



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

LONDON CANADA CHAPTER #116

<http://LondonCanada.AshraeChapters.org>

Mon Feb 27/2017

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Topic

Impacts of Climate Change and Urbanization on Future Building Performance

Speaker

Drury B. Crawley, Ph.D

Director, Building Performance, Bentley Fellow
Bentley Systems, Inc.
Washington, DC

Meeting - MONDAY FEB 27/2017

RESEARCH PROMOTION NIGHT

5:15 Social 6:15 Dinner 7:15 Presentation

PLEASE USE

PAYPAL

ADVANCED PAYMENT BEFORE MEETING

see chapter web site to register and pay
<http://LondonCanada.AshraeChapters.org>

Meeting Location

FOUR POINTS by SHERATON
1150 Wellington Rd. S., London

President's Message

I hope everyone is enjoying the unusual, nonetheless nice February weather.

We are happy to co-host with the Windsor Chapter, for the second time this season, an ASHRAE Distinguished Lecturer. Our guest speaker and Distinguished Lecturer this month is Mr. Drury B. Crawley, Ph.D. Please refer to the first page of the newsletter for topic and location. In addition, Mr. Crawley will be giving a lecture on Standard 189.1 to the HVAC II class at Western during the day.

The theme for this month's chapter meeting is Research Promotion (RP). The London RP chair, Jordan Foster, along with the board of governors is working on reaching our goal of \$13,000. If you haven't contributed yet and would like to donate to this worthwhile cause, please follow the below link or contact Jordan Foster or myself if you need more information.

<https://xp20.ashrae.org/secure/researchpromotion/rp.html>

Registration information for our annual golf tournament will be sent out in the next few weeks. Please reserve your spot as soon as you can.

I look forward to see you all at the upcoming chapter Meeting.

Best Regards,
 Khalid El-Kadri
 Chapter President 2016-2017
 ASHRAE London Canada Chapter

Membership

Please welcome the following new members:

Kathleen Mayberry, EMCAD Consulting Engineers
 Aleksy W Chwiecko, Airia Brands Inc.
 Dan Romeo, ODell Associates
 Hugh Dwyer
 Sotirios Petrou, Ameresco
 Jameson Wood
 Simli Srivastava
 Ayo Abiola, Carmichael Engineering

If you know of someone that might be interested in ASHRAE Membership, please contact any of the chapter board members.

Andrew Crowley
 ASHRAE London Canada - Membership Chair

Upcoming Meetings

(check chapter web site for latest information)

Mon Feb 27/2017 - Impacts of Climate Change and Urbanization on
 Future Building Performance
 Mon Mar 27/2017 - Air Movement for Energy Efficient Comfort in Conditioned Spaces
 Thu April 20/2017 - Society Webcast
 Take Control: Using Analytics to Drive Building Performance
 Mon June 5/2017 - Golf Tournament

Other Meetings

June 24 to 28, 2017 = ASHRAE Annual Conference - Long Beach, CA
 Oct 19 to 22, 2017 = ASPE Technical Symposium - Montreal Quebec
 American Society of Plumbing Engineers (aspe.org)
 - 2018 -
 Jan 20 to 24, 2018 = ASHRAE Winter Conference - Chicago, IL
 Jan 22 to 24, 2018 = AHR Expo - Chicago, IL
 June 23-27, 2018 = ASHRAE Annual Conference - Houston, TX

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Meeting Topic

Impacts of Climate Change and Urbanization on Future Building Performance

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With the increasing interest in climate change driven by human activity, recent research has focused on the impact of climate change or urban heat island on building operation and performance across the world. But this work usually aggregates the energy and peak demand impacts across a broad sector. In a recent study, impacts on the operating performance of an office building were estimated based on climate change and heat island scenarios in 25 locations (20 climate regions). This presentation presents the variation and differences among the 20 regions when climate change is introduced. The focus is on changes in comfort conditions, building equipment operation as well as daily patterns of energy performance using prototypical buildings that represent typical, good, and low-energy practices around the world. Other issues such as fuel swapping as heating and cooling ratios change, impacts on environmental emissions, and how low-energy building design incorporating renewables can significantly mitigate any potential climate variation are also presented.

Speaker

Drury B. Crawley, Ph.D.

Director, Building Performance, Bentley Fellow
 Bentley Systems, Inc., Washington, DC



Dr. Crawley is Bentley Fellow and Director, Building Performance focusing on building performance, design, BIM, energy efficiency, renewable energy, net-zero-energy buildings, interoperability, sustainability, and resilience. Prior to joining Bentley in 2010, Dr. Crawley developed launched and managed the development of EnergyPlus and the USDOE's Commercial Buildings Initiative (now Better Buildings Initiative and Alliances) promoting creation of low- and net-zero-energy buildings.

With more than 35 years of experience in buildings energy efficiency, renewable energy, and sustainability, he has worked in engineering software development, government research and standards development organizations, as well as building design and consulting companies. He received his PhD in Mechanical Engineering from University of Strathclyde in Glasgow, Scotland on the topic of building simulation as a policy tool, looking at the potential impacts of climate change on the built environment. He received a Bachelor of Architecture from University of Tennessee and is a registered architect.

He is active in ASHRAE (Chair of Standard 169 Weather Data for Building Design Standards, member of Standards Committee, member of SSPC 189.1 (Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings), member of SSPC 140 (Standard Method of Test for the Evaluation of Building Energy Analysis Computer Programs), former member of the Technical Activities, Research Administration, Advocacy, and Grassroots Government Activities Committees, and past chair of TCs 2.8, 4.2, 4.7, and 7.1). He was made an ASHRAE Fellow in 2009, achieved the ASHRAE BEMP (Building Energy Modeling Professional) certification in October 2012, received the ASHRAE Exceptional Service Award in 2013, the ASHRAE Service to ASHRAE Research Award in January 2012, the ASHRAE Distinguished Service award in 2003 and a 1999 Symposium Best Paper Award for "Which Weather Data Should You Use for Energy Simulations of Commercial Buildings?"

He is also active in IBPSA (board member since 1998, Fellow in 2012, Regional Affiliate Liaison since 2006), IBPSA-USA (board member and treasurer since 2013), AIA, USGBC (vice chair of the Energy & Atmosphere TAG and former member of the Research Committee), and serves on the editorial boards of three international Journals. He has written more than 125 papers and articles, testified before the U.S. Congress, lectured at more than 20 universities, and made more than 400 presentations on building energy efficiency, sustainability, and renewable energy throughout the world. As an ASHRAE Distinguished Lecturer, he has given more than 100 presentations and workshops to more than 60 ASHRAE chapters throughout the world.



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CONNECT-A-COLLEAGUE

Informing colleagues about ASHRAE takes less than 1 minute now with Connect-a-Colleague. During #MarchIntoMembership contest you could win a \$500 American Express gift card when your colleagues join ASHRAE through your customized email referral. Connect-a-Colleague simply creates an automated email on your behalf and the more people you invite during the month of March, the more chances you have to win.

ASHRAE member referrals continue to be the top reason new members join. As an ASHRAE member, your referral is a very powerful tool that can benefit your colleagues, your Society, and the HVAC&R industry. Please take a minute to Connect-a-Colleague today.

Get started now: www.ashrae.org/connect

ASHRAE JOB BOARD

The updated ASHRAE job board is proving to be the new hot spot for connecting candidates and hiring managers. Over 1300 jobs are currently posted, and users can post resumes anonymously. Learn more

www.jobs.ashrae.org

Sign up for job alerts today on ASHRAE Job Board and you will be notified as soon as the jobs you want are posted!

Research

The following have contributed to ASHRAE Research so far this fiscal year. Honor Roll level contributors will be listed in the ASHRAE Journal. All honour roll donors will be listed in the Newsletter and on the website for the duration of the fiscal year. Donate early!

Individual Donors - \$100-\$249 (Honor Roll Level)

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ASHRAE Insights - Feb 2017 issue (check out page 3)



London Canada Chapter Recognizes Local 2015/201616 RP Donors

Visit: www.ashrae.org/contribute

Jordan Foster - Resource Promotion Chair FY2016/2017



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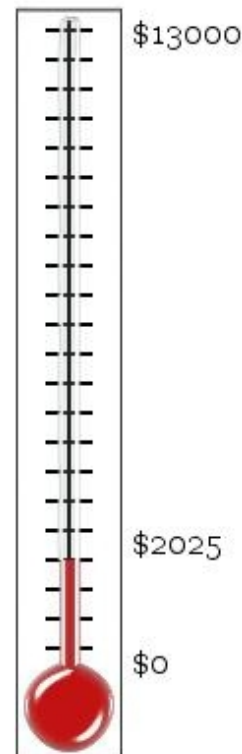
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SAVE THE DATE

ASHRAE Webcast - Thur April 20 **Using Analytics to Drive Building Performance**

FREE PDHs for your participation! The Webcast has also been approved for three (3) AIA HSW Learning Units (LU/HSW) and three (3) GBCI Continuing Education Hours (CEs).

This webcast will feature industry experts who will define the importance of, and why we should strive for, better building operations through improved controls and analytics. Viewers will be able to describe key elements of controls and analytics for building operations, and identify steps required to deploy analytics in building projects, including commissioning. This program will quantify how applying best practice controls improve building performance, and will recognize the value of analytics in building operations to achieve a reduced cost and increased performance.

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ASHRAE TORONTO <http://www.torontoashrae.com/>

THEME: Commissioning Services

Where: Parkview Manor, 55 Barber Greene Rd, North York ON M3C 2A1

When: March 6/2017 2:00 PM - 5:00 PM

A seminar on Improving Building Energy Performance jointly presented by the Eastern Canada Chapter of the BCA - The Building Commissioning Association, BOMA Toronto - Building Owners and Managers Association of The Greater Toronto Area and ASHRAE Toronto Chapter, focuses on five different perspectives of Commissioning Services:

DINNER MEETING

ASHRAE Toronto Chapter also invites you to Dinner Meeting, preceded by Networking Session and Presentation on Tips, Tricks and Techniques of Commissioning by David Underwood.

Where: Parkview Manor, 55 Barber Greene Rd, North York ON M3C 2A1

When: March 6/2017 5:00 PM - 9:00 PM Dinner and Presentation by David Underwood

Toronto HVAC Design Training May 2017

<https://www.ashrae.org/education--certification/hvac-design-and-operation-training/toronto-hvac-design-training-may-2017>

May 8 - 10, 2017 HVAC Design: Level I - Essentials

Bonus – Free Copy of ASHRAE Green Buildings Standard and User's Manual

May 11-12, 2017 HVAC Design: Level II - Applications

Bonus – Free Copy of ASHRAE GreenGuide: The Design, Construction, and Operation of Sustainable Buildings, 4th ed.

See web site for more information and registration (Early Bird Discount available up to April 8/2017)

2017 CAREER FAIR

Where: Centennial College, 941 Progress Ave, Toronto ON M1K 5E9

When: March 29th 9:00 AM - 1:30 PM

ASHRAExCHANGE

Want to stay updated with ASHRAE instantly? Log onto to ASHRAExCHANGE to ask questions, discuss industry news and connect with other engineers!



Las Vegas Proves Big Winner for ASHRAE, AHR Expo and Industry

ATLANTA – The 2017 ASHRAE Winter Conference and the AHR Expo saw record attendance with industry collaboration a strong focus of the events.

The 2017 ASHRAE Winter Conference took place Jan. 28-Feb. 1 at Caesars Palace with the ASHRAE co-sponsored AHR Expo held Jan. 30-Feb. 1 at the Las Vegas Convention Center. The two events exceeded their record-breaking attendance from the Conference and Expo that were held in Las Vegas in 2011.

In total, 3,579 people attended the Conference, making it the most well attended Winter Conference in recent years. The attendees represented 58 countries and included 537 first-timers.

The AHR Expo set several records, including attendance of more than 68,000 registered visitors and exhibitor personnel, as well as 500,159 square feet sold. The Show was by far the largest and best attended Expo in the Western states, with some 1,968 exhibiting companies.

The Conference also saw several collaborative efforts and agreements with associations and organizations from around the world.

“Partnering with allied organizations and associations better allows us to harness and adapt new technologies, which we can all use in working toward a more sustainable environment,” ASHRAE President Tim Wentz said. “By working together, we can create a worldwide best practices databank of innovative and successful technologies that can serve the built environment community.”

ASHRAE signed memoranda of understanding with several groups, including the United Nations Development Programme (UNDP), the Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE) and Association of German Engineers (VDI-GBG). The Society also signed a strategic partnership agreement with the Chartered Institution of Building Services Engineers (CIBSE) and the Federation of European Heating, Ventilation and Air-Conditioning Associations (REHVA). In addition, it updated its Work Plan with the United Nations Environmental Programme (UNEP).

As part of the event, the Clean Climate and Air Coalition (CCAC) held a Sustainable Technologies for Stationary Air Conditioning Workshop focused on climate-friendly and cost-effective air conditioning technologies. ASHRAE is an actor with CCAC.

At the Conference, Wentz provided updates on several Society initiatives and programs of importance to the industry.

Among them was creation of a new ‘ASHRAE University’ educational platform, which will locate all of ASHRAE’s educational products in one place where users can select the products to meet their professional goals. Additionally, a personal dashboard is built into the new platform allowing users to track their progress toward their goals. The new platform can be found at www.ashrae.org/elearning.

ASHRAE also has launched a new Technology Portal at www.ashrae.org/technologyportal. This gives ASHRAE members an easy, fast method of connecting to the latest information generated by ASHRAE’s research program. It serves a central body of knowledge for ASHRAE technology and research products. It provides access to more than 1,700 Journal articles published since 1997 and more than 600 final reports from ASHRAE research projects.

Wentz, an associate professor at the University of Nebraska – Lincoln, also shared an update on a new, online internship job board. The new internship portal is found on ASHRAE’s website at <http://jobs.ashrae.org>.

“I am big supporter of internship programs in that they are the easiest and most effective way to show students the importance of our work and why we are so passionate about what we do,” he said. “Check it out and start looking for the next generation of engineers for your firm.”

The Conference Bookstore featured several new standards of importance to the industry, including ANSI/ASHRAE/IES Standard 90.1-2016, Energy Standard for Buildings Except Low-Rise Residential Buildings, ANSI/ASHRAE 15-2016, Safety Standard for Refrigeration Systems, and its sister standard, ANSI/ASHRAE 34-2016, Designation and Safety Classification of Refrigerants, as well as User’s Manuals for ANSI/ASHRAE Standard 62.1-2016, Ventilation for Acceptable Indoor Air Quality and ANSI/ASHRAE Standard 62.2-2016, Ventilation and Acceptable Indoor Air Quality in Residential Buildings.

The ASHRAE Learning Institute saw overall record attendance with top attended courses being Variable Refrigerant Flow System: Design & Applications, Designing High-Performance Healthcare HVAC Systems, Understanding & Designing Dedicated Outdoor Air Systems, Laboratory Design: The Basics and Beyond, and Designing Toward Net-Zero Energy Commercial Buildings.

The Technical Program featured some 350 presentations and 300 speakers. Top attended sessions included Blue Is the New Green: The Water-Energy “Next Is,” Did It Really Work: Theory vs. Practice in Residential HVAC, Hydronic Water Flow Measurement, Recent Research in Data Center Cooling, When Good Valve Sizing Goes Bad, What Fire and Safety Engineers Have Learned Since the MGM Grand Fire in Las Vegas and What Are Present Day Fire and Life Safety Codes and Applications, Fresh Insights on Building Automation: A Seminar by the YEA Group, Modern Optimization Techniques for Hydronic Systems in Data Centers, Advancements in Ground Source Heat Pump Design, Energy Management: A Crucial Component of Operations and Maintenance, Commissioning a Central Chilled Water Plant and Data Driven Energy Auditing, Measurement and Verification.

The 2017 ASHRAE Annual Conference will take place June 24-28 in Long Beach, Calif., with the 2018 Winter Conference Jan. 20-24, and the AHR Expo, Jan. 22-24, in Chicago, Ill.

ASHRAE has published two new videos with LOTS of familiar faces.

#MyASHRAE – Collection 3

<https://www.youtube.com/watch?v=qx4ogD9XNgg&t=2s>

Members ROCK the Photo Booth at Vegas Welcome Party

<https://www.youtube.com/watch?v=8zYGC6mCnBA&t=32s>

Please like, share and subscribe!

Preliminary Energy Savings Announced for ASHRAE/IES 2016 Energy Standard

ATLANTA – More than 30 percent energy savings can be achieved using the 2016 version of Standard 90.1, according to recent analysis conducted by Pacific Northwest National Laboratories (PNNL) in support of the U.S. Department of Energy (DOE) Building Energy Codes Program. An update on the preliminary results of the 90.1-2016 progress indicator report was made at the recent 2017 ASHRAE Winter Conference. ANSI/ASHRAE/IES Standard 90.1-2016, Energy Efficiency Standard for Buildings Except Low-Rise Residential Buildings, was published in October 2016.

PNNL conducted the energy savings analysis, using the 2004 standard as baseline. These results are considered preliminary and are expected to be deemed final in October 2017 when DOE publishes its final determination. PNNL's analysis shows for the whole building energy consumptions, national aggregated site energy savings are 34.1 percent and energy cost savings are 34.2 percent, when compared to the 2004 standard.

"For more than 40 years, ASHRAE and IES members have strived to build upon the energy savings measures in each update of Standard 90.1, most recently released in its 10th edition," Tim Wentz, ASHRAE president, said. "Each year the challenge grows as technology becomes more efficient. That we continue to build upon the savings speaks to the ability of our industry to adapt and transform as those technologies change and more advanced technologies become more cost effective."

"The Illuminating Engineering Society has actively engaged with ASHRAE since 1975 providing technical support and co-developing standards," Mark Lien, IES Industry Relations Manager and liaison to the Standard 90.1 committee, said. "Compliance with recommended light levels is verified using a database of luminaires. These baseline products were reevaluated and updated to reflect the market shift toward higher efficiency lighting sources. We are proud of the dedicated members of the Lighting Subcommittee and the Standard 90.1 committee and their significant contribution to the energy savings achieved by the 2016 version."

On a nationally aggregated level, building-type energy savings range from 11.9 percent (fast food restaurants) to 48.6 percent (schools) and energy-cost savings from 15.3 percent (large offices) to 49.8 percent (schools). These figures include energy use and cost from the whole building energy consumptions including plug and process loads.

Sixteen different building prototypes were modeled in 17 different climate locations for a total of 272 building types in various climate zones that were incorporated into this analysis.

CONFERENCE - WINDSOR **ENERGY AND NATURAL RESOURCES 2017**

<https://www.environmentalenergyinstitute.com/eanr2017>

June 22-23/2017 UWINDSOR

The sustainable production and use of energy is critically linked to our invaluable natural resources. Both renewable and fossil energy sources are reliant on the availability of elements essential to our living environment. Energy and Natural Resources (EANR) 2017 will set a vital focus on the interconnectivity between energy and the environment. The outcomes driven event is bent on connecting ALL relevant stakeholders - such that the most pressing issues are moved forward with quantifiable and sustainable momentum.

TOPIC FOCUS

EANR2017 will explore the following topics. It is important to emphasize that each of technology, policy, and financial aspects of these topics will be examined.

Renewable and Fossil Energy Generation
Innovative Energy Finance and Market Dynamics
Carbon Sequestration
Water's Role in Energy Extraction and Generation
Energy's Role in Water Treatment and Transportation

Energy Storage
Carbon Mitigation Strategies
Mini/Microgrids
Geo-Energy Interaction

Energy Systems Design and Integration
Carbon Capture
Greenhouse Energy Systems
Northern Energy Systems
Island/Isolated Energy Systems

ASHRAE Recognizes Members for Outstanding Industry and Society Achievements

ATLANTA – Fifty-five people were recognized for their contributions to ASHRAE and the industry at the Society's 2017 Winter Conference, Jan. 28-Feb. 1, in Las Vegas, Nev.

Fellow ASHRAE is a membership grade that recognizes members who have attained distinction and made substantial contributions in HVAC&R such as education, research, engineering design and consultation, publications and mentoring. The Society elevated 22 members to the grade of Fellow. Local Fellow include:

Michel Bernier, Ph.D., P.E., a professor, Department of Mechanical Engineering, Polytechnique Montreal, Quebec.

Carey J. Simonson, Ph.D., P.E., professor, Department of Mechanical Engineering, Univ of Saskatchewan, Saskatoon, Saskatchewan, Canada

The ASHRAE Technology Awards recognize outstanding achievements by ASHRAE members who have successfully applied innovative building designs. Their designs incorporate ASHRAE standards for effective energy management and indoor air quality and serve to communicate innovative systems design. Winning projects are selected from entries earning regional awards. First place recipients include:

Julien Allard, Eng., mechanical engineer, project manager and shareholder, Bouthillette Parizeau, Montreal, Quebec, receives first place in the new industry facilities or processes category for the Construction du Centre de transport Stinson, Montreal. The building is owned by the Societe de transport de Montreal (STM).

Kurt Monteiro, P.Eng., HFDP, HBDP, Smith + Andersen, Toronto, Ontario, receives first place in the new health care facilities category for Humber River Hospital, Toronto. The building is owned by the hospital.

The 2016 Student Design Competition focused on a new 2-story municipal government building in Beijing, China.

First place in the HVAC Design Calculations category is awarded to the University of British Columbia. Team members are Alexander Brosky, Samarth Joshi, Aubrey McNeill, Silvia Odaya, Cheng Yang and Ziran Yu. Faculty advisors are Nima Atabaki, Ph.D., P.Eng., and Steven Rogak, Ph.D., P.Eng., while the industry advisor is Ali Nazari, P.Eng., BEMP, principal, Integral Group.

First place in the System Selection category is awarded to California State Polytechnic University, Pomona. Team members are Miro Zaroukian, Asped Khachatoorian, Christian Garcia, Sevan Hovsepian and Tade Mirzakhanyan. Advisors are Henry Xue, Ph.D., and Richard L. Gilbert, P.E., California Energy Designs Inc.

First place in the category of Integrated Sustainable Building Design is awarded to a team from the University of Central Florida. Team members are Logan G. Harrell, Gerald Hornik, Austin B. Christianson, Travis Kalikaparsaud and Jeremy Palavecino. The faculty advisor is Muthusamy V. Swami, Ph.D., and the technical advisor is Nathaniel B. Boyd, P.E., CPMP.

The Applied Engineering Challenge for 2015-2016 required students to plan, develop and enact solutions to sustainability issues in their local or regional areas.

For the Applied Engineering Challenge, recipients are from the University of Regina, Saskatchewan – Bradley E.R. Lulik, Eva Rennie and Brent Yeske. Their faculty advisor is Adisorn Aroonwilas, Ph.D.

The E.K. Campbell Award of Merit honors an individual for outstanding service and achievement in teaching and is presented by the Life Members Club. The recipient is Thomas H. Kuehn, Ph.D., P.E., Fellow ASHRAE, Life Member, professor emeritus, Department of Mechanical Engineering, University of Minnesota, Minneapolis.

The John F. James International Award recognizes a member who has done the most to enhance the Society's international presence. The recipient is Gerald C. Groff, Fellow ASHRAE, Life Member, retired president/CEO, Marquardt Switches Inc., Cazenovia, New York.

The Milton W. Garland Commemorative Refrigeration Award for Project Excellence recognizes a non-comfort cooling refrigeration application that highlights innovation and/or new technologies in a unique manner. The recipient is Claude Dumas, P.Eng., Life Member, project engineer and an expert in skating rink refrigeration systems, City of Montreal, Montreal, Quebec.

The Comfort Cooling Award for Project Excellence recognizes the designer and owner of a comfort cooling application that highlights innovative and/or new technologies. The recipient is Andy Pearson, Ph.D., C.Eng., Fellow ASHRAE, group manager and director, Star Refrigeration Ltd., Glasgow, United Kingdom.

The ASHRAE Pioneers of Industry Award recognizes deceased individuals who have made milestone contributions to the growth of HVAC&R. Recipients are Carl Georg Munters (1897-1989), a founder of Munters AB whose inventions were based on simple heat and mass transfer with no refrigerants or compressors; and Frederick Wittenmeier (1863-1928), a pioneer in development of carbon dioxide refrigerant systems and their application to comfort cooling for public buildings.

Honorary Members, elected by the Board of Directors are defined as notable persons of preeminent professional distinction. The recipient is Stephen T. Ayers, FAIA, architect of the Capitol, Architect of the Capitol, Washington, D.C.