

## Ashrae Bistate Chapter

Volume XXV, Issue VII

**Upcoming Events** 

Serving the Hudson Valley and Western Connecticut

March 2012

## Meeting Wednesday March 14, 2012

### Presentation: Pressure Independent Systems Speaker: Fred Ferrara, Honeywell Field Device Specialist

- Problems with hydronic systems
- Direct return systems
- Reverse return systems
- Pressure independent applications
- First cost install comparison to conventional valves
- Energy savings
- Effect on efficiency

## Tech Session: McGill Airflow - Good, Better and Best Duct Design

Session will cover basic fundamentals, design methods and performance. Fan laws will be reviewed along with types of diverging and converging fitting types that are used in duct systems. Sound control in duct design will be explored with the various options for the designer. Leakage control and its impact on the design and performance will be discussed. A basic look at exposed ductwork design and system will be covered with examples of various types.

Place:	Casa Rina, 886 Commerce Street, Thornwood, NY 10592						
Program:	5:30 - 6:00 PM Attitude Adjustment Time						
	6:00 - 7:30 PM Buffet Dinner / Tech Session						
	7:30 - 8:30 PM Main Presentation						
\$25 Members, \$30 Non-Members							
Engineering students: complimentary admission							
The general public is invited and encouraged to attend.							
Directions to Casa Rina							
From Saw Mill Parkway - North or South							
Exit at Marble Avenue - Exit # 27							
Make right - continue to second traffic light							

Exit at Marble Avenue - Exit # 27 Make right - continue to second traffic light Make right onto Commerce Street Casa Rina is the second house on your left. Parking is on your right.

Please make reservations by contacting:

Nicholas Salomone ashraebistate@gmail.com

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#### April 19th -Dedicated Outdoor Air Systems

ASHRAE Webcast

May 9th Super High Efficient Chillers

 June 13th -Golf Outing

## **President's Message**

By Nicholas Salomone

Thanks everyone for making this another memorable year! In April, we're going to host our meeting at the SMACNA facility for the ASHRAE 3 PDH webcast focused on dedicated outdoor air systems. In May we have a Daikin McQuay speaker coming in for a 1 PDH presentation. Concluding the year in June will be our Golf Outing.

Nicholas Salomone Bi-State Chapter President

## Secretary Hillary Rodham Clinton Launches Global Pollution Reduction Initiative

U.S. Secretary of State Hillary Rodham Clinton has announced the formation of the Climate and Clean Air Coalition, a global effort to fight climate change, protect health, improve agricultural productivity, and strengthen energy security by reducing short-lived pollutants such as methane, soot, black carbon, and hydro-fluorocarbons (HFCs) – some of which are the byproduct of the nearly three billion people burning solid fuels to cook each day. Combined, short-lived pollutants are responsible for over one-third of current global warming.

Secretary Clinton pointed to the Global Alliance for Clean Cookstoves as an initiative that would be further strengthened by the formation of the coalition. The Alliance was launched in 2010 with a mission to save lives, improve livelihoods, empower women, and combat climate change by creating a thriving global market for clean cookstoves and fuels – an effort well underway through the release of the major sector roadmap, *Igniting Change: A Strategy for Universal Adoption of Clean Cookstoves and Fuels*, and the Alliance's own strategic business plan.

"[Short-lived pollutants] wreak havoc on people's health. Millions die annually from constantly breathing in black carbon soot that comes from cookstoves in their own homes," said Secretary Clinton. Of the 16 shortlived pollution reduction recommendations put forth by the UN Environment Program – a founding Alliance partner and the secretariat for the new coalition – the Secretary specifically noted the benefit of replacing inefficient cookstoves and traditional brick kilns with cleaner, more efficient devices.

Secretary Clinton was joined by U.S. Environmental Protection Agency Administrator Lisa Jackson, the executive director of UNEP, and the environmental ministers from Bangladesh and Canada – all Alliance partners – as well as the Mexican and Swedish environmental ministers and the Ghanaian Ambassador to the U.S. Peter Kent, the Canadian environment minister, later formally announced his country's \$1.7 million partnership with the Alliance.

"The Alliance is grateful to Secretary Clinton for her consistent leadership toward creating a better world for all people, and welcomes the formation and mission of the coalition because climate change-inducing cookstove smoke permeates many other facets of human life – including energy access, air quality and the surrounding environment, food security, and general health and well-being," said Radha Muthiah, Executive Director of the Global Alliance for Clean Cookstoves. "I am very pleased to officially welcome Canada, and commend them and our other government and UN partners for joining the coalition and further solidifying their commitments to saving lives, improving livelihoods, empowering women, and reducing global climate change through concerted actions that include clean cookstove and fuel interventions."

## **Future of Canadian Outdoor Ice Hockey**

The future of Canadian outdoor ice hockey -- a sport synonymous with the country's culture -- is being threatened by anthropogenic climate change, new research from McGill University and Concordia University suggests.

As warmer winter temperatures restrict ice from freezing over, researchers believe the ice hockey stars of the future will have limited access to the frozen lakes and backyard rinks that have helped shape the careers of some of the greatest professional players, such as Wayne Gretzky; the Canadian considered to be the greatest of all time who started skating as a child on a rink in his backyard.

Evidence of this was seen earlier this year when the world's longest skating rink, the Rideau Canal Skateway in Ottawa, was closed due to warmer-than-usual seasonal temperatures.

### Advanced Energy Design Guide for Medium to Big Box Retail Buildings Available

Energy costs are typically the second highest operating expense for a retailer, so use of the latest 50% Advanced Energy Design Guide can help in creating a cost-effective design for medium to big box retail stores and can have a direct and significant impact on profitability.

For a discount on energy efficiency, owners, engineers, designers, architects and others on the building team are encouraged to download Advanced Energy Design Guide for Medium to Big Box Retail Buildings: Achieving 50% Energy Savings Toward a Net-Zero-Energy Building. The Guide applies to medium to big box retail buildings with gross floor areas between 20,000 and 100,000 sq. ft.; however, many of the recommendations also can be applied to smaller or larger retail buildings.

It is the third book in a series of Advanced Energy Design Guide (AEDG) publications that provides recommendations to achieve 50% energy savings when compared with the minimum code requirements of ANSI/ASHRAE/ IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings.

"When the comfort of a customer can impact a purchase in a shopping environment it's important for retail stores to find a balance between energy efficient measures for the building and the convenience for their customers," Shanti Pless, chair of the AEDG project committee, said. "This guide offers guidance and tips for implementing successful energy savings strategies while enhancing the shopping experience."

The new guide features easy-to-follow recommendations for each of the US climate zones and tips on how to implement those recommendations. Case studies and technology examples provide real-life examples of how retailers have achieved significant energy savings.

Also included is information on integrated design, including best practices as a necessary component in achieving 50% energy and the inclusion of a performance path—specifically, offering annual energy use targets to help with goal setting.

Additional design tips include:

- Information on integrating absolute energy use targets into the design process.
- Retail-specific whole building and technology case studies.
- Different vestibule configurations to reduce outdoor air infiltration.
- Different ways to daylight sales floors, storage areas, offices and conference/break rooms.
- Methods to achieve space-by-space interior lighting power densities that are, on average, 45% better than Standard 90.1-2004.
- Sample design layouts and recommendations for ambient lighting, perimeter lighting, and accent lighting; including LED display lighting.
- Ways to reduced exterior (façade, walkway, parking lot and drive) lighting energy consumption.
- Recommendations for reduction and control of sales floor plug loads, office equipment, security system plug loads, vending machines, illuminated signs, and service water heating.
- HVAC roof-top unit configuration and zoning strategies.
- HVAC ventilation air control strategies.
- Recommendations for commissioning and measurement and verification to ensure that energy savings potentials are realized.

The book was developed by a committee representing a diverse group of energy professionals drawn from ASHRAE, the American Institute of Architects (AIA), the Illuminating Engineering Society of North America (IES), the Department of Energy (DOE) and the United States Green Building Council (USGBC).

ASHRAE, AIA, IES, DOE and USGBC are currently developing the fourth and final guide in the 50% series, which will focus on large hospitals and be available in the spring of 2012.

The guide follows the earlier six-book series that provided guidance to achieve 30% savings. The ultimate goal is to provide guidance to achieve net-zero-energy buildings that is buildings that produce more energy than they consume.

Advanced Energy Design Guide for Medium to Big Box Retail Buildings: Achieving 50% Energy Savings Toward a Net-Zero-Energy Building is available as a free download at <u>www.ashrae.org/freeaedg</u>. A print version is available for \$82 (\$69, ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478. Bulk discounts are available to individuals, companies and organizations who are interested in purchasing multiple copies.

## **Officers and Governors 2011—2012**

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## Why Be Involved in a Local Chapter?

- Learn about the latest technologies presented in the program sessions
- Attain continuing education credits
- Meet industry associates and discuss local concerns
- Network amongst designers, installers, vendors, educators, in your local area to help improve business for all
- Share experiences with others
- Enjoy a social hour
- Carry out ASHRAE's mission on a local level

"To advance the arts and sciences of heating, ventilating, air conditioning and refrigerating to serve humanity and promote a sustainable world." VOLUME XXV, ISSUE VII

EXCHANGER

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#### ASHRAE Region I Roster 2011-12 Executive Committee DRC – Director & Regional Chair **RVC Student Activities** Spencer Morasch Om Taneja, PhD, Dr. Jersey Central Power & Light USDSA 331 Newman Springs Road, Bldg. 3 Suite 325 79 Summit Dr Red Bank, NJ 07701 –5688 Basking Ridge, NJ 07920-1960 732-212-4133 212-264-4465 smorasch@firstenergycorp.com om.taneja@gsa.gov ARC – Assistant Regional Chair & Treasurer **Regional Chapter Programs Chair** Joseph Furman Peter Oppelt Automated Logic R.F. Peck Co. 16 Country Way 191 Moorland Rd Wallingford, CT 06492-5356 Rochester, NY 14612-3421 203-678-2208 585-227-1720 joe.furman@automatedlogic.com poppelt@rfpeck.com Nominating Committee Member **Regional Refrigeration Chair** Steven D Friedman, PE, HFDP, LEED AP Emery Otruba, P.E. AKF Engineers, PC. Evergreen Engineering 330 West 42nd Street. 14th floor 262 Johnson Hill Road Hoosick Falls, NY 12090-4615 New York, NY 10036 518-225-2771 212-548-1412 eotruba@verizon.net sfriedman@AKFGroup.com Nominating Committee Alternate **Regional Historian** Russell J Stuber Alexander Weiss, PE U & S Services Inc 233 Fillmore Ave Ste 11 8 Bergen Beach Pl Tonawanda, NY 14150-2316 Brooklyn, NY 11234-5743 716-693-4490 718-251-1154 stuberr@usservicesinc.com weisseng@gmail.com **RVC Membership Promotion** Regional Electronics Comm. Chair & Newsletter Judge Richard E Vehlow, PE Heather L. Nowakowski, P.E. NYS OGS BU1 Roswell Park Cancer Institute 33Rd Fl Corning Tower Elm & Carlton Streets Albany, NY 12242-0001 Buffalo, NY 14263 518.474.2471 716-845-3521 heather.nowakowski@roswellpark.org Rev1969@gmail.com **RVC Research Promotion** Director of Member Services Darcy A Carbone Carolyn Kettering ASHRAE Stebbins-Duffy, Inc. 6 Damon Rd 1791 Tullie Circle, N.E. Medford, MA 02155-2903 Atlanta, GA 30329 617-957-2567 404-636-8400 dcarbone@stebbinsduffy.com ckettering@ashrae.org **RVC Chapter Technology Transfer Director of Communications and Publications** Steven L Rosen Jodi Scott EYP ASHRAE 24 School St. 1791 Tullie Circle, N.E. Atlanta, GA 30329 Boston, MA 02108-5113 617-305-9865 404-636-8400 dunlop@ashrae.org srosen@eypae.com

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## ASHRAE Region I Roster 2011-12 Executive Committee (continued)

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## Net Zero Energy School Being Built in New York

A school being built in the Rossville section of Staten Island will generate its own energy. "It will be the first net-zero energy public school in the northeast United States, and one of the very few in the country," said Bruce Barrett, vice president for architecture and engineering at the School Construction Authority. Up to 2,000 solar photovoltaic panels will be installed on the roof of PS 62. When it is sunny, the school will power itself and other buildings. The school will use the regular power grid when it is cloudy and at night. The building will have extra insulation and high-performance windows, to prevent heat or air conditioning from escaping. Every classroom in PS 62 will face either due north or south, so they can be lit by daylight without glare. Sensors will automatically turn the lights off when sunshine is streaming into classrooms. It is scheduled to open in September 2015.

# Join ASHRAE at its 2012 Annual Conference

June 23–27, 2012/San Antonio, Texas



**First time attendee registration fee** a special rate of \$320 if you register by June 1; \$480 during onsite registration that begins June 11.

Join ASHRAE in San Antonio! Take advantage of the opportunity to discuss and examine the latest topics in the building industry, such as high performing buildings and integrated design, through the technical program; participate in technical tours; attend ASHRAE Learning Institute courses; and earn professional credits.

**Technical Program** – From integrated energy systems to indoor environmental applications, the Technical Program features seven tracks addressing topics and principles important in the HVAC&R industry today. The technical program also features a new mini-conference format on Integrated Building Controls. Earn PDHs, AIA LUs and LEED AP credits.

**Virtual Conference** – If you can't make it to San Antonio, take advantage of the knowledge shared in the technical program with the on-demand Virtual Conference recordings of all the presentations.

ASHRAE Learning Institute – ASHRAE Learning Institute provides high-quality courses presented by industry-recognized subject matter experts. Select from two all-day seminars and six half-day courses to stay current on HVAC&R trends.

## www.ashrae.org/sanantonio

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Employment ads may be submitted for inclusion in The Exchanger as follows:

1. \$100.000 from companies placing ad for one (1) month.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers advances the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world. Membership is open to any person associated with the field including indoor air quality, building design and operation, and environmental control for food processing and industry.

ASHRAE will be the global leader, the foremost source of technical and educational information, and the primary provider of opportunity for professional growth in the arts and sciences of heating, ventilating, air conditioning and refrigerating.

# Upcoming Meetings

Month	Date	Promotion	Main Presentation	Tech Session
April	4/19/2012	Sustainability	Dedicated Outdoor Air Systems — IEQ; ASHRAE Webcast, 1-4	A Path to Balancing Energy and pm at SMACNA, Brewster
Мау	5/9/2012	Student Activities	Super High Efficient Chillers	
June	6/13/2012	Student Scholarships	Golf Outing	$\sim$

## **Biomechanical Pod System Produces Fresh Air**

A new type of green wall has been developed that works with a building's existing HVAC system to reduce energy loads and improve indoor air quality. The Active Phytoremediation Wall System is a modular wall system of pods housing hydroponic plants. The wall is based on joint research by Rensselaer Polytechnic Institute and architectural firm Skidmore Owings and Merrill. Air moves through a perforated air intake duct via a series of mini-jets and directly over the root system. This allows the rhizomes on the roots to essentially digest VOCs, particulate matter, and other biological and chemical pollutants without the plant itself becoming toxic (which is what happens when the toxins are taken in solely through the leaves). The wall system can be installed in large commercial interiors, but also works in small settings. A four-module system in an apartment would have the impact of 800 to 1,200 house plants.

## **Open Windows Could Help Fight Airborne Infections**

Benign bacteria found outdoors could fend off the potentially deadly microbes that cause hospitalacquired infections, according to Jack Gilbert, Ph.D., of Argonne National Laboratory in Chicago, head of the Earth Microbiome Project, a global database of microbial species. He said that the idea is supported by a study showing that open windows influence the composition of microbial communities found on handles and surfaces, but did not increase the numbers of dangerous pathogens. "Open windows let bacteria in from outside and you will either dilute out the pathogens, or you are not allowing the pathogens to establish themselves because there is too much competition for the nutrients and energy that the bacteria need to survive," Gilbert told the American Association for the Advancement of Science at its recent annual meeting.

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