# AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS INC.

LONDON CANADA CHAPTER #116

http://LondonCanada.AshraeChapters.org **Mon Feb 25/2013**



Topic

## LOW IMPACT MECHANICAL SYSTEMS

Speaker

**TIM McGINN, P.Eng**
**Partner, DIALOG, Calgary, AB**
**ASHRAE Distinguished Lecturer,**
**Participant of 2012 Webcast**

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## Meeting - Mon Feb 25/2013

## BEST WESTERN LAMPLIGHTER INN

591 Wellington Rd, London

5:30pm Social 6:00pm-Dinner
7:00pm to 8:00pm - Program

ADVANCED PAYMENT BEFORE MEETING
by using PAYPAL
use chapter web site to register and pay
http://LondonCanada.AshraeChapters.org

$50 Nonmembers and Guests
$50 CASH AT DOOR (if not preregistered)
$40 London Chapter Member or $250.00 for meal plan
$10 for Students

## ***Presidents Message***

Just when you thought the snow was going to stay away it raised its ugly head again last week. I guess winter is not over yet, which is great news for those who like to ski or snowboard (myself included).

I would like to start off by thanking Michael Wymant for being our Guest speaker last month.

This month our special guest speaker will be Tim McGinn, P.Eng from DIALOG, Calgary, Alberta and he is an ASHRAE Distinguished Lecturer. He will be talking about “Low Impact Mechanical Systems”. The meeting this month will be at the Best Western Lamp Lighter Inn and will be located in the Chelsea Ballroom on Monday Feb 25th.

As a chapter we will also be doing a separate talk to the Western University students. Tim McGinn, P.Eng, has agreed to give a separate lecture directly to the students on Green Building Primer. The session provides an introduction to how the integrated design process is applied to the design of green buildings.
Topics covered include:

- What is Green Design and how does it differ from sustainable design.
- What are Green Building metrics and why do they matter.
- What are the three key steps of Low Energy Design.

Case studies highlight techniques used to increase the sustainability of green buildings including; high performance envelopes, glass selection, solar shading, passives solar harvesting, daylighting design, using thermal mass, natural ventilation, underfloor and displacement ventilation.

On April 18, 2013 there is an ASHRAE webcast - Assessing Building Energy Performance from Principles to Practice
This webcast will feature industry experts who will explain the importance of building energy performance and its far-reaching implications in both new and existing buildings. Viewers will also learn about the various tools and approaches that are available, as well as the many opportunities that assessing building energy performance presents. This FREE webcast program will broadcast live via the internet. Watch our local ASHARE London website (http://londoncanada.ashraechapters.org) for more information about the program, speakers, and registration.

Again I look forward to seeing everyone on the 25th at the Best Western Lamp Lighter and if you know someone who would be interested in attending this talk please ask them to come out to help support the local chapter, as we have booked a much larger room than normal in anticipation of a very good turnout.

Karl Gilroy
Kgilroy@ehpricesales.com
ASHRAE London Canada Chapter (116) President 2012-2013

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Upcoming Meetings

March 25, 2013
Speaker: Andrew Bonnema, Somers Environmental
Topic: Commercial and Industrial gas venting systems in Ontario

April 18, 2013 1:00 - 4:00pm
Webcast: Assessing Building Energy Performance: From Principles to Practice

April 22, 2013
Technical Tour – New Ivey Building

June 3, 2013
ASHRAE London Annual Golf Tournamant
FireRock G&CC

*Speaker Bio's*

## ***Tim McGinn, P.Eng.***
## ***Partner, DIALOG***
## ***Calgary, AB, Canada***

Mr. McGinn's combined mechanical and electrical degrees, and his LEED® accreditation, put him in a unique position. He has extensive experience in designing mechanical and electrical systems for complex projects but his real passion is a specialization in designing low impact/low energy mechanical and electrical systems for green buildings. As a result, Tim is a frequent lecturer on Green Buildings throughout North America. He is also an outspoken proponent of the Integrated Design approach and often leads project teams through the integrated design and LEED Certification processes. Tim is based in Calgary and is a partner in a 300 person AE firm with offices in Calgary and Edmonton, AB and Toronto ON.

Mr. McGinn is an experienced project manager and mechanical designer having been involved in major new building projects and significant renovations and planning projects for over twenty-five years. He is also experienced in the analysis and design of central heating and cooling plants, industrial refrigeration, process utilities and large piped distribution systems.

His green building design expertise includes passive evaporative cooling, indirect evaporative cooling, displacement and underfloor air system, natural and mixed mode ventilation, solar chimneys, solar air preheating, grey water reuse and passive solar heating.

Mr. McGinn is a LEED Accredited Professional and graduated with Electrical and Mechanical Engineering Degrees from University of Saskatchewan with twenty five years experience as a consulting engineer.

## ***Low Impact Mechanical Systems***

Once the building mass, orientation and envelope is optimized and the building loads have been reduced to significantly below conventional values, mechanical system selection choices can include both downsized conventional systems and a number of low energy mechanical systems, many of which have been used in Europe for years. The author will show the design basis of North American examples of buildings conditioned with radiant chilled slabs, displacement ventilation, underflow air and multi-stage evaporative cooling integrated with hybrid natural ventilation. Advantages in comfort, ventilation effectiveness and energy effectiveness will also be highlighted.

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## ***Green Standard Is Red-Hot Topic***

Distinguished Lecturer David Underwood, P.Eng., Fellow/Life Member ASHRAE, writes that he has noticed that ANSI/ASHRAE/USGBC/IES Standard 189.1-2011, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings, and its application is a topic that attracts considerable interest. Underwood adds that it appears that the appetite for information about the topic is based on interest in sustainable design, interest in containment of energy cost and sincere interest in interdisciplinary collaboration.

Read More: http://listman.ashrae.org/t/5647881/19056661/6048/46/

## FREE ASHRAE WEBCAST

SAVE THE DATE - April 18, 2013 1:00 pm - 4:00 pm EDT

Assessing Building Energy Performance:
From Principles to Practice

This webcast will feature industry experts who will explain the importance of building energy performance and its far-reaching implications in both new and existing buildings. Viewers will also learn about the various tools and approaches that are available, as well as the many opportunities that assessing building energy performance presents.
This FREE webcast program will broadcast live via the internet.

Visit www.ashrae.org/ABEPwebcast for additional information about the program, sponsorships, continuing education credits, speakers, and registration.



## London ASHRAE Membership

As always, the local London chapter encourages all current members to seek out anyone who may benefit from the knowledge, experience and relationships gained from being part of ASHRAE. If there is anyone who is interested or has further questions regarding new membership please refer them to myself.

We also encourage members who are eligible to advance forward from their associate's membership. Please contact myself if you are currently and associates member with 12 or more years' experience in the industry.

Mike Piluk
Chapter Membership Chair 2012/2013
ASHRE London Canada Chapter

## NEW PAYMENT OPTION

The chapter is trying out using PAYPAL for meeting payments. This will allow you to use a credit card to pay before the meeting and will assist in getting a count for room set. Please use the system to register and pay before the meetings.

## ***Protocols for Performance Measurement Published***

ATLANTA Tools and techniques for measuring, managing and improving the performance of a facility as demonstrated by its energy and water use and indoor environmental quality, are contained in a new guide.

"This is the book that facility managers, building operators, technicians, consultants, commissioning authorities, architects and design engineers need to ensure that their buildings are green, energy efficient, highly productive, healthy and attractive to others," Jim Bochat, chair of the project committee that wrote the book, said. "This Guide gives building owners and their consultants the practical performance measurement guidance to meet market demands for keeping operating costs down without sacrificing the health, comfort and productivity of their highest cost component—the building's occupants."

"Performance Measurement Procedures for Commercial Buildings: Best Practices Guide" serves as the how-to guide for continuously evaluating and improving the performance of commercial buildings throughout their service life.

Published by ASHRAE and funded in part through a grant from the National Institute of Standards and Technology, the book provides specific best practices in the areas of energy use, water use and four elements of indoor environmental quality (IEQ): thermal comfort, indoor air quality (IAQ), lighting/daylighting and acoustics. Using this guidance, owners can be proactive on an ongoing basis to reduce costs through measurement and verification of their buildings' environments.

The book is a companion to the 2010 publication, "Performance Measurement Protocols for Commercial Buildings," which identifies what to measure, how to measure it and how often it is to be measured for inclusion in buildings' operation and maintenance plan.

The Guide presents step-by-step procedures at three process levels of performance,
which are intended to match the level of cost and intensity of effort for a range of types and sizes of facilities. An accompanying CD contains a report template and standardized forms, worksheets and checklists for use by the building in implementing the procedures.

For example, the three process levels of performance for energy are:

- The Basic Evaluation level reduces energy consumption and cost through the elimination of wasted energy and the improvement of system and equipment operation. Measurement focuses on energy bill analysis and a facility walk-through inspection (ASHRAE Level I energy audit) to identify obvious energy waste and low-cost or no-cost improvements; no additional measurement is conducted. This level does not require an outside specialist or professional.
- In Diagnostic Measurement, energy performance measurements include sub-metering of major end uses and specific components, along with the equivalent of an ASHRAE Level II energy audit. The audit task requires the use of physical measurement and instruments, augmented by calculations, by a person experienced in energy use and cost analysis measures. Energy efficiency measures having a simple payback of three to five years are identified.
- At the Advanced Analysis level, evaluation focuses in-depth on specific systems and equipment so as to determine the location and cause of energy use problems. The approach is to compare detailed interval data to self-reference benchmarks that indicate how the systems and equipment should be operating, in the specific application or operational context. The first step is to engage a consultant to identify which systems are to be monitored and how.

Other examples of performance measurement protocols are:

Water Assessment

An Advanced Analysis water assessment involves detailed water use readings and advanced usage analysis, normally employing a specialist or consultant. Sub-meters are used for cooling towers and boiler make-up water, process water, cleaning water and recycled and/or harvested rainwater. Recommendations for water use improvement are developed.

Thermal Comfort

Basic Evaluation activities for thermal comfort provide a non-specialist with tools for determining whether perceived thermal comfort is adequate or whether there are deficiencies that can be corrected without the need for physical measurements. Evaluation activities include occupant surveys and field observations gathered by building walk-throughs.

Indoor Air Quality

For Diagnostic Measurement, building data are gathered to identify the location and cause of problems, as they have been identified by occupant surveys or complaints; measurements are not conducted at this level. If IAQ problems are confirmed but cannot be remedied by simple measures, users are referred to the Advanced Analysis phase where an expert is retained to investigate. Outside air rates should be measured for each ventilation system. Room humidity, exhaust airflow direction and filter pressure drop are tested.

Lighting

At the Advanced Analysis level recommended activities require the services of a professional with lighting/daylighting expertise. Performance measurement consists of surveying the building occupants regarding satisfaction with lighting/daylighting and using the walk-through checklist in Appendix A. Issues related to lighting and control, daylighting methods and controls, visual activity, methods of measurement and energy use are addressed.

Acoustics

Diagnostic Measurements are taken to diagnose the extent of dissatisfaction identified in the Basic Evaluation. Building operators without personnel skilled in sound level measurements should proceed to the Advanced Analysis level and seek outside professional services. Dissatisfaction related to background and intruding noise typically requires A-weighed, equivalent sound pressure level measurements.

The cost of "Performance Measurement Procedures for Commercial Buildings: Best Practices Guide" is $99 ($84 ASHRAE members).

To order, contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax : 678-539-2129, or visit www.ashrae.org/bookstore.

## *Return to Dallas Sees High Attendance, New Technology at ASHRAE Conference*

ATLANTA –From technology in the palm of your hand to technology from around the world, the ASHRAE Winter Conference brought attendees all the latest updates in the building industry.

Some 2,840 people attended the Conference, held Jan. 26-Jan. 30, in Dallas, Texas. Attendees came from around the globe, including India, Latvia, Romania, Thailand and even Uganda, to name just a few.

Also taking place in conjunction with the Conference was the ASHRAE co-sponsored Air-Conditioning, Heating, and Refrigerating Exposition, which set new all-time records for a Southwest Show. The Expo attracted 51,337 attendees, including nearly 34,000 visitors. The Show also saw the most exhibitors, 1,951, and largest square footage, 397,000 sq. ft., for any Southwest Show.

New to the Conference was the ASHRAE Event App. Some 2,000 Conference attendees accessed education courses and social events with the touch of a button; had maps and floorplans in hand to find their way around; added sessions to their personal schedules and created one-touch custom agendas of events from their smartphones and tablets.

The Winter Conference technical program featured nearly 200 presentations, with the top attended session in the systems and equipment, facility management, energy conservation and fundamentals and applications tracks. The top-attended sessions were Introduction to the ASHRAE/REHVA Chilled Beam Design Guide; Desiccant Enhanced Air Conditioning; The FM Perspective: Reducing Energy Consumption and the True Cost of Maintenance; Innovative Energy Efficiency Strategies for Commercial Buildings; and Decoupling the Latent Load Through Psychrometrics.

Other Conference highlights included the Technical Plenary, which drew 330 attendees, with its focus on ethics and engineering.

These, and additional sessions, from the Technical Program are part of ASHRAE's Virtual Conference, which provides access to more than 250 presentations. Register or access presentations at www.ashrae.org/dallasvirtual.

The Conference offers an opportunity for ASHRAE to strengthen its relationships with other associations from around the world. ASHRAE took advantage of the diverse group of attendees to sign Memorandums of Understanding (MOU) with the Council of American Mechanical and Electrical Engineers (CAMEE); the National Association of State Energy Officials (NASEO); and the Society of Heating, Air-Conditioning and Sanitary Engineers of Japan (SHASE). The Society also signed a Mutual Recognition Agreement (MRA) with the Chartered Institution of Building Services Engineers (CIBSE). The MOUs and MRA highlight the shared goals of ASHRAE and the organizations and promote mutually beneficial partnerships between the signing parties.

ASHRAE also furthered its existing relationship with the United Nations Environment Programme (UNEP), launching its third biennial Work Plan for 2013-2014, based on a global cooperation agreement signed in 2007.

Also offered were five Professional Development Seminars and 14 short courses from the ASHRAE Learning Institute (ALI). The most popular courses were Energy Management in New & Existing Buildings; Humidity Control Applications, Control Levels and Mold Avoidance; and Laboratory Design: The Basics and Beyond. Additionally, ALI offered a special session of its in-depth HVAC Design: Level I—Essentials training. The session was held Jan. 30-Feb. 1 and saw 39 attendees.

Top selling publications included "Performance Measurement Protocols: Best Practices Guide;" "Handbook of Smoke Control Engineering;" "Thermal Guidelines for Data Processing Environments, 3rd edition;" Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings; "A Practical Guide to Seismic Restraint, 2nd edition;" "ASHRAE Papers CD: 2013 ASHRAE Winter Conference;" and Standard 90.1-2010 User's Manual.

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## *ASHRAE Publishes Revised Filtration Standard; Combines Standard 52.1 and 52.2*

ATLANTA A newly revised filtration standard from ASHRAE combines two standards setting the path to improve the technical accuracy of filter testing.

ANSI/ASHRAE Standard 52.2-2012, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size, establishes a test procedure for evaluating the performance of air-cleaning devices as a function of particle size. The publication marks the first time Standard 52.2 has been published combining Standard 52.1, Gravimetric and Dust Spot Procedures for Testing Air Cleaning Devices Used in General Ventilation for Removing Particulate Matter.

"Combining the two standards provides a clean slate to begin significant changes regarding making the method much more technically accurate," Robert Burkhead, chair of the Standard 52.2 committee, said. "Specifically, we have plans in motion to change the MERV (minimum efficiency reporting value) table ranges, narrow the ambient conditions allowed and further refine the instrumentation specifications all in an effort to reduce the variability of the data product from the standard."

Standard 52.2 now incorporates the Standard 52.1 sections on arrestance and dust-holding capacity; and also adds a new informative appendix, Appendix J, that provides an optional method of conditioning a filter using fine potassium chloride particles to demonstrate efficiency loss that might be realized in field applications.

The standard addresses three air-cleaner performance characteristics of importance to users: the ability of the device to remove particles from the airstream, the total dust holding capacity with arrestance (weight efficiency) and its resistance to airflow, according to Burkhead.

The cost of ANSI/ASHRAE Standard 52.2-2012, Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size, is $54 ($46 ASHRAE members).

## Proposed ASHRAE Standard on Prevention of Legionellosis Open for Third Public Comment

ATLANTA—Changes to clarify requirements in a proposed standard to prevent legionellosis associated with building water systems are open for public comment from ASHRAE.

Standard 188P, Prevention of Legionellosis Associated with Building Water Systems specifies what must be done to control the spread of legionellosis. The standard helps facility managers/owners understand how to apply the available information on Legionella effectively in order to prevent cases of legionellosis associated with building water systems.

The proposed standard underwent an earlier public review in June 2011 and is currently open for a third public review from Jan. 25-March 11, 2013. For more information, visit www.ashrae.org/publicreviews.

William McCoy said the committee received more than 150 comments during the 2011 review. The input helped the committee in clarifying many aspects of the standards. Changes being proposed to the third review based on that input, include:

- Clarifications made to definitions in Section 3, Definition of Terms and a new term was defined.
- Clarifications made to Section 5, Risk Characterization. Those changes were substantive because building characteristics were reorganized into two subsections for clarity, subsections 5.2 and 5.3.
- Reorganization of Table 1, Determining Preventative Measures Required for Buildings. The improvements reference two subsections of Section 5 (Sec 5.2 and 5.3).
- Creation of a new subsection, 7.4, Water System Treatment and Management Program, in Section 7. Commenters indicated there should be specifications for a “water system treatment and management program” for buildings with none of the risk characteristics (now listed in Sec 5.2) but with any of the equipment specified (now listed in Sec 5.3),.
- Clarifications to Section 8 regarding wording, references, cited regulations and informative notes.

Compliance with the standard requires facility managers/owners to formally take responsibility for controlling Legionella in their building water systems, while at the same time acts as a defense against accusations of negligence in those cases which are caused by the hazard from unknown sources.

Standard 188P also covers the potable water system in buildings, which are not treated as often as cooling towers, and will hold facility managers/owners accountable for properly managing the entire building water system both potable and utility water.

The standard differs from ASHRAE Guideline 12, Minimizing the Risk of Legionellosis Associated with Building Water Systems, in that while the guideline gives recommendations about how to treat various building water systems, the standard specifies the practice of exactly what must be done with all those recommendations.

## ASHRAE and UNEP Strengthen Global Cooperation; Launch 2013-2014 Biennial Work Plan

ASHRAE and the United Nations Environment Programme (UNEP) have launched their third biennial Work Plan for 2013-2014, based on a global cooperation agreement signed in 2007, at ASHRAE’s 2013 Winter Conference held in Dallas, Texas, Jan. 26-30, 2013.

The ASHRAE-UNEP cooperation agreement was developed to achieve several international goals, including the sustainable phase-out of Ozone Depleting Substances (ODS) in refrigeration and air-conditioning applications; maximizing the climate benefits of using zero ODS alternatives including aspects of energy saving in buildings; as well as facilitating the transfer and adoption of suitable technologies in developing countries.

The new work plan covers the 2013-2014 timeframe with an objective of increasing cooperation between ASHRAE and UNEP by transferring relevant technologies amongst different regions and continents. The plan is prepared based on success achieved and lessons learned from the implementation of two previous work plans.

The new work plan includes two main goals and several relevant actions. The first goal, which addresses emissions reduction, long-term refrigerants and energy efficiency in buildings, includes five different actions. These actions address promoting research of long-term refrigerants, building knowledge of specialists about refrigerants through education and certification, developing a specialized guide for refrigeration installations and coordinating efforts in the area of energy efficiency in buildings.

The second goal aims at promoting expertise and technological information exchange to governments and specialists dealing with ASHRAE and UNEP, developing a regional roaster of experts, establishing an international advisory team to assist developing countries in instituting/updating relevant standards and codes, as well as developing joint online tools and a forum for partners and stakeholders, allowing for better communication and dissemination of related information.

The ASHRAE-UNEP coordination team will continue its work to oversee sound implementation of the work plan and facilitate the involvement of ASHRAE chapters around the world as well as UNEP regional teams.

# *ASHRAE Recognizes Outstanding HVAC&R Industry Achievements*

DALLAS– Forty people were recognized by ASHRAE for their contributions to the Society and the building industry at the Society's 2013 Winter Conference held here Jan. 26-30.

The F. Paul Anderson Award, the Society's highest honor, is awarded for notable achievement of outstanding services performed in the HVAC&R field. The recipient is Presidential Member Richard Rooley, F.R.Eng., Fellow ASHRAE, Life Member, ASHRAE-Certified Operations and Performance Management Professional.

The Hall of Fame, honors deceased members of the Society who have made milestone contributions to the growth of HVAC&R technology. The recipient is Wilbert F. Stoecker, Ph.D., P.E., Fellow ASHRAE, Life Member.

A new recognition from ASHRAE, the Pioneers of the Industry Award, honors deceased individuals who have made milestone contributions to the growth of air conditioning, heating, refrigeration and ventilations. The recipients are Gilbert Carlson, 1922-1994, who worked with hydronic systems, and William E. Fontaine, 1905-1993, who established the Ray W. Herrick Laboratories at Perdue University.

Fellow ASHRAE is a membership grade that recognizes distinction in the arts and sciences of environmental technology and is earned through achievement as a researcher, designer, educator or engineering executive. The Society elevated 11 members to the grade of Fellow ASHRAE:

Barney Capehart, Ph.D., is professor emeritus, College of Engineering, University of Florida, Gainesville, Fla.
Dale Carter, Life Member, is president and CEO, DEC Engineering, Vancouver, B.C., Canada
Thomas Durkin, P.E., is president and senior partner, Durkin and Villalta Partners Engineering, Indianapolis, Ind.
Mark Fly, P.E., is director of engineering, AAON, Inc., Tulsa, Okla.
Glenn Friedman, P.E., is principal, Taylor Engineering, Alameda, Calif.
Raymond Horstman, P.E., is associate technical fellow, environmental control systems, Boeing, Seattle, Wash.
William McQuade, P.E., director of technology and innovation, chiller solutions, Johnson Controls, York, Pa.
B.J. Melton, P.E., Life Member, is retired and lives in Richardson, Texas
Ross Montgomery, P.E., ASHRAE-Certified Building Energy Assessment, Building Energy Modeling and Commissioning Process Management Professional, is president and CEO, Quality Systems and Technology, Palmetto, Fla.
William Rose is senior research architect, Illinois Sustainable Technology Center, University of Illinois at Urbana-Champaign, Ill.
N. Vaidyanathan is managing director, Airfrige Eningeers, Chennai, India.

The ASHRAE Technology Awards recognize outstanding achievements by members who have successfully applied innovative building designs, which incorporate ASHRAE standards for effective energy management and indoor air quality. Six projects received first-place ASHRAE Technology Awards:

C-K Joseph Tai, P.E., Stantec Consulting, Inc., San Francisco, Calif., receives first place in the new commercial buildings category for the Research Support Facility, NREL, Golden, Colo. The building is owned by the National Renewable Energy Laboratory. Tai and his team also receive the Award of Engineering Excellence for their project. The recognition is given to the most outstanding project receiving a first-place Technology Award. It has only been awarded two other times, in 2000 and 2005.
Shawn Oram, Ecotope, Inc. Seattle, Wash. receives first place in the existing commercial buildings category for Rice Fergus Miller Office and Studio, Bremerton, Wash. The building is owned by Fifth Street Hilltop Partners, LLC.
Mark Koller, P.E., Interface Engineering, Portland, Ore., receives first place in the new educational facilities category for the design of the Portland State University Academic and Student Recreation Center, Ore. The building is owned by the University.
Jonathan Heller, P.E., Ecotope, Inc., Seattle, Wash., receives first place in the new other institutional facilities category for the design of the Eastside Fire and Rescue Station 72, Issaquah, Wash. The building is owned by the City of Issaquah.
Jeremy McClanathan, P.E., ASHRAE-Certified Building Energy Modeling and Healthcare Facility Design Professional, CDi Engineers, Lynnwood, Wash. Receives first place in the new health care facilities category for the Swedish Issaquah Hospital, Issaquah, Wash. The owner is Swedish Health System
André-Benôit Allard, Eng., Ecosystem, Québec City, Québec, Canada, receives first place in the existing public assembly category for the Montréal Biodôme, Quebec, Canada. The building is owned by Montréal Space for Life.

The ASHRAE Student Design Project Competition challenged teams of students to create an integrated sustainable building design, select HVAC&R systems or do HVAC system design calculations for the newly constructed Joe and Rika Mansueto Library located in Chicago, Ill. First place in HVAC System Design Calculations is awarded to John Bisacquino, Josh Dennis and Travis Westover of Temple University, Philadelphia, Pa. First place in HVAC System Selection is awarded to Alaina Booth, Adam Buck, Jami Harper, John May and Patrick MacBride of the University of Nebraska-Lincoln, Nebraska. First place in Integrated Sustainable Building Design is awarded to Dustin Altschul, Prathamesh Chakradeo, Ravik Chandra, Saikrishna Ganesan, Timothy Hertel, Varun Krishnan and Charles Stratton of the University of Cincinnati, Ohio.

The Refrigeration Comfort Cooling Award recognizes innovative and/or new technologies in comfort cooling applications and is award to Eric M. Fullerton, P.E., ASHRAE-Certified Healthcare Facility Design Professional, principal/project manager, TME, Little Rock, Ark.

The E.K. Campbell Award honors outstanding achievements by engineering educators and is presented by the ASHRAE Life Members Club. The recipient is Michel Bernier, Ph.D., P.Eng., professor, department of mechanical engineering, Ecole Polytechnique de Montreal, Quebec, Canada.

The John F. James International Award is given to an ASHRAE member who has done the most to enhance the Society's international presence. The recipient is Roberto Aguilo, P.E., president, Ing. Aguilo and Associates, Buenos Aires, Argentina.

The ASHRAE Award for Distinguished Public Service recognizes ASHRAE members who have performed outstanding public service in their community and, in doing so, have helped to improve the public image of the engineer. It is awarded to Harold Lewis, P.E., engineer, the Thermal Products Co., Cleveland, Ohio.