



# QUAKER CITY CLIMATE

Philadelphia  
Chapter

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### Wells Fargo Center

3601 South Broad Street  
Philadelphia, PA 19148  
800-298-4200

Fees are based on online  
reservations and prepayment .  
Corporate sponsor dinner tickets may  
be used, but will only cover  
\$30 of the cost.

- Philadelphia Chapter  
Members: **\$50**
- ASHRAE Members -  
Non-Chapter Members : **\$65**
- Non- ASHRAE Member : **\$80**
- Young Engineers (35 and under)  
and Students: **\$50**

## Philadelphia Flyers vs. Winnipeg Jets

**Tuesday, January 31, 2012**

5:15 pm—5:30 pm

Arrive at the Wells Fargo Center  
(west side of building) for tickets

5:30 pm

Buffet Dinner, Beer & Soda  
in the Lexus Club

7:00 pm

Game Begins

Click here for to [Register](#)

The deadline to register is January 30.

[Click here](#) to see the locations for various parking lots and in the area.



Our next chapter meeting is scheduled for Tuesday, January 31, 2012 at the Wells Fargo Center. The fee for the event includes a game ticket and a wrist band for admission into the Lexus Club for a complementary buffet dinner, beer, and refreshments. The Lexus Club will remain open through the second intermission so you can socialize and watch the game from the club, or head to your seats. For those arriving as a group wishing to sit together best efforts will be made but cannot be guaranteed.

2011- 2012

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Bob Finkboner

President-Elect

James Piscopo, PE, LEED AP

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Research Promotion Chair

Gary Debes

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James Piscopo, PE, LEED AP

Chapter Historian

Justin Mazur

Young Engineers in ASHRAE

Casey Younkins

## PRESIDENT'S MESSAGE

As we wrap up 2011 let me thank everyone who contributed their time and efforts to ASHRAE and our local chapter. And I wish to extend a special thank you to our committee members who have found fresh ways to deliver good programs and information to you.

2011 was a year of great upheaval and uncertainty. A year that has at times shown us how fragile the future can be. But this year has also made me realize the continued importance of ASHRAE and it's mission "to advance the arts and sciences of HVAC&R to serve humanity and promote a sustainable world".

Turning our eyes to the future we will continue to provide professional development and access to the latest and best technical information in the HVAC&R industry and hopefully make this enjoyable to you and your peers. My challenge to you is have you marked our scheduled programs for 2012 on your calendars yet? If not visit our web site and mark our scheduled events on your paper or electronic calendars for 2012.

2012 will not be an easy year but I am confident we will be successful if we allow the spirit of giving and cooperation to guide us and provide opportunities for you to give back to the industry that provides your livelihood.

With this in mind, I wish you and your loved ones a happy, healthy, and prosperous 2012!

Best Regards,  
Bob Finkboner  
Philadelphia Chapter President  
[c021@ashrae.net](mailto:c021@ashrae.net)

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Visit our web site at

**<http://phila.ashraechapters.org>**

**For Presentation Archives, Announcements,  
Jobs/Resumés, Education Updates,  
and more!**

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### 2011-2012 Directories are Available Now!

The 2011-2012 Philadelphia Area Directory—Associations, Consulting Firms, and Manufacturers' Representatives is in stock. It sells for \$23 each. Payment should be sent with your order to:

Philadelphia Chapter ASHRAE  
994 Old Eagle School Road, Suite 1019  
Wayne, PA 19087-1866

Rather pay by credit card? Call Emily at 610-971-2169.

## High-Performance Building Design Professional (HBDP) Certification

Applying innovative technology to create energy-efficient and sustainable buildings is essential for saving money and increasing profitability. Demonstrate your firm's and your personal commitment to superior building design and performance by employing engineers who have earned ASHRAE's HBDP certification.

The HBDP certification demonstrates a well-rounded understanding of how HVAC+R design is integrated into high-performance buildings to achieve sustainable design in new and existing buildings. ASHRAE has developed the HBDP certification program with input from the United States Green Building Council (USGBC), Green Building Initiative (GBI), Illuminating Engineering Society (IES), and the Mechanical Contractors' Association of America (MCAA).

The exam is available on computer at proctored testing centers through Applied Measurement Professionals, Inc., which has testing centers in Center City Philadelphia, Wilmington, DE and Robbinsville, NJ.

This is in addition to the other five certification programs currently available:

- Building Energy Modeling Professional;
- Healthcare Facility Design Professional;
- Building Energy Assessment Professional;
- Commissioning Process Management Professional;
- Operations and Performance Management Professional.

## Building Energy Modeling Professional (BEMP) Certification

Many architects and building owners are inexperienced with using energy modeling as a tool in building design to help in the energy efficiency decision-making process. ASHRAE's BEMP certification program assesses an individual's ability to evaluate, choose, use, calibrate and interpret the results of energy modeling software for building and systems energy performance.

BEMP certification demonstrates a well-rounded understanding of the building energy modeling process, including defining the project, choosing the correct modeling program, incorporating important aspects of the building being modeled, and interpreting the results of the simulation. The certification was developed in collaboration with the US affiliate of the International Building Performance Simulation Association (IBPSA-USA) and the Illuminating Engineering Society (IES).

The exam is available on computer at proctored testing centers through Applied Measurement Professionals, Inc., which has testing centers in Center City Philadelphia, Wilmington, DE and Robbinsville, NJ.

This is in addition to the other five certification programs currently available:

- High-Performance Building Design Professional;
- Healthcare Facility Design Professional;
- Building Energy Assessment Professional;
- Commissioning Process Management Professional;
- Operations and Performance Management Professional.

**Additional information is available on both of these certifications on the ASHRAE web site at [www.ashrae.org/certification](http://www.ashrae.org/certification). Or you can email the Philadelphia Chapter Technology Transfer Chair (Mark Maguire) at [c021bog5@ashrae.net](mailto:c021bog5@ashrae.net).**

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## Chapter Technology Award Competition 2012

The Technology Award Program recognizes members for innovative designs, communicate that technology to other members, and highlight achievements to other professionals.

The Chapter Technology Transfer Committee will be accepting applications for the Chapter Level competition in **March 2012** in the following categories:

- Commercial Buildings, New and Existing
- Institutional Buildings, New and Existing
- Health Care Facilities, New and Existing
- Industrial Facilities or Processes, New and Existing
- Public Assembly Facilities, New and Existing
- Residential Buildings, New and Existing (Single Family and Multi-Family)
- Alternative or Renewable Energy Use

Entries will be judged on energy efficiency, indoor air quality and thermal comfort, innovation, operation and maintenance, cost effectiveness, environmental impact and quality of presentation.

The process for the ASHRAE Technology Awards starts right here at the Chapter level. Chapter Competition winners will be judged in the Regional Technology Award Competition. Regional winners will then submit a long form application for the Society Technology Award Competition. Winners of the Society Competition will also be featured in the ASHRAE Journal.

Additional information is available at [ashrae.org/publications/detail/14704](http://ashrae.org/publications/detail/14704) or by contacting Mark Maguire, the Philadelphia Chapter Technology Transfer Chair ([c021bog5@ashrae.net](mailto:c021bog5@ashrae.net)).

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### *Share your Expertise with Industry Colleagues* **10<sup>th</sup> Annual Design on the Delaware** **November 14-16, 2012 - Philadelphia, PA**

Design on the Delaware provides an opportunity to contribute your expertise to the design, construction, and planning professions. The 2012 Conference Committee invites you to submit program and tour proposals of interest to architects, landscape architects, planners, engineers, contractors, developers and others in the building design and construction industry. Program proposals are due **April 16, 2012** and should be submitted online at <http://proposals.designonthedelaware.com>. [Click here](#) for the Call for Programs.

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### **Speaking at K-12 Schools**

This year ASHRAE is strongly encouraging members to speak at K-12 schools about STEM (science, technology, engineering and mathematics). The national ASHRAE website has lots of ideas and tips under the "Student Zone" to help. If you have spoken at a school or are planning to do so this year, please let us know since the ASHRAE headquarters are trying to track members' efforts. If you are interested in learning more about speaking or doing activities at a school, just let us know. We'd be glad to help!

Ashley Lester, Student Activities  
[c021sec@ashrae.net](mailto:c021sec@ashrae.net)

## PHILADELPHIA CHAPTER PROGRAMS CALENDAR 2011-2012

Date	Location	Topic	Theme	Joint Meeting
<u>1/31/2012</u>	Wells Fargo Center	Flyers vs Winnipeg Jets		
2/16/2012	Dave & Buster's	Hydronic Balancing presented by Bill England of Flow Design, Inc.	Student Night & YEA	
2/25/2012	Sheet Metal Workers Local 19	Tour / Training (see page 9 for details)		
2/15/2012	Fisher's Tudor House	TBD presented by Dr. Kishor Khankari, PhD, ASHRAE Distinguished Lecturer, of Syska Hennessy Group	Trade Show	SMCA
4/19/2012	Holiday Inn	TBD	Refrigeration	RSES
5/17/2012	Holiday Inn	Dealing with Dampers - Design and Code Issues presented by Mark Jelinske of Cator-Ruma Associates	Past President's Night	
6/1/2012	Northampton Valley CC	Golf Outing		

Program calendar is subject to change. Please refer to [ASHRAE Philadelphia Website](#) for up to date information.

### Commissioning Process Management Professional (CPMP) Certification

Many building owners look for ways to lower energy bills, reduce change orders during construction, avoid premature equipment replacement costs and create a safer and healthier building. Building commissioning measures and tunes performance of existing buildings and ensures that new buildings begin their lifecycle at optimal productivity.

CPMP certification demonstrates the knowledge to assure building owners and operators that equipment and systems are designed, installed, tested, operated and maintained according to their operational needs. ASHRAE has developed the CPMP certification program in collaboration with the Association of Higher Education Facilities Officers (APPA), Building Commissioning Association (BCA), Illuminating Engineering Society (IES), National Environmental Balancing Bureau (NEBB), Sheet Metal and Air-Conditioning Contractors' National Association (SMACNA), Testing, Adjusting and Balancing Bureau (TABB) and the University of Wisconsin-Madison.

The exam is available on computer at proctored testing centers through Applied Measurement Professionals, Inc., which has testing centers in Center City Philadelphia, Wilmington, DE and Robbinsville, NJ.

This is in addition to the other five certification programs currently available:

- Building Energy Modeling Professional;
- Healthcare Facility Design Professional;
- Building Energy Assessment Professional;
- High-Performance Building Design Professional;
- Operations and Performance Management Professional.

Additional information is available on the ASHRAE Website at [www.ashrae.org/certification](http://www.ashrae.org/certification). Or you can email the Philadelphia Chapter Technology Transfer Chair (Mark Maguire) at [c021cttc@ashrae.net](mailto:c021cttc@ashrae.net).

## **Milton Garland and Refrigeration Comfort Cooling Award Competitions - 2012**

ASHRAE offers two competition-based awards encouraging the design of innovative refrigeration systems. The Milton W. Garland Commemorative Refrigeration Award for Project Excellence recognizes non-comfort refrigeration systems. The Refrigeration Comfort Cooling Award for Project Excellence is oriented toward comfort refrigeration systems.

The Philadelphia Chapter Technology Transfer Committee is currently accepting applications for both competitions for 2012.

The Garland Award competition is open for the design of mechanical refrigeration machinery for applications other than human comfort: e.g., food processing/preservation, industrial/manufacturing processes, life support in extreme environments, recreational facilities. Additional information on this competition is available at [ashrae.org/members/page/1692](http://ashrae.org/members/page/1692).

The Refrigeration Comfort Cooling Award competition is open for the design of mechanical refrigeration machinery for human comfort applications. Additional information on this competition is available at [www.ashrae.org/members/page/comfortcooling](http://www.ashrae.org/members/page/comfortcooling).

Both submissions must be made within 36 months of the initial operating date of the system, and will be judged on the following criteria:

- Complexity of Problem
- Solution Concept
- Architectural Integration
- Originality
- Achievement of Performance Criteria
- Energy Effectiveness
- Budget Compliance
- Ease of Maintenance

Additional information can be obtained from Mark Maguire, Chapter Technology Transfer Chair at [c021bog5@ashrae.net](mailto:c021bog5@ashrae.net).

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This article was submitted by Phil Greco of Coward Environmental, the Philadelphia sales representative for Desiccant Rotors International. Articles highlighting novel HVAC technologies should be submitted to Chapter Technology Transfer Committee Chair Mark Maguire ([c021cttc@ashrae.net](mailto:c021cttc@ashrae.net)) for consideration in future newsletters.

## **Taking Notes: Desiccant Dehumidification**

Most HVAC systems are designed to maintain 72°F and 55% rh “neutral” air by cooling coil dehumidification in order to hit a 55° dewpoint. If you want to dry to 45% rh or below within humid climate zones, you’ll need a supplemental technology to remove the extra latent load. Many engineers design 55° dewpoint supply air, yet they also show 55° dewpoint air at 72°/55% rh returning from the space in order to size the energy recovery wheel performance.

This assumption is impossible unless you’re a magician and just made the latent load produced by people, plants or bathrooms disappear. Since you can’t expect the comfort cooling equipment to remove the latent load down to 55° dewpoint, here’s where Mr. Desiccant steps in to sop up that humidity load with one hand tied behind his back. Tactfully dialing desiccant dehumidification into your new or retrofit project can significantly reduce both the tonnage required and system runtimes. Many engineers stop short of specifying the ideal desiccant system by only using a 55% rh setting as the target. Going to a lower rh has many comfort and energy benefits, making desiccant dehumidification systems a critical part of any green/energy efficient project.

The best example of dialing in a lower rh to achieve a higher dry bulb setpoint with the same comfort level is Walmart. Walmart excels at energy efficiency as they deliver 45% rh in their stores with a 76° to 77° setpoint. Since the Department of Energy estimates a 3% to 5% energy savings for every degree setpoint increase, it’s estimated that Walmart is saving around 15% in energy costs just with desiccant dehumidification (DD). An additional benefit shows up in Walmarks with refrigerator cases: the lower rh reduces the door’s fogging and runtime for anti-sweat heaters. ASHRAE, Southern Edison Electric and others have documented substantial savings in grocery stores from lowering the humidity from 55% to 35%.

### **Desiccant Dehumidification Made Easy**

ASHRAE provides a nice review of DD in its 2008 HVAC Systems and Equipment and 2009 Fundamentals handbooks. The main benefit of DD systems is that they can snatch up to 100% of your outside air humidity (latent) load in one pass. Used within a dedicated outdoor air system (DOAS), DD can dry the entire ventilation latent cooling load before it sneaks into a building to create chaos. Since the majority of a latent load is from OA, this deep air drying can end up handling the building’s entire latent load, resulting in dry coils.

Every mold loves summer break, especially when humans turn off the power and shutter their schools to “save energy”. Unfortunately, humid air infiltration doesn’t take the summer off. This creates the perfect humidity and condensation storm for mold to exponentially multiply within the closed schools. Schools in humid summertime areas can have indoor humidity conditions of 80% rh or higher. Since mold grows above 60% rh, and the perfect conditions for mold soup are created at 80%, it’s no wonder that schools are a mess by the time September rolls around.

Here’s a great solution to deny mold this annual gift: use DD to keep the school dry all summer. Dry the school’s air by rerouting 90% of return air back into the outside air (OA) plenum on a DD unit through the use of an internal recirculation damper. Pulling in 10% OA will keep the building positive and still maintain space humidity at 50% rh or less using DD. Positive-pressure buildings prevent nasty outdoor humidity infiltration into interstitial spaces, thus denying the water mold needs to grow.

**[Click here to read the entire article.](#)**



## Future City Competition

The ASHRAE Philadelphia chapter is a bronze-level sponsor of the Philadelphia region's Future City competition, which will be held on **Saturday, January 28** at the Sheet Metal Union Workers' Hall (1301 South Columbus Boulevard, Philadelphia). This competition is an educational outreach of National Engineers' Week. The mission is to provide a fun and exciting educational engineering program for middle school students that combines a stimulating engineering challenge with a "hands-on" application to present their vision of a city of the future.

Middle-school students form teams of 6th, 7th, and 8th graders to work with a teacher and an engineer mentor from September to January to:

- Design and lay out a city of the future using SimCity4 computer software
- Build a table-top model using recycled materials illustrating one section of the city
- Write a 700 – 1000 word technical report which is researched with a bibliography of references.
- Present the city model to teams of judges.

The culmination of the program is an all day judging competition in Philadelphia in January. The first place Philadelphia Regional team travels to Washington, DC during National Engineers Week in February to compete with other regional winners for national prizes. Philadelphia teams have always placed well nationally and in 1999 and 2011 took first place. In addition to the first place regional awards, Future City also provides "Special Awards" in a number of areas, including the ASHRAE-sponsored "Best Indoor Environmental Design" award. These awards allow students to present their cities to more than just the competition judges and provide them with a feeling of accomplishment even if they were not a finalist in the competition. Last year, there were over 40 special awards presented in Philadelphia and every team went home with at least one award.

Future City is volunteer run with the support of the local engineering community. Over 200 volunteer engineers work on the program each year as committee members, mentors, organizers, and judges. The mentors have the most rewarding part in the competition since they have the opportunity to directly share their engineering expertise with the students, working with them to develop their cities and presentations.

You can volunteer for mentoring and game-day positions at [futurecityphilly.org](http://futurecityphilly.org).

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## Sheet Metal Workers Local 19 Training Day

Sheet Metal Workers Local 19 has again generously agreed to open its doors for a “behind-the-scenes” training day for ASHRAE Philadelphia members on **Saturday, February 25**. The event will be held at the Local 19 training center at 1301 South Columbus Blvd. and will incorporate tours and explanations of:

- Training center;
- Biosafety cabinet testing lab;
- DDC controls station;
- Water balancing station;
- Duct leak test station.

The attendance fee is \$20. In addition to developing a relationship with the Sheet Metal Workers, there are other learning objectives:

- Understand the testing and balancing process in more detail to allow faster resolution of field issues.
- Understand the value-added of testing and balancing process in the context of tight construction schedules.
- Understand the role of testing and balancing agencies in how buildings are commissioned and retro-commissioned.
- Understand how testing and balancing agencies contribute to sustainable-design goals.

Local 19 has offered this training for several years, and attendees from those sessions have given good reviews. Certificates of attendance will be provided.

For further information, contact Mark Maguire at [c021cttc@ashrae.net](mailto:c021cttc@ashrae.net).

## December Meeting Photos



Above: Bob Finkboner (left), President of the Philadelphia Chapter, presents December's speaker, Jeff Rosenfeld of Harrison Law Group, with a Liberty Bell as thanks for his informative presentation.

Below: Jeff Rosenfeld explaining the various methods in which design liability is assumed and shifted through contracts in the construction industry.





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

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our web site at:

<http://phila.ashraechapters.org>

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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](mailto:hope@mmco1.com)

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

## NOTICE

On January 7, 2010 the Legislature enacted and the Governor signed into law P.L. 2009, C. 294 which requires Professional Engineers licensed in New Jersey to complete continuing education. The effective date of the new law is January 12, 2011. At this time, the State Board of Professional Engineers and Land Surveyors ("Board") is working on proposed regulations to provide guidance and clarification to its licensees and interested parties. This Notice is intended to provide information about the continuing professional competency requirements.

- A licensee shall complete not more than 24 continuing professional competency credits related to the practice of Professional Engineering in every biennial license renewal cycle, 2 of which shall be in professional practice ethics.
- The Board does not have a process in place to approve educational programs and providers at this time. However, the Board is working on proposed regulations to address these matters.
- A licensee is not required to acquire continuing professional competency credits until January 12, 2011. However, the Board anticipates that a current licensee shall be required to obtain 15 continuing professional competency credits, 2 of which shall be in professional practice ethics, on or before April 30, 2012 to meet the requirements for the 2012-2014 biennial renewal period.
- The Board anticipates that for the 2014-2016 biennial renewal period, and every 2 years thereafter, a licensee shall be required to complete 24 continuing professional competency credits, 2 of which shall be in professional practice ethics.  
<http://www.njleg.state.nj.us/2008/Bills/PL09/294.HTM>

## NEW MEMBERS

David Blain (Member)  
Sean Donovan (Associate)  
Michael Dougherty (Member)  
Nichole Massoud (Associate)  
Paul Mwasame (Student)  
Tony Myers (Associate)  
Michael Oliver (Member)  
Stephen Playo (Member)  
Tim Reinking (Associate)  
Keith Shannon (Associate)