ASHRAE Philadelphia Chapter

February 2018
Volume 53, Issue 6



Quaker City Climate

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COSTS

Fees are based on online reservations and prepayment.

Philadelphia Chapter Members:
$30

ASHRAE Society Members - Non-Chapter Members:
$40

ASHRAE Life Members:
No Charge

Non- ASHRAE Member:
$40

YEA Member (35 & under):
$25

Students:
$10

Thursday, February 15, 2018

Emerging Technologies: Fuel Cells

presented by

Geoff Slevin

FuelCell Energy

(see page 6 for more information)

5:00 PM to 6:00 PM	Social Hour/Cash Bar
6:00 PM to 7:00 PM	Dinner
7:00 PM to 8:00 PM	Presentation

This is a joint meeting with SMCA and Student Night.

Click here to Register

LOCATION

Wyndham Philadelphia Historic District
400 Arch Street
Philadelphia PA 19106
215-923-8660
www.phillydowntownhotel.com

For Directions: click here

2017-2018

President
Jeff Crozier, PE, CEM, LEED AP

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President's Message

We hope that everyone enjoyed the Flyers game in January. The Wells Fargo Center put together a nice game experience that our members have enjoyed for several years. ASHRAE also hosted the yearly Winter Conference and AHR Expo in Chicago. Mike Magee hosted some of the local ASHRAE student chapter members from Temple and Widener Universities at the Expo. We are sure the Expo ignited their excitement about the HVAC industry and we look forward to them joining us upon graduation.

With the fun and games over, we are looking forward to our first dinner presentation of 2018. Our next meeting will be held at the Wyndham on February 15, 2018. The dinner presentation will be on fuel cell cogeneration and will be presented by Geoff Slevin of FuelCell Energy.

We are only a few months away from nominating a new board for the Philadelphia ASHRAE Chapter. If you, or one of your coworkers are interested in joining the board or helping out on a committee, please contact me or another board member to discuss your interest.

I look forward to seeing you at the February meeting.

Jeff Crozier, PE, CEM, LEED AP
Philadelphia Chapter President
c021@ashrae.net

Save these Dates !!



Philadelphia Chapter ASHRAE
Golf Outing

Monday, May 14, 2018
DuPont Country Club
Wilmington, DE

Shotgun start will be at 12:30 pm.

YEA Social
Philadelphia Union Game

Talen Energy Stadium
End of May

Online registration and full details to follow.

SCHEDULE

Tuesday, March 27, 2018

7:30 AM -8:00 AM	Registration
8:00 AM -8:30 AM	**Intro, IECC, User's Manual, Scope:** Larry Spielvogel, PE, Past 90.1 Chair
8:30 AM - Noon	**Building Envelope:** Joseph Deringer, AIA, SuPerB, Past 90.1 Envelope Chair
12:45 PM -1:30 PM	**Building Envelope:** Joseph Deringer, AIA
1:30 PM - 3:45 PM	**Lighting:** Carl Watson, PE, Consulting Engineer & Code Official
3:45 PM - 5:00 PM	**Energy Modeling & App G:** Michael Tillou, PE, Atelier Ten, 90.1 ECB Committee

Wednesday, March 28, 2018

7:30 AM - 8:00 AM	Registration
8:00 AM - 8:30 AM	**Intro, IECC, User's Manual, Scope:** Larry Spielvogel, PE, Past 90.1 Chair
8:30 AM - Noon	**HVAC Systems:** Mack Wallace, PE, Jacobs/WiseWatt LLC, 90.1 Mechanical Committee
12:45 PM - 3:00 PM	**HVAC Equipment:** Dick Lord, UTC Carrier, 90.1 Vice-Chair, 90.1 Mechanical Committee
3:15 PM - 4:00 PM	**Service Water Heating:** Mack Wallace, PE
4:00 PM - 5:00 PM	**Compliance:** Ernie Conrad, PE, Consulting Engineer, 90.1 Compliance Committee

Nearby Hotels

Courtyard Philadelphia South
at Navy Yard
Use Promo Code: CJ9

Residence Inn Philadelphia Airport
Use Promo Code: CJ9



The Philadelphia Chapter of ASHRAE is offering a comprehensive, in-depth and unique two-day program covering ANSI / ASHRAE / IES Standard 90.1 (2007) Energy Standard for Building (except Low-Rise Residential Buildings). A program of this magnitude and depth is not available anywhere else. Registration is open to everyone interested, and especially members of AIA, IES, IALD, USGBC, and CSI.

All presenters are the people who write and enforce the 90.1 standard. This is the only current energy option to the 2009 IECC in Pennsylvania and is the foundation for all later versions. Do not confuse this with presentations by other groups on later versions not adopted or required.

Location Penn State at The Navy Yard
Building 661
4960 S. 12th Street
Philadelphia, Pa 19112
Parking is FREE

Public transportation is available via the Broad Street Subway Line and a free shuttle bus from the last subway station, AT&T Station. The Courtyard by Marriott Philadelphia South at the Navy Yard is a few blocks away.

Cost $155.00 per person, per day
Lunch, snacks, refreshments and handouts are included.

Full time students and full time code officials are eligible for a discounted rate of $100 per day.

Standard and Users manuals for requested years are available for purchase at the discounted rate of $70.00 per book. The books are available at this drastically reduced price only if paid in advance with the conference registration.

PDH Credits Eight (8) PDH credits are offered per day.

Register Register and make your book selections at
http://ashraephilly.org/meetinginfo.php?id=69&ts=1517883031

ASHRAE Philadelphia Chapter

For more information, contact
Judd Vail at jvail@csande.net or 484-873-3974
or Hope Silverman at hope@mmco1.com or 610-971-2169.

PHILADELPHIA CHAPTER PROGRAMS CALENDAR 2017-2018

Date	Location	Topic	Theme
2/15/2018	Wyndham Hotel	Emerging Technologies: Fuel Cells By Geoff Slevin, FuelCell Energy	Student Night
3/15/2018	Fisher's Tudor House	Trade Show	
3/27& 28	Penn State at The Navy Yard	ASHRAE 90.1 Technical Seminar	
4/12/2018	Wyndham Hotel	Impacts of Climate Change and Urbanization on Future Building Performance By Dr. Dru Crawley	Students and Membership
5/17/2018	Wyndham Hotel	AIA - Passive House Institution	Past President's Night
5/14/2018	DuPont Country Club	Annual Golf Outing	

Program calendar is tentative and subject to change. Please refer to ASHRAE Philadelphia Website for up to date information. Advance registration and pre-payment are required before the meetings.

We need your attendance!
If we are below our guaranteed level for attendees at our meetings, our treasury could be negatively effected. Our programs are designed around the membership's input and we all need to support these meetings to maintain a strong/informed association. We hope to see you at our next meeting. Please come out and support our Chapter!

The New 2017-2018 Directory is Available!

The latest edition of the Directory of Associations, Consulting Firms, and Manufacturers' Representatives in the Philadelphia Area is now available. It sells for $23 each.

Send your check to Hope Silverman, ASHRAE, 994 Old Eagle School Road, Suite 1019, Wayne, PA 19087.
If you prefer to pay by credit card, please call Hope at 610-971-2169 or email her at hope@mmco1.com.

Please submit articles highlighting novel HVAC technologies to Chapter Technology Transfer Committee Chair Judd Vail (c021cttc@ashrae.net) for consideration in future newsletters.

Understanding Thermal Systems: Hydronic Heating and Cooling Systems

By Christopher P. Crall

Last month, this column focused on duct systems used for HVAC in commercial buildings. This month, we will discuss hydronic heating and cooling systems, and focus on the low-temperature, chilled-water, and dual-temperature systems. Hydronic systems circulate liquid water through pipes to provide heating and cooling to the building zones. Although some consider steam heating to fall into this category, we will cover steam systems in a future column.

Hydronic systems consist of an energy source (boiler, water heater, or chiller), along with the associated pumps and piping that connect the source to suitable terminal heat-transfer units located in the spaces. While some gravity-driven systems exist, the circulation for the vast majority of hydronic systems is provided by electrically-driven pumps. Insulation is used extensively on hydronic systems to limit heat flow and to control condensation (on chilled-water systems).

Hydronic systems have advantages due to their relatively low initial installed costs, low operating costs, and virtually silent operation. The main disadvantage of hydronic systems is that they do not address the ventilation requirements of building occupants. Also, humidity control is either absent or poor. Hydronic systems are often combined with air systems to address these disadvantages.

Hydronic systems are often classified by operating temperature. The ASHRAE Handbook identifies five categories:

Low-temperature water (LTW)	<250° F
Medium-temperature water (MTW)	250°F to 350°F
High-temperature water (HTW)	> 350°F
Chilled water (CW)	40°F to 55°F
Dual-temperature water (DTW)	LTW and CW

The majority of systems found in commercial buildings are low-temperature (LTW) systems, chilled-water (CW) systems, or dual-temperature (DTW) systems.

Figure 1 shows a basic LTW system consisting of (1) a source - in this case, a hot-water boiler, (2) a circulating pump, (3) heating coils located in the spaces served, (4) the piping connecting the devices, and (5) an expansion tank. The purpose of the expansion tank is to allow for the volumetric expansion and contraction of the water due to temperature changes in the system and to maintain the required system pressure. Although the expansion tank is not directly in the flow path, it is typically insulated to the same level as the piping to minimize heat loss/heat gains to the system.

(click here to read the entire article)

February 15, 2018 Meeting

Emerging Technologies: Fuel Cells

presented by
Geoff Slevin

Program Description:

Fuel cells cleanly and efficiently convert chemical energy from hydrogen-rich fuels into electrical power and high quality heat via an electrochemical process that is highly efficient and emits water rather than pollutants as there is no burning of the fuel.

Fuel cell power plants enable facility owners to add ultra-clean, affordable and distributed power generation on-site, including cogeneration.

- Enhances grid resiliency by siting power generation right where the power is needed, such as next to existing electrical substations
- Is easy to site in urban or highly populated areas due to the power plant's clean emissions profile, quiet operation and minimal land needs
- Provides highly efficient continuous power generation that is scalable, economical and not dependent on weather or time of day

In addition to on-site cogenerated power, fuel cells can provide carbon capture solutions unlike any other product on the market by capturing carbon emissions from existing coal or gas-fired power plants, while simultaneously producing power. Fuel cells can also be used to "trigenerate" hydrogen for on-site energy storage and for a future distributed hydrogen network to compete with gasoline as a solution for reducing transportation emissions.

Speaker Bio:

Geoff Slevin is a multi-talented business executive with 20 years of driving results within the energy industry including leadership in the solar PV, fuel cell, and energy management sectors. Unique combination of experience across multiple disciplines including General Management, Strategy, Marketing, Strategic Business Development, Sales, Engineering and Operations. Proven performer with managerial talent to drive a business, and personnel skills to lead professionals to higher levels of performance.

Expertise includes:
• P&L responsibility for BP Solar's North American commercial business
• Strategy development for LG's entry into the North American solar market
• Cross-functional team leadership
• Comfort in dealing with senior level management in large multinational firms
• Startup leadership team experience
• Energy management SAAS sales

Specialties include: Renewable Energy, Microgrids, Cleantech, Market Development, Strategy Design & Implementation, Contract Negotiation, PV Solar, Energy Management, Business Development, Executive Leadership.

ASHRAE Philadelphia Chapter

The Philadelphia Chapter of ASHRAE would like to invite your company to take part in our Product Show on **Thursday, March 15, 2018**.

The show will be held as part of our regular monthly meeting, as always. However, there will not be a presentation or sit-down dinner so that the focus will be entirely on our vendors.

Place: Fisher's Tudor House
1858 Street Road
Bensalem, PA 19020

Times:

Set-up:	4:00pm - 5:00pm
Exhibit:	5:00pm - 8:00pm
Tear-down:	must be completed by 9:00pm

Heavy hors d'oeuvres and a cash bar will be available during exhibit hours from 5:00pm to 8:00pm.

Donation: $300 (includes one 8 foot skirted table and registration for up to two staff members, which includes two drink tickets per person)
(Please see the enclosed payment form.)

Please Note:

Registration for any additional staff members is $10 per person. This includes 2 drink tickets per person.

Tickets may be purchased in advance with the enclosed form or online on our chapter web site at **www.ashraephilly.org**.

Minimal electricity will be available for lights or other equipment requiring power. Please reserve early for a wall location that will have power.

The cash bar and hors d'oeuvres table will be set up in the same room as the exhibits. This will allow for maximum exposure to the product show.

Any questions, please contact: Hope Silverman
Phone 610-971-2169 / Email hope@mmco1.com

PAYMENT MUST BE RECEIVED BY MARCH 1, 2018
OR YOUR TABLE WILL BE ASSIGNED TO ANOTHER COMPANY.

Do you have any giveaways ($100 or more)
that you would like advertised to attendees?
If so, please email hope@mmco1.com with the details.

ASHRAE PHILADELPHIA CHAPTER
Tabletop Show
March 15, 2018

Company Name: _____

Contact Person: _____

Phone: _____ Email: _____

Tabletop Fee: _____ tables x $300 = _____
(includes registration for up to 2 people and 2 drink tickets per person)

Additional Registrations: _____ people x $10 = _____
(includes 2 drink tickets per person)

TOTAL DUE = _____

Names of Attendees: _____

_____

_____

_____ Please check here if you will need electricity. There will be a limited number of tables with access to electricity. These tables will be assigned on a first come, first served basis.

Payment By: Check _____ VISA _____ MasterCard _____ AmEx _____
(Payable to "Philadelphia Chapter ASHRAE")

Card Number: _____

Cardholder's Name: (please print) _____

Billing Address for Card: _____

_____

Exp. Date: _____ Signature: _____

Send payment to:
ASHRAE, 994 Old Eagle School Road, Suite 1019, Wayne, PA 19087-1866
Or Email hope@mmco1.com Or Fax 610-971-4859
PAYMENT MUST BE RECEIVED BY MARCH 1, 2018
OR YOUR TABLE WILL BE ASSIGNED TO ANOTHER COMPANY.

The Philadelphia Chapter
of the
American Society of Heating,
Refrigerating and Air
Conditioning Engineers, Inc.

994 Old Eagle School Road
Suite 1019
Wayne, PA 19087-1866
P 610-971-2169
F 610-971-4859

Visit
our web site at:

www.ashraephilly.org

Republication of material contained herein is expressly forbidden without official Chapter authorization. The Chapter does not speak or act for the Society. Any member with material to submit for inclusion in the *Climate* can send the information to:

Hope Silverman
P 610-971-2169
hope@mmco1.com

Material can include letters to the editor, member news, upcoming events, comments on chapter programs or issues, etc.

New Philadelphia Chapter Members

New Members:

Chris David Donahue
Raymond Gostkowski
Kenneth J Magsam
Joseph Louis Petrone
Mark A Tucker

New Associates:

John Archibald Breslin
Daniel J Cho
Joon H Hur
Charles Scott Maun
Isaac Niekamp
Aiman Omar
Vincent S Swisher
Dr Aaron Wemhoff

New Affiliate:

Tyler A Holland

Membership Advancement

If you are currently an ASHRAE Associate Member, becoming a full Member is easier than you think! The following count toward the required **12 points** to advance to full membership status. You must update your ASHRAE online biography and send an email to membership@ashrae.org to advance.

Non-accredited degree = 4 points
Accredited degree = 6 points
PE = 4 points
Industry experience = 1 point/year