# THERMOGRAM

*The New Jersey Chapter of ASHRAE Newsletter*

www.njashrae.com **February 2010** reply@njashrae.com




## ASHRAE

*Sustaining Our Future*
*by Rebuilding Our Past*

# NJ Chapter of ASHRAE Meeting

*Membership & History Night*

Tuesday, March 2, 2010

Renaissance Woodbridge Hotel
(same location, new name)
515 US Highway 1 South
Iselin, New Jersey

## Mark MacCracken

**CEO Calmac Mfg Corp**
**presenting**
*"Thermal Energy Storage"*

**Cost: Members $50.00
Non-members $55.00
YEA members $25.00
Students $5.00

**Cocktails: 5:30 pm**
**Dinner and Speaker: 6:30 pm**

RSVP: REPLY@NJASHRAE.COM or
Call 732-218-7463
By February 27th, 2010

****Please note that payment is due at the meeting in the form of cash or a check made out to NJ ASHRAE.
Unfortunately, we are not able to accept credit cards**

**COMMITTEES**
**(continued)**

**CTTC — TEGA**
John Tellefsen, PE
973-565-7622

**Historian**
Bob Daly, PE
212-566-5764

**Honors & Awards**
Jeffrey Grant
732-590-1527

**Membership**
Scott Smith
973-227-8666

**Newsletter Ads & Editor**
Jori Fahrenfeld
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**Nominating**
Mark Richter, PE
212-354-5656

**Programs**
Janet Shipton
732-547-0546

**Refrigeration**
TBA

**Research/Promotion**
Chris Phelan
973-777-6700

**Scholarships**
James Sarno, PE
732-938-2666

**Seminars**
Mark Richter, PE
212-354-5656

**Special Events/ Golf Outing**
Chris Phelan
973-777-6700

**Student Activities**
Saheel Chandrani
973-396-4252

**Technical Sessions**
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908-418-4949

**www.njashrae.com**
**reply@njashrae.com**

**ASHRAE Society**
Toll Free Number
1-800-527-4723

## Inside this issue:




## Calendar of Upcoming Meetings

**April 13, 2010: Tom Pitcherello, NJ DCA,** *"Adopted Codes of New Jersey"* **Student Night**

**May 4, 2010: Ed Karpenski, National Air Filter,** *"Air Filtration as a Defense" NYS CEUs available.* **Scholarship Awards Night and Installation of Officers**

**June 2010: Social Event TBA**

**Do you have a topic of interest that you would like to present at a NJ ASHRAE meeting?**

*Presentations of a non-commercial nature are always welcomed. Contact any chapter officer or committee chairperson for more information.*

## President's Message

Dear Chapter Members,

We were fortunate to have an ASHRAE Society's Distinguished Lecturer speak at the February meeting. Dr. Max Sherman, PhD, of Lawrence Berkeley Labs presented the topic "Ventilation - the 'V' in HVAC". He described the history of ventilation: from insects developing ventilation in their dwellings, to ancient time practices, to the first codes requirements in the 1600's, through to present day practices. I would like to thank Mr. Sherman for his informative presentation.

Our March 2nd meeting will be held once again at the Renaissance Hotel. We will be celebrating "Membership and History Night". Mr. Mark MacCracken of CALMAC will be speaking on "Thermal Energy Storage". Please join us in welcoming Mr. MacCracken to our New Jersey Chapter.

Regards,
Janet

## 2009-2010 Presidential Award of Excellence (PAOE) Summary

| Chapter # | Chapter Name | Chapter Members/ students | Member Promotion | Student Activities | Research Promotion | CTTC | History | Chapter Operations | Chapter PAOE Totals |
|---|---|---|---|---|---|---|---|---|---|
| 007 | N.J. | 754 | 135 | 325 | 180 | 475 | 175 | 495 | 1785 |

## February Buffet Dinner Menu

Green Seasonal Salad

Chicken Waldorf Salad

Three Bean Salad and Pasta Salad

Main Buffet Dishes to be announced

Vegetables

Assorted Desserts

*Vegetarian selection available

## Speaker Bio: Mark MacCracken, PE, LEED AP, Calmac Manufacturing Corp.

Mark MacCracken is the CEO of Calmac Manufacturing Corporation. During his 30 years with the firm, he has been involved with all aspects of the company including R&D, contracts, patents, Manufacturing, marketing, and finance. He was the Principal Investigator on research projects with Oak Ridge National Labs, NASA and National Renewable Energy Research Lab.

Mark has his BS in Mechanical Engineering, has three US Patents and is a licensed Professional Engineer and a LEED Accredited Professional. He is presently or has recently served as a member of the USGBC National Board of Directors, is the Recipient of the AEE Energy Engineer of the Year Award, been a member of the AHRI Board of Directors and Thermal Storage Product Section Chairman, is a Distinguished Lecturer for ASHRAE and Chairman of ASHRAE's Thermal Storage Technical Committee. He is also a member of the Alliance to Save Energy and Vice Chair of ASHRAE Standards Committee 189.1.

He has written numerous articles about Thermal Energy Storage which have appeared in the ASHRAE Journal and has spoken at ACREX, Bangalore India, SAIA, Durban, South Africa, Green Summit in Phoenix and Clima 2005 in Lausanne, Switzerland.

Mark will be speaking about "Thermal Energy Storage."

## Green ASHRAE News: Standard 189.1 to Provide a Strong Foundation for High-Performance Green Buildings

A new standard for the design of high-performance green buildings is set to revolutionize the building industry. Published by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), in conjunction with the Illuminating Engineering Society of North America (IES) and the U.S. Green Building Council (USGBC), Standard 189.1, *Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings*, is the first code-intended commercial green building standard in the United States.

The standard, published January 2010, provides a long-needed green building foundation for those who strive to design, build and operate green buildings. From site location to energy use to recycling, this standard will set the foundation for green buildings through its adoption into local codes. It covers key topic areas similar to green building rating systems: site sustainability, water use efficiency, energy ef-ficiency, indoor environmental quality and the building's impact on the atmosphere, materials and resources. For complete information on the standard, including a readable copy, visit www.ashrae.org/greenstandard.

The energy efficiency goal of Standard 189.1 is to provide significant energy reduction over that in ANSI/ASHRAE/IESNA Standard 90.1-2007. It offers a broader scope than Standard 90.1 and is intended to provide minimum requirements for the siting, design and construction of high performance, green buildings.

"The far-reaching influence of the built environment necessitates action to reduce its impact," Gordon Holness, ASHRAE president, said. "Provisions in the standard can reduce negative environmental impacts through high-performance building design, construction and operations practices. Ultimately, the aim is not just energy efficiency but a balance of environmental responsibility, resource efficiency, occupant comfort and well being and community sensitivity, all while supporting the goal of sustainable development."

"IES is pleased to be a cosponsor of this standard that will have a significant impact on requirements for high-performance green buildings and the building industry as a whole," Rita Harrold, director of technology for IES, said. "We congratulate the Project Committee for the tremendous effort and dedication of its members in the fast track development of a consensus standard. We look forward to continuing the partnership with ASHRAE and USGBC as the standard continues to evolve through future continuous maintenance proposals."

"Greening the building code is fundamental to the U.S. Green Building Council's goal of market transformation and is also a critical factor in how the building industry is working to mitigate climate change," said Brendan Owens, VP, Technical Development, U.S. Green Building Council. "We're extremely excited to see our collective efforts over the past three years come to fruition in the form of this important standard."

Standard 189.1 has been written by experts representing all areas of the building industry, including engineers, lighting designers, sustainability experts, building owners, designers, architects, code and compliance officials, utilities, materials experts and equipment manufacturers. The technical requirements in the standard were also supported by input from the building industry during the public review process.

To order, contact ASHRAE Customer Service at 1.800.527.4723 or visit www.ashrae.org/bookstore.

The cost of Standard 189.1 is $119 ($99 ASHRAE members).

## February 2, 2010 Board of Governors Meeting Summary
## By James Sarno, PE, Secretary

The December 2009 and January 2010 Treasurer reports were reviewed and accepted.

The December 1, 2009 meeting minutes were reviewed and accepted.

A brief summary of the AHR Expo and ASHRAE Conference in Orlando was given. There were good speakers with informative lectures and these were well attended.

Refer to the information contained in the Thermogram on the availability of a Chapter Scholarship. If you know someone who could benefit from this, please pass the information along to them.

A copy of the Thermogram will be sent up to one of NJIT's Mechanical Engineering Professors in order to assist in spreading the word about the Scholarship.

A request was recently made to see if the Chapter still printed a copy of the Manufacturer's Rep Directory along with the names of the Chapter Members. This is no longer done due to cost and the issue of finding someone to handle the task as it is a huge undertaking and the fact that member information is not permitted to be released for the Chapter. The Philadelphia Chapter does print a Directory, but they have an outside company take care of it.

The next Board of Governors Meeting will be on March 2, 2010 at 4:30 pm prior to the Monthly Chapter Meeting.

*Interested in becoming more involved with NJ ASHRAE?*

Visit the NJ ASHRAE website www.njashrae.com and look at downloads. The NJ Chapter ASHRAE Constitution Bylaws includes all the information about the chapter operation. There are descriptions of all executive board positions and committees.

Contact any board or committee member for additional information about the chapter and what you can do.

Come to the meeting and speak with any board or committee member about their experiences and figure out what committee you want to join.

# February Meeting

The buffet dinner was enjoyed by all

Max Sherman, PhD, ASHRAE Distinguished Lecturer presenting “Ventilation, the ‘V’ in HVAC”

***ASHRAE offers 14 spring online courses***
**Updated Course on New Green Building Standard Available**

With publication of the green building standard, an updated online seminar reviewing its requirements is now available from ASHRAE.

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A course from ASHRAE on the requirements of the standard, *Understanding Standard 189.1P for High-Performance, Green Buildings,* takes place March 15 and is taught by Tom Lawrence, a member of the committee that developed the standard. The course is one of 14 being offered this spring.

"The course has evolved as the standard has taken shape, and I anticipate that the course will continue to evolve as changes and addenda are approved, resulting from changes in concepts, technologies and design for green buildings" Lawrence said. "Standard 189.1 has the potential to be a 'game changer' in the industry and thus anyone who is working with green design would benefit from learning more about the standard. One way to do that is by taking this course."

The 14 online, instructor-led seminars that will run from March until May and are available to those interested in expanding their knowledge of the HVAC industry and keeping up to date with the latest technology and their applications.

A full list of seminars and registration information can be found at www.ashrae.org/onlinecourses. Other courses are:

- *Humidity Controls: Basic Principles Loads and Equipment*
- *Humidity Controls: Application, Control Levels & Mold Avoidance*
- *Introduction to Green Buildings and Sustainable Construction*
- *The Commissioning Process and Guideline 0*
- *Introduction to Thermal Energy Storage Systems for Air Conditioning*
- *Complying with Standard 90.1-2007 HVAC/Mechanical*
- *Energy Management in New and Existing Buildings: a Sustainable Activity*
- *Complying with Standard 90.1-2007 Envelope/Lighting*
- *Using Standard 90.1-2007 to Meet LEED Requirements*
- *Introduction to Cleanroom Design*
- *District Cooling and Heating Systems: Central Plants*
- *Complying with Requirements of ASHRAE Standard 62.1-2007*
- *Understanding and Designing Dedicated Outside Air Systems*

The three-hour-long courses are taught in real-time, from 1 p.m. to 4 p.m. EDT, and feature interactive audio. Three professional development hours or American Institute of Architects learning units or 0.3 continuing education units are available for each course.

**National Engineers Week**

National Engineers Week was celebrated during the week of February 14 through the 20th. ASHRAE is a partner in the program that celebrates the contributions that engineering makes to our society and encourages engineering as a career path among young students by promoting pre-college literacy in math and science.

What did you do to celebrate National Engineers Week? Did you visit a local school or scout troop and speak with them about engineering? Did your company invite students from local schools to visit and show them what it's like to be an engineer?

If you did something special during Engineers Week, please let us know. We will include your experiences in next month's Thermogram.

**ASHRAE Specialty Conference to Focus on Improving School Facilities, Young Minds**

Maximizing facility performance, and thereby students potential, is at the heart of the ASHRAE High Performance K-12 School Facilities conference, to be held Mar. 1-2. 2010 in Atlanta, Ga.

The conference will present an integrated approach to complying with codes and standards while achieving a cost effective high performance solution to K-12 facility design, construction and operation. Its goal is to bring together administrators, design professionals, policy makers and other stakeholders to learn about the many ways to improve these facilities on operational, fiscal, engineering and administrative levels.

Sixteen percent of schools districts controllable costs are spent on energy, Ben Leppard, a member of the conference steering committee and track chair, said. By focusing on energy efficiency and high-performance goals a schools energy bills can be lowered, saving millions of dollars each year which can be redirected into facilities, teachers' salaries, computers and textbooks.

Experts in the fields of acoustics, lighting, ventilation, system controls, energy efficiency and operation and maintenance will lead the stakeholders through the complex integration of systems, policies and legislation on a straightforward path to achieving high performance new and existing K-12 facilities and higher performing students.

Improved indoor air quality, acoustically designed indoor environments and high-performance lighting systems have the potential to increase student productivity, Leppard said.

Attendees of the conference may attend sessions that focus on three key areas of high-performance school facilities: ventilation systems, building systems control and acoustics.

Advance conference registration is $450 ($350 member price) and $500 onsite ($400 member price). More information can be found at www.ashrae.org/highperformanceschools.

**ASHRAE publishes new book on dampers and airflow control**

ASHRAE has released a comprehensive guide on dampers, providing resources for gaining good judgment of the engineering principles needed to size, select, install and adjust control dampers.

*Dampers and Airflow Control* is geared toward mechanical designers; mechanical and control contractors; and testing, adjusting and balancing (TAB) contractors. Additionally, the content material helps to bridge the gaps that exist between disciplines.

In the past, articles on indoor air quality, for example, dictated *which* actions to take but offered few suggestions for *how* they should be taken. This book addresses how to apply dampers within systems to achieve clearly defined goals.

*Dampers and Airflow Control* may be purchased for $89 for non-members, $75 for 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, or visit www.ashrae.org/bookstore.

**ASHRAE Receives NIST Grant to Study IAQ in Retail Stores**

ASHRAE has been awarded $1.5 million dollars in grant money from the National Institute of Standards and Technology (NIST) to conduct a three-year research project on ventilation and indoor air quality in retail stores.

ASHRAE's project, *Ventilation and Indoor Air quality in Retail Stores*, is one of 27 projects funded by NIST for measurement science and engineering research. The NIST Measurement Science and Engineering Research Grants Program, made possible through the American Recovery and Reinvestment Act provides $34.12 million in grants at higher-education, commercial and nonprofit organizations in 18 states. The project will be conducted through ASHRAE's research program.

"ASHRAE thanks NIST for recognizing the great need for more information on ventilation and IAQ in retail stores," Society president Gordon Holness said. "The data gathered through this project will benefit not only the industry but the general public who work and shop in retail stores around the world."

Currently, there is little published information about air quality and ventilation rates in retail spaces in the United States—ventilation requirements for retail and other space types have been set largely by data for commercial office buildings.

Given that there are some 14.6 billion $ft^2$ of retail space in the United States where people shop up to 24/7, it is vital that ventilation systems operate as efficiently as possible while maintaining good indoor air quality.

Through this study, ASHRAE is seeking to improve the energy efficiency of ventilation systems in retail stores while maintaining air quality by establishing a method to determine the relationship between ventilation rates and IAQ, using measured ventilation and pollutant concentration data. Specifically, the project will provide a quantitative basis for improving energy efficiency, while maintaining air quality, by increasing maintenance frequency and reducing ventilation rate requirements.

Existing pollutant and ventilation rate data, on which ventilation requirements for retail spaces are based, largely come from measurements in office buildings, which may not be appropriate. The project will conduct measurements in up to five retail building types: general merchandise, department, supermarket, restaurant, and home improvement/hardware.

Holness noted that the results will provide a more rigorous basis for the ventilation rate requirements in retail spaces and provide incentives for improved maintenance if it can be shown that clean and dry spaces will lead to lower pollutant concentrations and improve the perception of good air quality.

Ultimately, the project will establish a methodology for collecting real world ventilation and air quality data.

Founded in 1901, NIST is a non-regulatory federal agency within the U.S. Department of Commerce. NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards and technology in ways that enhance economic security and improve our quality of life.


Wasn't Able to Attend the ASHRAE Winter Meeting?

Sign up for the Virtual Conference

All conference papers (audio and video) will be online
and available 24/7 for at least the next year

http://www.ashrae.org/events/page/1337

## NJ ASHRAE CHAPTER – SCHOLARSHIP REQUIREMENTS

By: Jim Sarno, PE

If you work with or know of a student who is enrolled in an HVAC program and is interested in applying for a scholarship, have them review the information below and apply if they meet the requirements.

**High School Seniors:**

High School seniors that have been accepted into a Mechanical Engineering Degree Program at a college, university or technical school.

**Students Enrolled In Two-Year Program:**

- The must be full or part-time students who have complete a minimum of 25% of the required curriculum.
- They must be students in a curriculum that grants an AAS degree, [preferably in HVAC&R technology, that includes at least two (2) courses in this discipline.]
- They must have a Quality Point Index higher that 3.0. They shall direct the School to forward a certified copy of their academic transcript directly to the committee. They must sign a release form that permits the Selection Committee to examine their academic transcript.
- The Chair of their department or their Academic Advisor must provide a letter of recommendation for the award.

They must complete and submit a minimum 500-word essay describing their educational goals and objectives, and how they expect their career to evolve.

**Students Enrolled In Four-Year Programs:**

They must be full or part-time students who have completed a minimum of 25% of the required curriculum.
They must have successfully completed either:

25% of a curriculum that grants a Bachelor's degree in which the student has successfully completed at least
two (2) courses in HVAC&R fundamentals and exhibits a sincere interest in pursuing an HVAC&R related career.

They must have a Quality Point Index higher than 3.0. They shall direct the school to forward a certified copy of their academic transcript directly to the committee. They must sign a release form, which permits the selection Committee to examine their academic transcript.
The Chair of their Department or their Academic Advisor must provide a letter of recommendation for the award.
They must complete and submit a minimum 500-word essay describing their educational goals and objectives, and how they expect their career to evolve.

**Graduate Students:**

- They must be a full-time student enrolled in a HVAC&R related program.
- They must have a Quality Point Index higher that 3.0. They shall direct the School to forward a certified copy of their academic transcript directly to the committee. They must sign a release form that permits the Selection Committee to examine their academic transcript.
- The Chair of their department or their Academic Advisor must provide a letter of recommendation for the award.

They must complete and submit a minimum 500-word essay describing their educational goals and objectives, and how they expect their career to evolve.

**General Requirements:**

Applicant shall live and/or be matriculating at a school in the NJ ASHRAE region.

Relatives of ASHRAE members shall be eligible to apply for and be considered for scholarships.

## ASHRAE Technology Awards Highlight Outstanding Building Projects

Designers of systems for two office buildings, a warehouse and college library are recognized by ASHRAE for incorporating elements of innovative building design.

First place recipients of the ASHRAE Technology Awards were recognized at the Society's 2010 Winter Conference, held this week in Orlando, Fla. The recipients have applied ASHRAE standards for effective energy management.

The following are summaries of the winning projects.

The Terry Thomas

Michael Hedrick, Thomas Marseille, P.E. and Long Lam; Stantec Consulting; Seattle, Wash. receive first place in the new commercial buildings category for a four-story office building, the Terry Thomas, Seattle, Washington.

The Terry Thomas is the first modern Class A office building to be built without mechanical cooling in the Puget Sound region in decades. Shading, daylighting, building form and structure and other load reduction strategies were critical to the successful implementation of a passive cooling strategy. The use of natural ventilation, along with a hydronic heating system, has drastically reduced the energy consumption of the building to 45.9 kBtu/sf-year, 53 percent better than the average office. Additionally, the building includes: automated external blinds controlled by meteorological conditions; motorized louvers controlled by $CO_2$ sensors during the heating season and thermostats in the cooling season; integrated building design for passive cooling, daylight and occupancy; and waterless urinals and dual-flush water closets

Sobey's Warehouse

Martin Roy, P.Eng.; Martin Roy et Associés, Inc.; Deux-Montagnes, Québec, Canada, receives first place in the industrial facilities or processes category for Sobey's Warehouse, Trois-Riviéres, Québec, Canada.

A refrigerated warehouse in Trois-Riviéres can be a very chilly place when winter comes around; that's why Roy worked to balance keeping the warehouse cold and its employees warm and comfortable, all while saving energy. An ammonia central chiller and glycol secondary distribution fluid system keeps the warehouse at 39 degrees Fahrenheit (4 degrees Celsius), and can operate in free cooling mode by using the thermosiphon principle. Ammonia is one of the best refrigerants to get high efficiency and has non-ozone depleting potential and zero global warming potential. Heat rejection from the warehouse chiller occurs simultaneously with space heating the office and common spaces. These spaces are also heated by a hydronic radiant floor and cooled by fan-coils. Additionally, the warehouse includes daylighting and occupancy detectors to control high efficiency lighting fixtures and treats all of its water on-site using constructed wetlands

IDeAs Design Facility

Peter Rumsey, P.E., Fellow ASHRAE; Rumsey Engineers; Oakland, Calif. receives first place in the existing commercial buildings category for his remodel of a one story office building, IDeAs Design Facility, San Jose, California.

Rumsey's work on a California electrical engineering consulting firm's offices resulted in one of the world's first net-zero-energy and zero-carbon-emission buildings. The 7,200 sq. ft. commercial office building was designed to meet 100 percent of its net energy requirements using renewable energy from photovoltaics. A topping slab was designed containing cross linked polyethylene radiant tubing for both heating and cooling; using water to convey heating and cooling through a radiant system uses less energy to provide the same amount of conditioned air than a forced air system. Daylighting and natural ventilation is provided by a 45 ft. long south-facing operable glass door façade between the building and the courtyard, as well as multiple skylights. The building showed a 43 percent reduction in energy use from California's Title 24 and a 60 percent reduction from ASHRAE Standard 90.1-1999. In the spring of 2009, the building generated more energy than it consumed.

The Richard J. Klarcheck Information Commons Building

Donald McLauchlan, P.E., Steven Maze and David Lavan; Elara Energy Services, Inc.; Hillside, Ill. receive first place in the new institutional buildings category for the Richard J. Klarcheck Information Commons Building at Loyola University, Chicago, Illinois.

The Loyola's Information Commons Building, located on the shores of Lake Michigan, combines state-of-the-art mechanical systems and striking architectural features; glass exposures on the east and west sides allow views through the building to the lake. Effective natural ventilation is provided throughout the open areas due to automatically controlled operable windows on the east façade and inner windows on the west double façade. Dual path custom designed air handlers were installed to incorporate multiple functions depending on the building mode of operation. The contoured ceiling consists of coffered pre-cast concrete panels with cross linked polyethylene tubing set just below the surface; the system was designed to meet 60 percent of the design sensible cooling load. The exceptionally innovative design is a result of a fully collaborative approach by the Architect, Structural Engineer, MEPFPIT Engineer and Klimaengineer.

**Slash Urban Energy Use: ASHRAE Conference Offers Guidance on Cutting Energy Waste**

Bright lights, big cities translate into high energy use and cost.

Cities contribute to 67 percent of the world's primary energy demand, according to the 2008 World Energy Outlook published by the International Energy Agency. The Agency shows that cities emitted 19.8 gigatones of $CO_2$ from energy use in 2006, which is 71 percent of global energy related $CO_2$ emissions. Both of those percentages are expected to increase in the future.

To guide the building community and government in reducing energy use, ASHRAE is hosting *Existing Buildings in Urban Areas: Dramatically Cutting the Energy Waste*, a conference that will address theoretical and practical matters associated with major improvements in the energy efficiency of existing buildings.

The conference takes place April 19-20, 2010, at the Grand Hyatt in New York, N.Y. To register or for more information, visit www.ashrae.org/cutenergywaste. Registrations costs are $700 ($620 ASHRAE members) for advanced registration; $800 ($720 ASHRAE members) for on-site registration.

"The greatest opportunity to change energy consumption in the built environment is through modification of existing buildings," Michael Bobker, chair of the conference, said. "Only 2 percent of building stock is built new each year, so the focus must be given to the 98 percent of existing buildings if we are to reach the much-needed worldwide reduction in energy consumption for which we have been striving."

The conference addresses investment and financial decision-making, effective public policies, and necessary technical steps (energy audits, commissioning, retro-commissioning, benchmarking of utility consumption and design and construction of energy related problems).

It is divided into two tracks: technical and policy and management. Technical sessions include *The Engineering Process: Getting It Right*; *Urban Challenges to Net-Zero-Energy*; *Necessary Things: When the T-5 Upgrade Just Isn't Enough*; *Engineering Strategically with Models; Engineering Solutions for Tenancy and Metering Issues*; *and Building Performance and IEQ: Saving Energy While Enhancing Service Quality*. Policy and Management sessions include *The International Urban Challenge: Bringing Stakeholders Together*; *Energy Accountability: You Can't Control What You Don't Measure; What is Working: Tales from Around the World on Existing Building Energy Performance*; *Real Estate Decision-Making: Bridging the Gap Between Engineers and Decision Makers*; *Training and Education: Getting Staff Right*; and *Getting Energy Into Green Leases: A Mock Green Lease Negotiation.*

**13th Annual Sweetheart Ball to Honor Carol Stillwell, longtime NJ ASHRAE member**

Join NJ ASHRAE in congratulating Carol Stillwell of Stillwell-Hansen, Inc., who will be honored at Jersey Shore Medical Center's Annual Sweetheart Ball. Carol will be receiving the William C. Black Award of Hope for her generous contributions to the hospital.

For additional information about reserving your ticket, please contact Michelle Casserly, Special Events Coordinator at 732-751-5112 or email to: mcasserly@meridianhealth.com

## Lighting the Path to Energy Efficiency: Changes Proposed for Standard 90.1

From green roofs to glazing products, measures to increase energy stringencies are being proposed for major sections of Standard 90.1.

ANSI/ASHRAE/IESNA Standard 90.1-2007, *Energy Standard for Buildings Except Low-Rise Residential Buildings,* provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings. Currently, nine proposed addenda to the standard are open for public review.

Proposed addendum *by* would establish revised lighting power densities for both the whole building and space-by-space compliance methods. The addendum would reduce lighting power allowances in many building and space types while maintaining industry recommended lighting levels as their basis.

"This will encourage designers to use more efficient lighting technology applications that provide more light without using more energy, which will require more thought at the design phase," said Eric Richman, chair of the 90.1 lighting subcommittee. "Additional proposed daylighting control requirements will also encourage them to incorporate effective daylighting and corresponding electric lighting control into their designs."

Changes also are being proposed to the envelope section, including addendum *f*, which sets requirements for high albedo roofs. This proposal recognizes a number of roof construction strategies that result in reduced buildings loads.

Other proposed changes to the envelope section are addenda *cl* and *cm*, both of which address glazing products. Addendum *cl* would clarify how to interpret the use of dynamic glazing products that are designed to vary a performance property vs. having just a single value. As the ratings for these products give a range of performance values, designers and code officials require an interpretation on what to use for compliance with the standard. Addendum *cm* clarifies how to interpret the use of dynamic glazing products given the requirements in proposed addendum *bb*, which would update building envelope requirements for opaque elements, such as walls and roofs and fenestration.

In the mechanical section of the standard, a proposed addendum, *ck*, expands the zone control demand control ventilation to include system level strategies to reduce ventilation during system operation.

The remaining addenda – *cg, ch, ci* and *cj* – would make modeling defined by Section 11 and Appendix G of the standard consistent with other addenda that have modified Sections 6-9. These modifications include daylighting, dual minimum controls, cooling towers and data centers.

The proposed addenda to ASHRAE/IESNA Standard 90.1 are available for comment only during their public review period. To read the addenda or to comment, visit www.ashrae.org/publicreviews.

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## BUSINESS CARD ADVERTISEMENTS



**If you would like to submit project or technical articles for the *THERMOGRAM* or if your would like to place an advertisement, please contact Jori Fahrenfeld @ 609-520-1600 or via email Jori.Fahrenfeld@Emerson.com for further details**