

September 2014
Volume 50, Issue 1

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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

Young Engineers (35 & under):
\$25

Students:
\$20



QUAKER CITY CLIMATE

Thursday, September 11, 2014

“Application & Benefits of Variable Refrigerant Flow (VRF) Technologies”

presented by

Steven Opromolla

Regional Engineer

LG's Commercial Air Conditioning Division

Click [here](#) to Register

LOCATION

Dave and Buster's

325 North Columbus Blvd.

Philadelphia, PA 19106

215-413-1951

For Directions: [click here](#)

Parking: \$12 (\$5 drink coupon)

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

8:00 PM to 9:00 PM YEA Social

There will be a **YEA Social** following the dinner meeting.
If you are 35 years old or under, stay after the meeting for time
hanging out and playing pool with other young engineers.

Please contact Jeff Pisarek at c021yea@ashrae.net if you have any questions
regarding the YEA Social or wish to be added to our YEA directory.

This is **Membership Promotion Night!**

Bring a colleague and your dinner could be free — see [page 6](#) for details!

2014- 2015

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Tim Reinking

PRESIDENT'S MESSAGE

Hello everyone and welcome back as we start off another fantastic year of seminars. I know to me it seems like the summer flew by and as I write this message I am gearing up to take my two daughters to their 1st days of kindergarten and nursery school. The act of going back to school makes me think of something my parents engrained in me – “You will never stop learning.” This simple statement holds true especially in our field. Many states require some version of continuing education and the NCESS has been in discussions about increasing the educational requirements for a Professional Engineer. Whether we agree with the policies or not, the fact is we are in a technological field that is constantly evolving. Fortunately here in the Philadelphia Chapter we have embraced this concept of learning by having well attended monthly seminars and by offering a local educational school to help members gain knowledge in our field. I would like to personally thank all of our members who have attended seminars in the past and encourage those members and new members alike to attend this year's events. Ashley Lester and the Board have been working diligently since last Spring to come up with an exciting line up of continuing education opportunities and we are confident you will find them interesting and informative. The first meeting will be featuring a new, yet not so new, topic on Variable Refrigerant Flow Systems. There's no doubt this topic will spark some good debate.

As we embark on the 2014-2015 year, I hope you will help me personally thank Jared Johnson for his work this year as the 2013-2014 Chapter President. Jared has supported the chapter for the past 8-10 years serving in various leadership positions. I would also like to thank the Board members who supported Jared and helped to make 2013-2014 another successful year. The Chapter Regional Conference Update in this newsletter highlights many of those successes.

I look forward to working with all of you over the upcoming year. If you have any questions or ideas to improve our chapter, please let me know.

Mike Witkowski

Philadelphia Chapter President

c021@ashrae.net

Design on the Delaware November 12-14, 2014

Registration is now open for the 12th Annual Design on the Delaware Conference & Trade Show. The three day conference offers 45 CES approved professional education programs for architects, landscape architects, planners, LEED AP professionals and engineers.

Go to www.designonthedelaware.com for a full schedule of events as well as a description of programs and tours.

Don't Miss the Chapter's New Website!
www.ashraephilly.org

The new Philadelphia Chapter of ASHRAE website is now live! The old URL will redirect you to our new home at www.ashraephilly.org but please make sure to update your bookmarks.

As part of this upgrade we have migrated to a new meeting registration system that is fully integrated into the website. The new system requires each member to create a login which will allow you to register for events at member pricing and provide access to material that we may want to make available to members only.

You should have already received a welcome email with instructions on how to setup your account. If not, please check your spam/junk filters for any messages from info@ashraephilly.org.

If you have any issues with the new system or any suggestions, please email us at info@ashraephilly.org.

ASHRAE Philadelphia Corporate Sponsorships Available

The Philadelphia Chapter invites your company to join as a Corporate Sponsor for the 2014-2015 year. Your firm's participation in this program would enable us to make a wonderful donation to ASHRAE Research Promotion which includes over \$ 1.5 million in local research funding.

Corporate Sponsors are listed on our web site, in our newsletter, and in our annual directory. They receive free copies of our directory and recognition at all of our events. With the ease of one payment, you may get all this, as well as free dinner tickets good for our monthly meetings, and make a valuable contribution to ASHRAE Research at the same time.

Since not all companies have the same financial capabilities or quantity of employees, we offer a few different levels of corporate sponsorship. Each level will receive the same types of benefits, with some differences in quantities and discounting.

We hope you will decide to join us as a Corporate Sponsor. If you are interested, please email us at philachapter@mail.ashrae.org. The Board of Governors thanks you for your continued support of ASHRAE. We hope that this year is successful for your firm.

Membership Advancement

If you are currently an ASHRAE Associate Member, becoming a full Member is easier than you think!

See [page 9](#) for details.

September Speaker Bio & Presentation Summary

Steven Opromolla
Regional Engineer
LG's Commercial Air Conditioning Division

Steven has been working with variable refrigerant manufacturers since 2007, covering roles including service management, training manager, and field engineer. Prior to working with variable refrigerant systems, Steven was in the contracting business for twenty-three years, with roles from project manager up through owning his own company. Steven is a member of ASHRAE and a founding member of TC 8.7 – Variable Refrigerant Flow.

“Application & Benefits of Variable Refrigerant Flow (VRF) Technologies”

This presentation will cover variable refrigerant flow technologies, including the types of systems available, heat pump versus heat recovery, methods of piping, energy efficiency benefits, new construction and retrofit applications, and the consideration of ASHRAE Standard 15 when designing a system.

ASHRAE Conferences

Attend to See What's New, Learn New Skills, Earn PDHs, Network with Peers

2014 ASHRAE / IBPSA-USA
Building Simulation Conference
September 10-12, 2014
Atlanta, GA
www.ashrae.org/simulation2014

ASHRAE Winter Conference
January 24-28, 2015
Chicago, Illinois
[Click here for more information.](#)

The New 2014-2015 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 Emily Albert, ASHRAE, 994 Old Eagle School Road, Suite 1019, Wayne, PA 19087.

If you prefer to pay by credit card, please call Emily at 610-971-2169 or email her at Emily@mmco1.com.

Order your copy today!



Past Presidents Night

May 14, 2014

Front Row (left to right): Ernie Menold, Bill Hart, Steve Solotist, Mark Hershman, Jared Johnson

Back Row (left to right): Jim Piscopo, Bob Finkboner, Jeff Gilbeaux, Marvin Ginsburg, Andy Opella, Dave Hersh

Chapter Regional Conference (CRC) 2014 Update

During the weekend of August 28-30, chapter board members participated in regional training sessions to help guide the operations of our chapter in the upcoming year. I am very appreciative of the board members who gave willingly of their time in an effort to better serve the Philadelphia members. Attendees included Mike Radio, Mike Calabrese, Chris Gale, Jeff Crozier, Jared Johnson, Ashley Lester, Brian Dail, Mike Witkowski, Gary Debes, Bob Finkboner and Steve Piccolo. During the course of the program, the region recognizes chapters and individuals who have excelled in the Presidential Award of Excellence program (PAOE). Under the excellent leadership of Jared Johnson, the Philadelphia chapter finished second in total points out of 11 chapters. The chapter earned the recognition of High Honor Roll, Star and Special Citation. In addition, Michael Calabrese earned the Top Gun award for his exceptional effort in Membership Promotion and Erik App earned the Flicker of Light Award as an up and coming leader in Student Activities.

Mike Witkowski
Philadelphia Chapter President

PHILADELPHIA CHAPTER PROGRAMS CALENDAR 2014-2015

Date	Location	Topic	Theme
9/11/2014	Dave & Buster's	Application & Benefits of Variable Refrigerant Flow (VRF) Technologies by Steven Opromolla of LG	Membership and YEA
10/9/2014	Hyatt Penn's Landing	SMCA - Dampers: Performance, Access & Inspections	SMCA Engineer's Night
11/13/2014	Wyndham Hotel	Technologies and Strategies to Achieve Deep Energy Reductions in Laboratories by Gordon Sharp	
12/18/2014 Breakfast	Union League	The ASHRAE Building Energy Labeling Program by Dr. William Bahnfleth, PE	Research Promotion
1/15/2015	Wells Fargo Center	Flyers vs. Vancouver	Social
2/12/2015	Dave & Buster's	Seismic Restraint and Intro to SMACNA's Duct App by Eli Howard	Student Night and YEA
3/12/2015	Wyndham Hotel	Data Center Energy Efficiency by Don Beaty, PE of DLB Associates	Membership
4/9/2015	Fisher's Tudor House	Trade Show	Student Night
TBD	TBD	Golf Outing	
5/14/2015	TBD	TBD	Past President's 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!

September Meeting - MEMBERSHIP PROMOTION NIGHT SPECIAL!!!

Current Philadelphia ASHRAE Chapter members in good standing can receive their dinner session ticket complimentary (paid for by the Chapter) by bringing with them a "new" ASHRAE member who signs up for membership at the registration desk. Additionally, we would like to welcome the new Chapter members with their first Philadelphia Chapter dinner session ticket free!

To take advantage of this offer when registering online, please use the coupon code "Membership" when registering for this event. Please make sure you register yourself and a guest when using this code.

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

Did you know there are free design guides available on the ASHRAE web site? The regular technical article is not the only place to get great free information each month. Take a few minutes to log on and see the variety of design guides available to download at no cost. The design guides can be located by using the link below.

<https://www.ashrae.org/standards-research--technology/advanced-energy-design-guides>

HVAC Fault Detection

By Matthew Wiggins, PhD and James Brodrick, PhD, Member ASHRAE

A significant amount of energy is wasted by malfunctioning or ill-maintained building systems. Faults relating to HVAC systems represent between 1% and 2.5% of total commercial building consumption. Owners/operators are often unaware when units are malfunctioning and wasting energy.

The average commercial AC unit has an evaporator airflow 15% to 25% less than optimum commissioned values,¹ 34% of residential air conditioners are undercharged and 28% are overcharged,* 35% of commercial rooftop units' dampers fail within several years of installation,¹ and 50% to 67% of air conditioners (residential and commercial) are either improperly charged or have airflow issues.^{2,3}

Despite the performance seen when a system is first commissioned, efficiency over time decreases. Though scheduled maintenance is purported to maintain a system at its peak performance level, the typical maintenance person cannot do the in-depth tests required to deliver this performance without lengthy service calls. Such calls are often prohibitively expensive.

Automated fault detection and diagnostics (FDD) systems attempt to address these issues by identifying faults when they occur and, if they are of sufficient severity, communicating the fault to the owner or maintenance personnel. This can eliminate scheduled maintenance costs, reduce diagnostic labor, reduce wasted energy, reduce peak electricity demand, and minimize downtime.

Residential and commercial HVAC systems are excellent systems for application of FDD. Units that tend to be under-maintained (such as many small-and medium-sized commercial/industrial building's rooftop or other packaged air conditioners) have the potential for the shortest payback periods.

Technology

Generally FDD works by measuring a subset of temperatures, pressures, and humidity levels in several stages of the HVAC system. Automated comparison of what these values should be for a given system with what they actually are can provide strong indicators of fault conditions.

Targeted faults include:

- Low refrigerant charge;
- Refrigerant overcharge;
- Noncondensable gas in the refrigerant;
- Liquid-line restriction;
- Compressor valve leaks; and
- Condenser and evaporator fouling.

[\(click here to read the entire article\)](#)

ASHRAE – PHILADELPHIA CHAPTER

AMERICAN SOCIETY OF HEATING, REFRIGERATING AND
AIR-CONDITIONING ENGINEERS, INC. PHILADELPHIA CHAPTER

BASIC HVAC SYSTEM DESIGN COURSE

This is a demanding one-year course that introduces students to the fundamentals of HVAC design. Classroom activities will include lectures and problem solving sessions, supplemented by home reading and study assignments.

2014 - 2015 Course Subjects Include:

Fundamentals and Psychrometrics
Load and Heat Transfer Fundamentals
Load Calculations
Pumps, Piping & Piping Systems
Basic Steam & Boilers
Fans, Air Distribution & Duct Design
Refrigeration
Controls & Instrumentation
Equipment Selection

The class is a great way to further, or even begin, a career in HVAC.

Classes will meet Tuesdays and Thursdays from 6:15 PM to 8:30 PM beginning in October and continuing until the end of March. Classes will be held in Center City Philadelphia.

The Basic Class tuition is \$1,200 (\$1,000 for ASHRAE Members who have paid both their National and Philadelphia Chapter dues). Tuition includes all course materials.

Class size is limited to 30 students. To enroll, complete and submit the application including a **nonrefundable** deposit of \$200 payable to “Philadelphia Chapter ASHRAE”.

Balance due at first course session.

If you would like to enroll or receive further information, please contact:

Hope Silverman
Philadelphia Chapter ASHRAE
994 Old Eagle School Road, Suite 1019
Wayne, PA 19087-1866
Phone 610-971-2169 / Fax 610-971-4859
E-mail: philachapter@mail.ashrae.org

The school application can be found on pages 10 & 11.



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 Associates & Members

Dustin Patrick Balton
James Chin
Ryan Hughes
Dr Sarah Kim
Carol A. Lightcap
Jeff Malosiecki
Bob McGreevy
David William Morrison
Viren Nathoo
Nancy O'Sullivan
Timothy Pacella
Robert Nathaniel Pennock
Joseph Petrone
Kevin Shanley
Michael Sheridan
Dr Jian Sun-Blanks
John M Topmiller
Jason Weaver
Colin Weiss
Daniel Wiggans

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



September 11, 2014 Meeting

This is Membership Promotion Night!

Bring a colleague and your dinner could be free — see [page 6](#) for details!

Philadelphia Chapter ASHRAE

American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

Basic HVAC System Design Course Application 2014-2015

Personal Information

Name: _____
Last First Middle Initial

Home Address _____
Street City State Zip

Phone No.: _____ Age: _____ Application Date: _____

Email: _____

Current or Most Recent Employment

Employer: _____ From: _____ To: _____ Total: _____
Firm Name Date Date Years

Business Address: _____
Street City State Zip

Job Title: _____ Phone: _____ Fax: _____

Email: _____

Discipline: _____ Engineer _____ CAD/Designer _____ CAD/Drafting _____ Sales Rep _____ Trades _____ Administration

Learning Goals

Please describe what you hope to learn and take away from this class. _____

Education

	School (Name & Location)	Years Attended	Major	Degree Or Diploma
High School	_____	_____	_____	_____
College	_____	_____	_____	_____
Other	_____	_____	_____	_____

PLEASE COMPLETE PAGE 2 ON NEXT PAGE.

PAYMENT

AMOUNT:

Members: _____ \$200 Deposit _____ \$800 Balance Due _____ \$1,000 Total Fee

Members are those who have paid their ASHRAE National and Philadelphia Chapter Dues

Non-Members: _____ \$200 Deposit _____ \$1,000 Balance Due _____ \$1,200 Total Fee

The balance due must be received by our office prior to the first evening of class.

PAYMENT BY CHECK: _____ (made payable to "Philadelphia Chapter ASHRAE")

PAYMENT BY CREDIT CARD: ____ VISA ____ Master Card ____ American Express

Total Amount to be Billed to Card: _____

Credit Card Number: _____

Expiration Date: _____

Name on Card (please print): _____

Billing Address for Card: _____

RETURN THIS FORM WITH PAYMENT TO:

Hope Silverman
Philadelphia Chapter ASHRAE
994 Old Eagle School Road
Suite 1019
Wayne, PA 19087-1866
Phone 610-971-2169
Fax 610-971-4859
philachapter@mail.ashrae.org

For Official Use Only

Date Received: _____ Tuition: _____ Deposit: _____ Check No.: _____ Balance _____