</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined Heat &amp; Power: Creating Efficiency through Design &amp; Operations</td>
<td>Wed, March 28, 2016 – 1:00 pm to 4:00 pm EDT</td>
<td></td>
</tr>
<tr>
<td>Commissioning Process &amp; Standard 202</td>
<td>Wed, March 30, 2016 – 1:00 pm to 4:00 pm EDT</td>
<td></td>
</tr>
<tr>
<td>IT Equipment Design Evolution &amp; Data Center Operation Optimization</td>
<td>Wed, April 6, 2016 – 1:00 pm to 4:00 pm EDT</td>
<td></td>
</tr>
<tr>
<td>Complying with Standard 90.1-2013: HVAC/Mechanical</td>
<td>Wed, April 13, 2016 – 1:00 pm to 4:00 pm EDT</td>
<td></td>
</tr>
<tr>
<td>Laboratory Design: The Basics and Beyond</td>
<td>Mon, April 18, 2016 – 1:00 pm to 4:00 pm EDT</td>
<td></td>
</tr>
<tr>
<td>Standard 188-2015 – Successfully Managing the Risk of Legionellosis</td>
<td>Mon, April 25, 2016 – 1:00 pm to 4:00 pm EDT</td>
<td></td>
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<tr>
<td>Air-to-Air Energy Recovery Applications: Best Practices</td>
<td>Wed, April 27, 2016 – 1:00 pm to 4:00 pm EDT</td>
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<tr>
<td>Fundamental Requirements of Standard 62.1-2013</td>
<td>Mon, May 2, 2016 – 1:00 pm to 4:00 pm EDT</td>
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<tr>
<td>Variable Refrigerant Flow System Design &amp; Applications</td>
<td>Mon, May 15, 2016 – 1:00 pm to 4:00 pm EDT</td>
<td></td>
</tr>
<tr>
<td>Exceeding Standard 90.1-2013 to Meet LEED® Requirements Part 1:</td>
<td>Mon, April 11, 2016 – 1:00 pm to 4:00 pm EDT</td>
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<tr>
<td>Part 2:</td>
<td>Wed, April 20, 2016 – 1:00 pm to 4:00 pm EDT</td>
<td></td>
</tr>
<tr>
<td>Operations &amp; Maintenance of High-Performance Buildings Part 1:</td>
<td>Tue, May 17, 2016 – 1:00 pm to 4:00 pm EDT</td>
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<tr>
<td>Part 2:</td>
<td>Wed, May 18, 2016 – 1:00 pm to 4:00 pm EDT</td>
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</table>

### The Following Courses are Comprised of Two Parts. Registrants Must Attend Both Parts in Order to Receive CEU/PDH Credits.

## ASHRAE HVAC Design Training

### 2 Courses, 5 Days of Intense Instruction

- Atlanta
- Cleveland
- Halifax
- Hong Kong
- Kuala Lumpur
- Miami
- Minneapolis
- San Francisco
- Vancouver

### HVAC Design: Level I – Essentials

Gain practical skills and knowledge in designing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection using the newly renovated ASHRAE Headquarters building as a living lab.

Registration is $1,264 ($1,009 ASHRAE Member)

### HVAC Design: Level II – Applications

Registration is $854 ($699 ASHRAE Member)

*HVAC Design: Level II — Applications* provides instruction on HVAC system design for experienced HVAC designers and those who complete the HVAC Design: Level I – Essentials training. The training provides information that allows practicing engineers and designers an opportunity to expand their exposure to HVAC systems design procedures for a better understanding of system options to save energy.

Visit [www.ashrae.org/hvactraining](http://www.ashrae.org/hvactraining) to register.
## 2015-2016 Meeting Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Main Meeting/ Tech Session</th>
<th>Speaker</th>
<th>PDH Credits</th>
<th>Meeting Manager</th>
<th>Location/ Special Night</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>TD Garden Dehumidification System Tour</td>
<td>Chris Trent - Siemens Pat McDonald - Eversource Andrew or Jason - DNC David Trumble – Cannon Design Enis Pacavar – Sylvania Lighting</td>
<td><a href="mailto:MCL@BRPLUSA.COM">MCL@BRPLUSA.COM</a></td>
<td>Mark Leonard</td>
<td>TD Garden Boston, MA</td>
</tr>
<tr>
<td>Wednesday</td>
<td>September 9, 2015</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>October</td>
<td>Towards ZEB (Zero energy buildings) in Europe and Application of Radiant Heating and Cooling Systems</td>
<td>Per Heiselberg Bjarne W. Olesen</td>
<td>1.0</td>
<td>Mark Leonard</td>
<td>Metro Meeting Centers, Boston—101 Federal St.</td>
</tr>
<tr>
<td>Tuesday</td>
<td>October 13, 2015</td>
<td>Tech Session: Passive Cooling with Increased Night Ventilation in Low Energy Buildings</td>
<td><a href="mailto:MCL@BRPLUSA.COM">MCL@BRPLUSA.COM</a></td>
<td>Mark Leonard</td>
<td>Membership and Student Promotion Night</td>
</tr>
<tr>
<td>November</td>
<td>Net zero commercial buildings – how to design and maintain indoor air quality</td>
<td>Bill Turner HLTRUNER Group</td>
<td></td>
<td>Mark Leonard</td>
<td>Embassy Suites, Waltham</td>
</tr>
<tr>
<td>Tuesday</td>
<td>November 10, 2015</td>
<td>Tech Session: Changing Refrigerant</td>
<td>Steve Tafone</td>
<td><a href="mailto:MCL@BRPLUSA.COM">MCL@BRPLUSA.COM</a></td>
<td></td>
</tr>
<tr>
<td>December</td>
<td>ASHRAE SPC-188 Legionellosis: Risk Management for Building Water Systems</td>
<td>Tom Watson</td>
<td></td>
<td>Mark Leonard</td>
<td>Embassy Suites,</td>
</tr>
<tr>
<td>Tuesday</td>
<td>December 8, 2015</td>
<td>Tech Session: Remarkable Long Term Performance in an Open Water Cooling System</td>
<td><a href="mailto:MCL@BRPLUSA.COM">MCL@BRPLUSA.COM</a></td>
<td>Mark Leonard</td>
<td>Joint Meeting with ASPE</td>
</tr>
<tr>
<td>January</td>
<td>Electrically Commutated Permanent Magnet Motors (ECPM) Technology</td>
<td>Steve Bistak</td>
<td>1.0</td>
<td>Mark Leonard</td>
<td>Embassy Suites, Waltham</td>
</tr>
<tr>
<td>Thursday</td>
<td>January 14, 2016</td>
<td>Tech Session: Special Gas Venting Systems</td>
<td><a href="mailto:MCL@BRPLUSA.COM">MCL@BRPLUSA.COM</a></td>
<td>Mark Leonard</td>
<td>Past President’s &amp; History Night</td>
</tr>
<tr>
<td>February</td>
<td>Infrastructure Resiliency Design in Healthcare. Post Superstorm Sandy</td>
<td>Steven Friedman</td>
<td></td>
<td>Mark Leonard</td>
<td>Metro Meeting Centers, Boston—101 Federal St.</td>
</tr>
<tr>
<td>Tuesday</td>
<td>February 9, 2016</td>
<td>Tech Session: Power and Energy Metering</td>
<td><a href="mailto:MCL@BRPLUSA.COM">MCL@BRPLUSA.COM</a></td>
<td>Mark Leonard</td>
<td>Membership Promotion, Research Promotion &amp; YEA Night</td>
</tr>
<tr>
<td>Tuesday</td>
<td>March 8, 2016</td>
<td>Tech Session: GroundSource Case Study</td>
<td><a href="mailto:MCL@BRPLUSA.COM">MCL@BRPLUSA.COM</a></td>
<td>Mark Leonard</td>
<td>Joint Meeting with AEE</td>
</tr>
<tr>
<td>April</td>
<td>Product Show</td>
<td>Jeff Schultz</td>
<td></td>
<td>Jeff Schultz</td>
<td>The Lantana</td>
</tr>
<tr>
<td>Tuesday</td>
<td>April 12, 2016</td>
<td>Tech Session: TBD</td>
<td>N/A</td>
<td><a href="mailto:Jeffrey.schultz@dpsgroupglobal.com">Jeffrey.schultz@dpsgroupglobal.com</a></td>
<td>Student &amp; YEA Night</td>
</tr>
<tr>
<td>May</td>
<td>Installation of Officers</td>
<td>William Tang</td>
<td>N/A</td>
<td>Event Committee/WT</td>
<td>TBD</td>
</tr>
<tr>
<td>Tuesday</td>
<td>May 10, 2016</td>
<td></td>
<td></td>
<td></td>
<td>Sponsors Recognition Night</td>
</tr>
<tr>
<td>June</td>
<td>Golf Outing</td>
<td>William Garvey</td>
<td>N/A</td>
<td>Golf Committee</td>
<td>Halifax Country Club, Halifax, MA</td>
</tr>
<tr>
<td>Monday</td>
<td>June 6, 2016</td>
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</tbody>
</table>

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Boston ASHRAE

NorthEastAire

March 2016

Boston Chapter
## 2015-2016 BOSTON CHAPTER OFFICERS
### CURRENT BOARD OF GOVERNORS & CHAIRPERSONS

<table>
<thead>
<tr>
<th><strong>OFFICERS</strong></th>
<th><strong>BOARD OF GOVERNORS</strong></th>
<th><strong>2015-2018</strong></th>
<th><strong>2014-2017</strong></th>
<th><strong>2013-2016</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Stacie Suh, Stebbins Duffy, Inc. &lt;br&gt;781-258-1002 &lt;br&gt;<a href="mailto:stacie@stebbinsduffy.com">stacie@stebbinsduffy.com</a></td>
<td>Daniel Diorio &lt;br&gt;Boston College &lt;br&gt;617-552-8772 &lt;br&gt;<a href="mailto:daniel.diorio@bc.edu">daniel.diorio@bc.edu</a></td>
<td>Dan Carington &lt;br&gt;BR+A &lt;br&gt;617-925-8236 &lt;br&gt;<a href="mailto:dpc@brplusa.com">dpc@brplusa.com</a></td>
<td>Siobhan Carr &lt;br&gt;MIT &lt;br&gt;617-324-7268 &lt;br&gt;<a href="mailto:siobhanc@mit.edu">siobhanc@mit.edu</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Mike Gilroy, BR+A &lt;br&gt;617-925-9255 &lt;br&gt;<a href="mailto:mpg@brplusa.com">mpg@brplusa.com</a></td>
<td>Jim Liston &lt;br&gt;BuroHappold Engineering &lt;br&gt;617-606-9120 &lt;br&gt;<a href="mailto:james.liston@burohappold.com">james.liston@burohappold.com</a></td>
<td>William Garvey &lt;br&gt;RDK Engineers &lt;br&gt;781-910-9576 &lt;br&gt;<a href="mailto:wgarv@aol.com">wgarv@aol.com</a></td>
<td>Mike Gilroy &lt;br&gt;BR+A &lt;br&gt;617-925-9255 &lt;br&gt;<a href="mailto:mpg@brplusa.com">mpg@brplusa.com</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>William Garvey, RDK Engineers &lt;br&gt;781-910-9576 &lt;br&gt;<a href="mailto:wgarv@aol.com">wgarv@aol.com</a></td>
<td>Justin Mole &lt;br&gt;Cannon Design &lt;br&gt;<a href="mailto:jmole@cannondesign.com">jmole@cannondesign.com</a></td>
<td>Mark Leonard &lt;br&gt;BR+A &lt;br&gt;617-925-8232 &lt;br&gt;<a href="mailto:mcl@brplusa.com">mcl@brplusa.com</a></td>
<td>Stephen Nicholas &lt;br&gt;Air Industries &lt;br&gt;978-682-9993 &lt;br&gt;<a href="mailto:snicholas@airinds.com">snicholas@airinds.com</a></td>
</tr>
<tr>
<td>Vice President</td>
<td>Mike Gilroy, BR+A &lt;br&gt;617-925-9255 &lt;br&gt;<a href="mailto:mpg@brplusa.com">mpg@brplusa.com</a></td>
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