ASHRAE Philadelphia Chapter

May 2018
Volume 53, Issue 9

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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

QUAKER CITY CLIMATE

Thursday, May 17, 2018

AIA - Passive House Design Principles

presented by

Scott Kelly, Principal, AIA, CPHC, LEED Fellow
Stephen Finkelman, PE, LEED AP, CEM
David Salamon, CPHD-C

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

Click here to Register

This is Past Presidents' Night.

Please note that this event is free for Past Philadelphia Chapter Presidents. Past Presidents should email hope@mmco1.com to register if they have not done so already.

LOCATION

AIA Center / Architecture + Design
1218 Arch Street
Philadelphia, PA 19107
https://www.philadelphiacfa.org/

For Directions: click here

Mark your calendar!

Annual Golf Outing - Monday, May 14, 2018
See Page 6 for more details.

YEA Soccer Night - Friday, June 8, 2018
See Page 4 for more details.

2017-2018

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President's Message

Happy May everyone. We had a great meeting in April with Dr. Dru Crawley presenting on the *Impacts of Climate Change and Urbanization of Future Building Performance*. Dr. Crawley's presentation was very interesting. Among many other things, he discussed multiple sources of yearly weather data for modeling building energy use as well as some data sources for predicting future weather.

As we end the year, we have a busy few weeks ahead of us. Tonight, we have the tour of the Atlantic Building at 1401 Spruce Street. On May 14th, our annual golf outing will be held at the DuPont County Club and our last meeting of the year will be on May 17th at the AIA Center of Architecture and Design. In addition, our next YEA event is set for Friday, June 8th at the Talen Energy Stadium. Additional information is enclosed and is available on our website.

As my presidency ends in just a few months, I would like to thank the ASHRAE board, committee chairs, past presidents and MultiService Management Co., especially Hope Silverman, for all their hard work and dedication to ASHRAE and the HVAC community. I look forward to seeing the chapter grow and continue to provide interesting monthly meeting presentations and learning opportunities. I encourage you to consider getting involved in the chapter to help shape the present and future HVAC industry.

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

Philadelphia Chapter President Jeff Crozier (left) presents April meeting speaker Dr. Dru Crawley with a Liberty Bell to thank him for his presentation.

May 17, 2018 Meeting

AIA - Passive House Principles

Scott Kelly, Principal, AIA, CPHC, LEED Fellow, **Stephen Finkelman**, PE, LEED AP, CEM, and **David Salamon**, CPHD-C, are co-founders of the Greater Philadelphia Passive House Association (now merged with Green Building United formerly known as Delaware Valley Green Building Council) and have each worked on single and multi-family Passive House projects.

They will present on:

- 2018 Commercial Code and Passive House
- Passive House, Energy and Comfort
- Philadelphia's 2030 Districts and Passive House
- Hard Lessons Learned - Why mechanical engineers may be more important when it comes to reaching sustainability goals

Passive building comprises a set of design principles used to attain a quantifiable and rigorous level of energy efficiency within a specific quantifiable comfort level. “Maximize your gains, minimize your losses” summarizes the approach. To that end, a passive building is designed and built in accordance with these five building-science principles:

- Employs continuous insulation throughout its entire envelope without any thermal bridging.
- The building envelope is extremely airtight, preventing infiltration of outside air and loss of conditioned air.
- Employs high-performance windows (typically triple-paned) and doors.
- Uses some form of balanced heat- and moisture-recovery ventilation and a minimal space conditioning system.
- Solar gain is managed to exploit the sun's energy for heating purposes in the heating season and to minimize overheating during the cooling season.

Passive building principles can be applied to all building typologies – from single-family homes to multifamily apartment buildings, offices, and skyscrapers.

Passive design strategy carefully models and balances a comprehensive set of factors including heat emissions from appliances and occupants to keep the building at comfortable and consistent indoor temperatures throughout the heating and cooling seasons. As a result, passive buildings offer tremendous long-term benefits in addition to energy efficiency:

- Superinsulation and airtight construction provide unmatched comfort even in extreme weather conditions.
- Continuous mechanical ventilation of fresh filtered air provides superb indoor air quality.
- A comprehensive systems approach to modeling, design, and construction produces extremely resilient buildings.

Passive building principles offer the best path to Net Zero and Net Positive buildings by minimizing the load that renewables are required to provide.

PHILADELPHIA CHAPTER PROGRAMS CALENDAR 2017-2018

Date	Location	Topic	Theme
5/14/2018	DuPont Country Club	Annual Golf Outing	
5/17/2018	Center for Architecture & Design	AIA - Passive House Design Principles	Past Presidents' Night
6/8/2018	Talen Energy Stadium	YEA Soccer Night	

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!

YEA
Young Engineers in ASHRAE

YEA Soccer Night
Philadelphia Union vs. Toronto FC

Friday, June 8, 2018
5:00 PM to 10:00 PM

Talen Energy Stadium
(formerly PPL Park)
1 Stadium Drive
Chester, PA 19013
www.philadelphiaunion.com

Philadelphia Chapter ASHRAE invites all members 35 and under to a night of fun with the Philadelphia Union. Tickets are limited and are $15 for YEA members, student members, and guests.

Join us at 5:00 PM to socialize and tailgate before the game as well as secure your tickets. Meeting location will be Lot C. The game begins at 8:00 PM.

Contact Dan Brown at c021yea@ashrae.net with questions.

Tickets are limited!
Check the website at www.ashraephilly.org for online registration available soon!

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

Stop Knocking Your Condensate Return

By James R. Risko, TLV Corp.

Condensate return systems can have a big impact on productivity, energy efficiency, and site reliability. Use this guide to better understand your condensate return, optimize its operation, and mitigate common pitfalls such as high backpressure and water hammer.

To improve steam system efficiency and reliability, engineers often focus primarily on the steam supply side, addressing problems such as piping leaks, steam trap leaks, and insulation. The conversation rarely shifts to improvement opportunities in the condensate return systems, unless significant issues already exist - such as high backpressure, or knocking and the pipe damage it can cause. Plant personnel are typically most concerned with steam supply and the heat that it provides to the manufacturing units, but a condensate return system can have significant impact on production, efficiency and reliability.

If you are maintaining a sports car, you may be concerned with the fuel quality, injection method, and ignition, but the car will not function well if the exhaust system is compromised or subpar. Exhausted fuel must discharge freely in order for the car to operate effectively. Steam equipment has the same requirement - it must be able to discharge condensate freely.

Although many experienced engineers know a substantial amount about handling steam, there appears to be less understanding of condensate systems, their design, and the many factors that affect their performance. This article discusses those influences, and describes the causes of detrimental effects and possible responses to achieve more reliable performance, It also give readers insight into these common questions:

- What causes water hammer in condensate systems? How can site personnel identify the conditions that cause system hammering?
- How do leaking steam traps affect the return system?
- What effect do outlet control valves designed to discharge condensate from steam equipment have on the return system?
- How are condensate lines sized for non-flashing systems, and how does that differ from sizing returns when flash steam is involved?
- How are pumped condensate return lines handled, and how does that differ from the way flashing condensate return lines are handled?
- What is the effect of cushioning water-hammered condensate systems with steam or nitrogen?
- How do vertical lifts affect condensate lines?

Types of condensate return lines

Engineers often consider a condensate return line to be the same throughout the system, and occasionally label all lines exiting equipment as “condensate return.” There are actually three distinct types of condensate lines:

- Non-flashing: two-phase - steam and condensate
- Flashing: two-phase - steam and flashing condensate
- Pumped: single-phase - condensate

(click here to read the entire article)

Philadelphia Chapter ASHRAE
Annual Golf Outing

Monday, May 14, 2018
11:00 AM to 7:00 PM

DuPont Country Club
1001 Rockland Road
Wilmington, DE 19803

Click here to register!

Schedule:
11:00 am - Registration Begins
11:30 am - Boxed lunches available
12:30 pm - Shotgun start
5:30 pm - Dinner and prizes

$200.00 Golf Outing 2018 - Golf and Dinner (one golfer)
$200.00 Golf Outing 2018 - Single Hole Sponsor (does not include golf or dinner)
$350.00 Golf Outing 2015 - Two Hole Sponsor (does not include golf or dinner)
$450.00 Golf Outing 2018 - Three Hole Sponsor (does not include golf or dinner)
$50.00 Golf Outing 2018 - Dinner Only

Advertise Now in the 2018-2019 Directory!

Are you interested in advertising in the 2018-2019
Philadelphia Area Directory of Associations, Consulting Firms, and Manufacturers' Representatives?

This directory is published annually by the Philadelphia Chapter of ASHRAE.

Email hope@mmco1.com if you would like more information!

Current directory circulation exceeds 1,400 copies and is growing. Users include engineers, contractors, purchasing agents, suppliers and over 900 ASHRAE members.

Now is the time to have your firm receive the exposure that only the ASHRAE Directory can offer.

Forum on Architecture + Design
October 3-5, 2018

Hosted by AIA Philadelphia

https://www.aiaphiladelphiaorg/forum-architecture-design

What is Forum on Architecture + Design?

The Forum on Architecture + Design is the newly rebranded educational and expo event that is replacing the previous Design on the Delaware conference. The Forum is focused on curating multidisciplinary educational content for designers, civic leaders, product manufacturers, technology providers, and real estate developers - all the industries that contribute to shaping our built environment.

The Forum will offer:

- over 30 accredited continuing education programs and tours,
- compelling keynote sessions featuring nationally/internationally recognized industry leaders,
- a three-day expo, and
- several opportunities to network and socialize with leaders in the building and design professions.

Now accepting program submissions!

To review program requirements and submit a program for the 2018 Forum on Architecture + Design, please click here.

Sponsorships are available!

Click here to download the 2018 Forum on Architecture + Design Sponsorship and Exhibit Opportunities Packet.

If you have any questions, please feel free to reach out to Member Services & Events Manager, Julianne Foley, at julianne@aiaphila.org.

2018-2019 ASHRAE Philadelphia Chapter
Board of Governors Slate

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

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Visit
our web site at:

www.ashraephilly.org

 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:

Daniel Blake

Michael J. McGovern

Keith Supernavage

New Associates:

Clayton Carlson

New Affiliates:

Andrew Dobies

Andrew D. Theisinger

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

Click here for info!