

From our Editor

Gerardo Alfonso, webmaster

We have entered the final stage of our 2015 – 2016. In April we had the visit of two Distinguished Lecturers: Ron Vallort and Lew Harriman who taught us about the importance of moisture management in our tropical climates and some measures to control their consequences and how to manage energy efficiency, all in the Annual Meeting of Acaire and its 35th anniversary.

One of the most important tasks we have set out at the Chapter Board of Directors is that we have to serve as a means to improve the technical knowledge of our engineers in the industry, this is the reason why I invite you to participate actively in all seminars and events we organize. In order to get our goal we are improving our relationships with other organizations and developing joint events in order to have greater participation.

In order to get the subjects that you need it is very important you attend our meetings and let us know about your specific needs.

ASHRAE is not only HVAC & R, we are one of the pillars of the construction industry by providing standards 90.1 *Energy Standard for Buildings Except Low-Rise Residential Buildings*, 55 *Thermal Environmental Conditions for Human Occupancy* and 62.1 *Ventilation for Acceptable Indoor Air Quality* referenced in the certification system LEED (Leadership in Energy and Environmental Design) USGBC (US Green Building Council of the United States). Today we have about 242 projects in Colombia who are working this system (72 approved and the others in process), said Cristina Gamboa, Director of CCCS (Colombian Sustainable Construction Council) in an interview with El Tiempo published last April 30, 2016.

For the second half of this year we have planned a visit of our president 2016 - 2017 Tim Wentz, a new ASHRAE certification exam session at the International Trade Fair of Bogota, with the assistance of the Region's Officer Ross Montgomery, and other events.

Next June 25 – 29 is our Annual Meeting. Take this opportunity to improve your knowledge and skills in St. Louis, Mo. To learn more visit [Ashrae website](#).

Remember that Society has a website with some resources in Spanish at society level where we have published some news we have translated <http://www.ashrae.org/ashraeenespanol>

I want to thank the people who follow us on the social media and I want to invite those who do not follow us to join this effort. This is an easy way to be up to date about our chapter activities in Facebook, Twitter and LinkedIn.

This e-newsletter is a summary of the activities of our chapter during March and April, 2016.

NEWS

2016-03-10 21:41:21

ASHRAE FUNDS 24 UNDERGRADUATE PROJECTS; AERIAL VEHICLE FOR ENERGY AUDITS

By Jodi Scott - Ashrae. **ATLANTA** – Engineers will get a bird’s eye view of the energy use of building envelopes under a project funded through an ASHRAE Undergraduate Senior Project Grant.

This year, 24 schools from around the world were awarded grants. The grants, totaling some \$110,000, are awarded by ASHRAE to colleges and universities worldwide to promote the study and teaching of HVAC&R, encouraging senior undergraduate students to pursue related careers.

The grants are used to design and construct projects, such as The University of Alabama’s proposal to use an unmanned aerial vehicle to document building energy audits. The project notes that while building audits are a key process for determining building efficiency, performance and faults, audits require knowledge of the internal building and energy system and the external building envelope, which can present a challenge.

“The vehicle would be used to quantify envelope characteristics of hard-to-reach and large regions on modern buildings,” Zheng O’Neill, Ph.D., of the Mechanical Engineering Department and advisor of the project, said. “The information will provide engineers with systematically measured control volume characteristics. For example, infrared thermal camera data will provide information of building envelope temperature, which can be used for building infiltration diagnostics.”

She will work with Charles O’Neill of the Aerospace Engineering and Mechanics Department for the vehicle development and flight tests.

The goal of the project is to build a co-robot (human controlled with robotic assistance) quadcopter with onboard sensors including infrared temperature camera, visible light camera, heat flux sensors, direct temperature probes and location and orientation.

Other ASHRAE grant recipients are:

- Ryerson University, Toronto, Ontario, Design and Prototyping of a Heat Transfer Enhanced Hybrid Air Based Building Integrated Solar Photovoltaic/Thermal Collector for Net Zero Energy Building Applications
- Sinclair Community College, Dayton, Ohio, Chiller Control Training Boards
- Lamar University, Beaumont, Texas, A Laboratory System for Evaluating Cooling Systems in Consumer Electronic Devices
- University of Windsor (Ontario), A Novel Membrane Absorption Heat Pump
- University of Oregon, Eugene, Campus Audit Squads for Energy (CASE) Studies
- Carleton University, Ottawa, Ontario, Evaluation of Office-Level Energy Consumption Using a Sparse Sensor Network
- University of Alabama at Birmingham, Cooling and Electricity from Renewable Compressed Air
- Purdue University, West Lafayette, Ind., HVAC Heat Transfer Experiment and Modelling
- De La Salle University-Manila, Design, Fabrication and Testing of a Laboratory Set-up of an Aqua-Ammonia Absorption System
- University of Santo Tomas, Manila, Philippines, Development of an Ice Storage Air Conditioning System as Laboratory

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- Equipment for Engineer Students of University of Santo Tomas
- Southern Illinois University, Carbondale, Solar Energy PCM Storage combined with Solar-Powered Water Purification
 - The University of Texas at Tyler, Auto Self-Balanced Zoning System
 - The University of Texas at Tyler, Phase II – TxAIRE House 2 Ground Source Heat Pump
 - Capital University of Science and Technology Islamabad, Islamabad, Pakistan, Design and Fabrication of a Heat Pump
 - Mapúa Institute of Technology, Manila, Philippines, Improvement of An Indoor Environmental Quality Laboratory
 - Mapúa Institute of Technology, Manila, Philippines, Development of a Laboratory Set-Up of a Geothermal Air-Conditioning System
 - Texas A&M University - Kingsville, Development of a Miniature HVAC System on Wheel for Classroom Application
 - North Carolina A&T State University, Greensboro, N.C., Integrated Variable Air Volume and Terminal VAV Box Control with BACnet DDC, Matlab-Based Monitoring, and Simulation Systems
 - The University of Alabama, Tuscaloosa, Building Energy Audits Using Unmanned Aerial Vehicles
 - Sinclair Community College, Dayton, Ohio, Development of a Ground Source Heat Pump Simulator

- D Y Patil, Maharashtra, India, Performance Analysis of PTC based Solar Powered Solid Adsorption Refrigeration System
- Montana State University, Bozeman, Radiant Panel Design Set
- University of Algarve, Faro, Portugal, Development of a Clean Technology Applied in the Air Treatment and Energy Production
- Mississippi State University, Smart Building Wireless Sensor Network

For more information on the grant program, visit www.ashrae.org/grants. ASHRAE will begin accepting applications for the 2016-17 program in August 2016, with a December 2016 final deadline.

ASHRAE, founded in 1894, is a building technology society with more than 50,000 members worldwide. The Society and its members focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the industry. Through research, standards writing, publishing and continuing education, ASHRAE shapes tomorrow's built environment today.



2016-04-12 21:41:13

PROPOSED ASHRAE ENERGY SIMULATION STANDARD OPEN FOR PUBLIC REVIEW

By Jodi Scott – ASHRAE

ATLANTA – A draft standard that describes a methodology to apply building energy modeling to the design process is open for industry input.

ASHRAE Standard 209P, *Energy Simulation Aided Design for Buildings Except Low-Rise Residential Buildings*, defines minimum requirements for providing energy design assistance using building energy simulation and analysis.

The proposed standard is open for public comment until May 9, 2016. To comment or learn more, visit www.ashrae.org/publicreviews.

“ASHRAE recognizes that building energy simulation is most useful when it can inform the design process to reduce energy use,” Jason Glazer, chair of the Standard 209P committee, said. “The standard was created to advance the use of timely building energy modeling to quantify how design decisions can affect building energy use when those design decisions are being made.”

While earlier draft versions of the proposed standard incorporated energy modeling into the typical design process divisions of schematic design, design development, etc., the committee realized that many tasks, data and goals of each modeling effort, or cycle, were similar enough to create a “generic modeling cycle.” The draft standard was rewritten to incorporate a generic modeling cycle that is augmented with additional directions to create several specific modeling cycles that are incorporated into the typical design process.

Standard 209P defines seven design phase modeling cycles with specific modeling goals that are defined and coordinated with the typical design process, and three modeling cycles are defined that apply during construction and operation of the

buildings. Each modeling cycle is an extension of a general modeling cycle that can be applied any time during the design process that energy modeling is needed to inform design decisions. In addition, a post-occupancy comparison is included to help owners and modelers understand how modeled results compare actual energy performance and inform assumptions in future modeling projects.

“The minimum requirements of the standard can be met by utilizing building energy modeling to evaluate load reduction measures early in the design process, as well as one additional design phase modeling cycle,” Glazer said. “Other modeling cycles are included for organizations that wish to adopt more robust energy modeling requirements.”

While the standard can be applied with any design process, it is anticipated to be most effective when included in an integrative design process. It is expected the 209P will be adopted by organizations that certify high performance buildings as well as utilities and agencies that provide incentives for low energy buildings, and used by building owners and architects seeking a uniform way to specify a scope of work for building energy modeling.

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2016-04-18 19:38:12

CHANGES TO PURPOSE AND SCOPE OF STANDARD 189.1 OPEN FOR PUBLIC COMMENT

By Jodi Scott - ASHRAE. **ATLANTA** – Changes to the purpose and scope that reflect advances in green buildings over the last 10 years are proposed for the high performance building standard from ASHRAE, the International Code Council (ICC), the U.S. Green Building Council (USGBC) and the Illuminating Engineering Society (IES).

ASHRAE/IES/USGBC/ICC Standard 189.1, *Standard for the Design of High Performance Green Buildings*, contains minimum requirements for the siting, design and construction of high performance green buildings in support of reducing building energy use, resource consumption and other environmental impacts while maintaining acceptable indoor environments.

Nine proposed addenda to the standard opened for public review on April 8, 2016. To comment or learn more, visit www.ashrae.org/publicreviews.

Among them is addenda *o*, which proposes revisions to the existing purpose and scope of the standard to clarify its intended purposes and application, and to better reflect the revisions to the standard that are being considered by the committee.

Committee chair Andrew Persily notes that the current title, purpose and scope were approved in 2006 and that much has taken place in the world of green buildings in the past 10 years.

Under addenda *o*, the purpose of the standard has been rewritten to focus on goals vs. strategies. For example, rather than energy efficiency, the goal of reduced building emissions is proposed for inclusion in the purpose.

A new section of the purpose speaks to the alignment of Standard 189.1 with the International Green Construction Code (IgCC), noting specifically

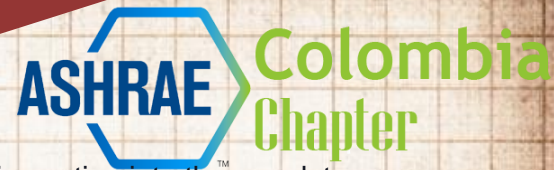
that the standard is intended to serve as the technical basis of mandatory buildings codes and regulations for high performance buildings.

Standard 189.1 currently is a compliance option of the 2015 IgCC, published by the International Code Council, ASTM and the American Institute of Architects. The standard will serve as the technical content for the IgCC beginning in 2018.

Other addenda open for public review from April 8 until May 8, 2016 are:

- Addendum *i* reorganizes the roof heat island mitigation section and adds new provisions for vegetated terrace and roofing systems relative to plant selection, growing medium, roof membrane protection and clearances. In addition, provisions for the operation and maintenance of vegetated roofs are proposed for addition to Section 10.
- Addendum *n* clarifies footnote b to Table 7.5.2A. This footnote provides a method to adjust the percent reduction for buildings with unregulated energy cost exceeding 35 percent of the total energy cost. This addendum clarifies that the adjustment is to be made on the basis of energy cost, not energy use.
- Addendum *p* proposes to add requirements for water bottle filling stations, which are intended to improve water efficiency and sanitation of public drinking water and to reduce the environmental effects of plastic bottles.
- Addendum *r* lowers the ductwork pressure testing threshold to include 3" pressure class ducts, which are common upstream of variable air volume (VAV) boxes.
- Addendum *t* adds new requirements for reverse osmosis and onsite reclaimed water

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systems in order to reduce the likelihood of excessive water use due to poor design of water treatment and filter system

- Addendum *u* adds new requirements for water softeners to reduce water consumption given the impact of the design and efficiency of these systems on water discharge water rates.

Open for public review from April 8 until May 23, 2016 are:

- Addendum *q* modifies Chapters 5, 7, 8 and 11 as well as Appendices A and E, to reflect the addition of Climate Zone 0 in ANSI/ASHRAE Standard 169-2013, *Climatic Data for Building Design Standards*.
- Addendum *s* removes the performance option for water use and moves the

prescriptive option into the mandatory section.

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2016-04-18 21:20:11

ASHRAE CELEBRATES NEW FACES OF ENGINEERING

By Jodi Scott – ASHRAE. Two ASHRAE members are being recognized as part of a national effort to bring attention to the future generation of engineers.

This week, DiscoverE announced the winners of its two New Faces of Engineering programs – Professional and College. Supporting associations of DiscoverE nominate members for each program. ASHRAE created the New Faces program in 2003, when it served as lead society for National Engineers Week.

The New Faces of Engineering Professional Edition recognizes the outstanding talents, skills and abilities the next generation of engineering leaders (age 30 or younger) have shown on projects that significantly impact public welfare or further professional development and growth.

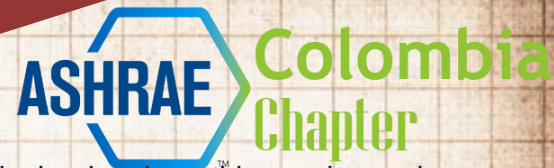
ASHRAE's top nominee for this program is Rachel Romero, P.E., an energy engineer at the National Renewable Energy Laboratory, Golden, Colo.

Through her work, Romero serves as a project manager and technical expert for the Department of Homeland Security energy management program and has worked on the creation of the national Standard Work Specifications for residential building professionals to ensure quality outcomes for the home energy retrofit industry.

Outside of work, she serves as the main competition organizer for the 2016 Race to Zero Student Design Competition, which brings together 34 collegiate institutions and over 300 students to inspire the next generation of building science professionals. She also is active in ASHRAE, serving at both the national and chapter levels.

Her advice to engineering students? "Find an internship right now and get real-world experiences before you decide what type of engineer you want to be," she said. "Engineering is a broad career and there are so many facets to even our industry with ASHRAE."

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The New Faces of Engineering College Edition, which targets 3rd, 4th and 5th year engineering college students, recognizes the nation's most promising engineering professionals of tomorrow.

ASHRAE's top nominee is Danielle Passaglia, an architectural engineering major, at the University of Nebraska-Lincoln, Omaha. She serves as president for the university's ASHRAE Student Branch and volunteers her time during Engineers Week and Introduce a Girl to Engineering Day, where she promotes opportunities available within engineering to students.

Passaglia plans on using her education to help make an impact on the industry.

"The opportunities that come with an engineering degree are endless, and it will allow me to find my niche in this field," she said. "I am excited to work

with other individuals who share this passion and see how our ideas can come together to make something innovative."

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2016-04-18 21:58:11

AN EFFICIENT FUTURE FOR BUILDINGS OF THE PAST PROPOSED UNDER ASHRAE GUIDELINE

By Jodi Scott - ASHRAE **ATLANTA** – Historical buildings – from those on the local Main Street to world-renowned structures – could be brought from the past into an energy reduced future under a proposed guideline from ASHRAE.

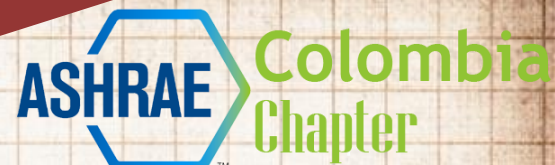
ASHRAE Guideline 34P, *Energy Guideline for Historical Buildings*, provides advice for energy efficiency and energy conservation improvements involving historic structures. These improvements would seek to minimize disturbances to the historic character, characteristics and materials (significance, value and qualities).

The proposed standard is open for a second public comment until May 2, 2016. To comment or learn more, visit www.ashrae.org/publicreviews.

"The worldwide preservation community recognizes the importance of reducing the consumption of fuels," William Rose, a member of the Guideline 34P committee, said. "Many codes and standards exempt such buildings from energy conservation requirements, based on an assumption that imposition of energy-saving measures may compete with preservation requirements. Nevertheless, preservationists generally wish to balance the mandate to maintain the integrity and authenticity of their buildings with growing needs for energy conservation. And some codes, notably the recent International Energy Conservation Code, have moved from a blanket exemption to a narrower provision-by-provision basis."

Guideline 34P, which offers assistance for the range of historic buildings, will help those engaged in preservation to design and provide energy

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conservation measures. Rose said it also will help those engaged in energy conservation to propose and adopt measures consistent with preservation practice. The guideline addresses planning and operation, mechanical systems, building envelopes and lighting.

The guideline was the idea of Presidential Member Tom Watson for whom historical buildings are a pet project.

“We just can’t give up on using historic buildings,” he said. “They are too valuable and leave too large an environmental footprint to be neglected or abandoned.”

2016-04-19 18:07:43

NEW ASHRAE PUBLICATION EXPLAINS THE IMPACT OF IT EQUIPMENT ON DATA CENTER DESIGN

By Jodi Scott - ASHRAE **ATLANTA** – The 13th book in ASHRAE’s Datacom Series, “IT Equipment Design Impact on Data Center Solutions,” is now available. The book was developed by ASHRAE’s Technical Committee 9.9, Mission Critical Facilities, Data Centers, Technology Spaces and Electronic Equipment.

“Technology in general, including the data center industry, changes faster than other industries,” Don Beaty, publications chair of TC 9.9, said. “Disruption is around the corner in all aspects of our lives: social media, online retail, access to information and entertainment. With everything from smartphones to thermostats generating data, backend IT systems are experiencing massive hardware demands. Data centers must have a footprint that is flexible, scalable and adaptable. They must be able to move as fast as new applications are developed and keep up with new ideas, new architectures, and new ways of thinking – all in real time.”

Beaty explains how this is being addressed in this new publication.

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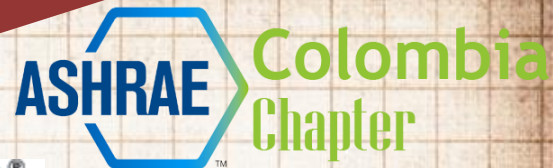


“Book 13 is focused on the IT equipment impact on data center solutions,” he said. “Although software is moving faster than hardware, hardware is still moving much faster than facilities. This book draws upon the foundations laid in the previous 12 Datacom books along with significant updated and new material to provide valuable insight to address this challenge with chapters on IT equipment, its thermal design and interactions between IT systems and the data center.”

The cost of “IT Equipment Design Impact on Data Center Solutions” is \$50, ASHRAE members (\$59, non-members). To order, visit www.ashrae.org/bookstore or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide) or fax 678-539-2129.

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2016-04-19 18:32:41

2016 RESIDENTIAL IAQ STANDARD PUBLISHED BY ASHRAE

By Jodi Scott - ASHRAE **ATLANTA** – Multifamily units in all types of buildings are now covered in the scope of ASHRAE's residential indoor air quality standard, marking one of the biggest changes to the recently published 2016 version.

ANSI/ASHRAE Standard 62.2-2016, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*, defines the roles of and minimum requirements for mechanical and natural ventilation systems and the building envelope intended to provide acceptable indoor air quality in residential buildings.

Prior to this edition multifamily residential buildings four stories or above fell under the scope of ANSI/ASHRAE Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*.

Now the dwelling units themselves are covered by 62.2 regardless of building height, while common areas of those buildings remain in the scope of 62.1, according to Paul Francisco, chair of the Standard 62.2 committee.

Francisco said the change provides consistency of ventilation requirements for dwelling units regardless of building height. For new construction, this will result in a change of requirements for dwelling units in 4 story and above buildings. For the retrofit market, this change will result in coverage by ASHRAE ventilation standards for the first time in residential dwellings in 4 story and above story buildings. The 2016 standard also includes a method of claiming an infiltration credit for horizontally-attached units.

Another major change in the standard provides a means of determining equivalency for a variety of ventilation scheduling strategies. This change also includes a maximum short-term exposure to make sure that meeting annual equivalence does not unduly compromise short-term IAQ.

The cost of Standard 62.2-2016, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*, is \$54, ASHRAE members (\$64, non-members). To order, visit www.ashrae.org/bookstore or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide) or fax 678-539-2129.

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2016-04-20 20:42:30

ASHRAE, AIA LOOK TO FUTURE OF ENERGY EFFICIENCY WITH SIGNING OF NEW MOU

By Jodi Scott - Ashrae. **ATLANTA** – Building on past outreach, ASHRAE and the American Institute of Architects (AIA) have signed a Memorandum of Understanding, committing them to working together in a variety of built environment areas.

The MOU recently was signed by ASHRAE President David Underwood and AIA President Russ Davidson. The agreement states the two organizations will work jointly in areas related to development of young professionals, advocacy and public outreach, publications, education, technical activities and research.

“ASHRAE and AIA share many common technical interests, including health and safety, energy efficiency, and resilience,” David Underwood, ASHRAE president, said. “This agreement formalizes our plans to foster technical cooperation in these areas, providing needed guidance to the industry.”

“We are at a pivotal juncture as an industry to address the growing number of design challenges,” said AIA President, Russ Davidson, FAIA. “The extension of this agreement is important for our organizations to continue to work together to further sustainable design strategies, to be active on building codes related issues, as well as for providing tangible resources that are useful for our respective members in their daily practice.”

In past projects with a focus on improving energy efficiency of buildings and systems, ASHRAE and AIA are part of a group that is developing a new version of the *International Green Construction Code* (IgCC) sponsored by the International Code

Council (ICC), the Illuminating Engineering Society (IES) and the U.S. Green Building Council (USGBC). The code, scheduled to be released in 2018, will be powered by ANSI/ASHRAE/ICC/IES/USGBC Standard 189.1, *Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings* developed using the American National Standards Institute (ANSI) approved ASHRAE consensus process.

ASHRAE and AIA also joined together with IES, USGBC and the Department of Energy (DOE) in developing the Advanced Energy Design Guide series. The nine books in the series provide recommendations for achieving 50% and 30% energy savings over the minimum code requirements of ANSI/ASHRAE/IESNA Standard 90.1, *Energy Standard for Buildings Except Low-Rise Residential Buildings*

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2016-04-23 20:49:15

ASHRAE CONGRATULATES SENATE ON PASSAGE OF ENERGY POLICY MODERNIZATION ACT

Por Jodi Scott - Ashrae. **ATLANTA** – ASHRAE is pleased to see the passage on Wednesday by the U.S. Senate of the Energy Policy Modernization Act, marking an important step toward making buildings in all sectors more energy efficient.

The Senate passed the Act by a vote of 85 to 12. The bill contains numerous building energy code provisions that were supported by ASHRAE.

“The passage of the Energy Policy Modernization Act demonstrates the power of persistent bipartisan leadership by many leaders throughout the Senate. Each of these senators understands the need for reform and the dangers that lie ahead if we do not change,” ASHRAE President David Underwood said. “This accomplishment is shared by hundreds of stakeholders who have connected with members of Congress, helping them understand the complexities and likely impacts of legislation on the building and many other industries. ASHRAE congratulates the

Senate on this accomplishment and stands ready to assist as leaders in both chambers work to produce a final bill that the President can sign, and which truly advances the arts and sciences of HVAC&R to serve humanity and promote a sustainable world.”

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2016-04-23 21:32:30

EXISTING BUILDING ENERGY EFFICIENCY FEATURED AT ASHRAE 2016 ANNUAL CONFERENCE

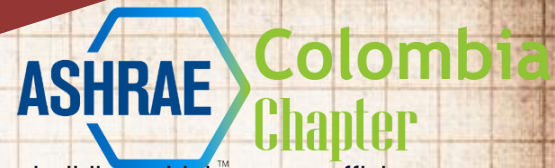
Por Jodi Scott - Ashrae. **ATLANTA** – Increasing the energy efficiency and reducing the energy consumption of existing buildings can have four times the environmental impact as compared to the installation of renewable energy.

With existing building renovation accounting for most of the money spent in U.S. building construction today, actual building performance needs to be determined to make the most of those dollars spent.

Setting those metrics and increasing existing buildings’ energy efficiency is described in a seminar at the ASHRAE 2016 Annual Conference.

The Conference takes place June 25-29, Marriott St. Louis Grand Hotel and America’s Center Convention Complex. To register or for complete information, visit www.ashrae.org/stlouis.

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In 2015, ASHRAE and the Illuminating Engineering Society published ANSI/ASHRAE/IES Standard 100, *Energy Efficiency in Existing Buildings*, which goes beyond energy efficiency minimums in that it requires energy management and operation and maintenance plans.

“By requiring energy audits and providing for life cycle cost analysis of potential energy efficiency measures, the standard gives building owners the tools and opportunity for even higher performance,” Gordon Holness, who helped write the standard, said.

Holness is a speaker at a seminar at the Conference, Standard 100-2015 Overview and the Potential of Its High-Performance Existing Building Metrics, which takes place June 29.

The standard sets specific energy targets based on building type, occupancy and climate zone with target tables established based on the top 25 percent performers within the U.S. Department of Energy’s Commercial Building Energy Consumption (CBECS) data base. On an aggregate basis the standard is expected to reduce building energy use by approximately 30 percent.

“The standard recognizes that U.S. annual investments in renovation of existing buildings account for around 86 percent of all money spent in building construction today,” he said.

The seminar is one of 108 sessions in the Technical Program, which is organized into eight tracks that will cover topics such as current trends and technologies in the industry; professional development and residential systems; new design strategies for

achieving net zero buildings; high energy efficiency and methods of design, including recent advances in alternative energy systems and equipment. The program features more than 400 speakers.

“The technical sessions offer an excellent opportunity to learn the results of cutting edge research and the latest standards that affect the built environment.” Thomas Kuehn, Conference Program chair, said. “Topics include nearly every technology used in HVAC&R including alternative refrigerants, fire and smoke control, smart control systems and sources and efficient utilization of renewable energy. In addition, these sessions are an opportunity to learn the personal and business skills necessary to become and remain a leader in our industry.”

For a full list of sessions and speakers, visit the new interactive technical program at www.ashrae.org/stlouisinteractivetechprogram.

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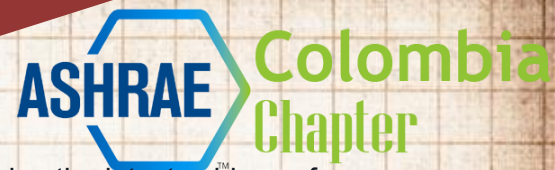
2016-04-24 21:33:09

MAKING CONNECTIONS NOW AVAILABLE IN SPANISH

Por Gerardo Alfonso – Ashrae Colombia Chapter. 2015 Annual Conference President’s Luncheon Speech. This document now is available in spanish. David Underwood. ASHRAE President 2015-16. Presidential Theme. My presidential theme

will focus on an important goal of the ASHRAE strategic plan: Making Connections. As Nietzsche observed, human connections are the “invisible threads that are the strongest ties.” Forging stronger connections amongst ASHRAE’s 54,000 members is

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a priority for me...especially when it comes to our volunteers and new members.

Making Connections goes well beyond membership. It means connecting with industry, communities, governments and the public. Our mission is to advance the arts and sciences of heating, ventilating, air conditioning and refrigerating to serve humanity and promote a sustainable world. For us to succeed, we have to build connections.

ASHRAE is changing the world. We support research and innovation and are leaders in developing industry standards. We connect thousands of people who participate in research, design, construction and operation. Each and every one of us benefits from ASHRAE's investment in HVAC&R research, standards and the sharing of knowledge. These are ASHRAE's three value propositions!

Research positions ASHRAE as the industry leader. We attract the brightest minds in solving our challenges. I'm excited to witness the changing landscape of research that is not simply done FOR owners, but WITH owners. We're most effective when researchers, consultants, contractors, owners and users are connecting and collaborating.

Second, our standards link research to the real world. Thanks to ASHRAE's leadership, standards introduce a new way of thinking. It was once thought that North American technical knowledge was sufficiently developed and only needed to be tweaked to fit any climate conditions. More often, it turns out, they have to be reworked - not because the technology is wrong, but because local context changes how it will work.

We found this out in Kuwait. Our standards were adopted but the hotter climate, different building materials and different construction techniques triggered the need for significant modification. This was an important lesson for us when applying ASHRAE standards globally. It underscores how important it is for us to assure international partnerships are strong and nurtured. Our standards must apply globally if we are to be global.

Thirdly, we're taking the latest evidence from research and standard developments to accelerate the spread and use of that knowledge to where it counts – the front line. Our extensive education programs as well as our Handbooks and design guides make our knowledge and research efforts available worldwide. Our collective knowledge sets us apart!

Our imaginations are literally changing the world. We've made decisions to invest in top talent – and big, bold ideas. Imagine improving the quality of life for everyone. John Lennon said "A dream you dream alone is only a dream. A dream you dream together is reality." Our reality at ASHRAE is making connections that advance our world through viable, affordable, green technology.

No one individual can do this presidential role on their own. Just like ASHRAE cannot do its job without the creativity and passion from all its members, connecting colleagues within our industry and beyond.

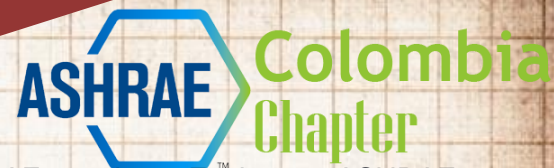
Ralph Waldo Emerson said "Life is a journey not a destination." As we know, all journeys require a beginning. My journey into the world of engineering began when I was only 11 years old.

The new Trans-Canada highway and a bridge were being built near my village of 750 people in the great plains of southern Saskatchewan. I was captivated that hot, dry summer by the machines, the people working together, and the way dirt was transformed into an important thoroughfare for our country. I remember how patient that site engineer was in answering my many questions. Reflecting back, it doesn't surprise me. Mentoring is part of the DNA for engineers; it's how we pass on our legacy.

After completing my degree in engineering at the University of Manitoba, fate brought me to my first employer. They were a major manufacturer who provided extensive training. That training set me on a career path leading me to this great opportunity to serve as your president.

As the fourth president from Canada, I'd like to relate a short engineering story from my country. In 1907,

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the Quebec Bridge collapsed into the St. Lawrence River killing 84 people. Engineers around the world were devastated. Engineering mistakes, short cuts and oversight were the cause. The disaster was avoidable – easily avoidable – making matters worse.

Soon after, several smart people led by a University of Toronto engineering professor, inspired a unique idea to constantly remind engineers about their obligation to society. An iron ring was designed. For many decades, the rings were fabricated from the salvaged steel from that collapsed bridge.

The famed British writer Rudyard Kipling had travelled extensively around North America and written several poems about engineering marvels. Kipling was glad to respond to the request to write another poem specifically for Canadian engineers. "The Ritual of the Calling of an Engineer" is recited at engineering class graduations across Canada.

The poem is the center piece of the Ring Ceremony. The significance of the ceremony is not just for new engineers. It reminds long-time engineers of their responsibilities in receiving, welcoming and supporting young engineers. I have worn the ring every day of my working life, connecting myself into a community of service to humanity. It's my daily reminder of the obligation to practice engineering by ethical and professional standards.

I know that other universities around the world, including some in the United States, have similar rituals. But as far as I know, ours is the only country-wide engineering ceremony. It's a significant and lasting example of Making Connections.

For ASHRAE members, making connections means using the partnerships that are... our power tools. There are things we can do to strengthen connections. During my presidency, and with your help, I will focus on Making Connections in 3 three areas: our volunteer members; our new and future members; and our HVAC&R enterprise communities.

Volunteerism is at the heart of ASHRAE. There's an old adage that we make a living by what we get, but we make a life by what we give. This certainly

applies to ASHRAE members. Each year, ASHRAE receives hundreds of thousands of volunteer hours. BUT we must find ways to encourage expansion of our volunteer base by engaging more members, more effectively.

Imagine if every ASHRAE member attracted one new person to our Society? Impossible? Perhaps! But I can imagine it. We all know engineers and business people in our industry who are not members and we know what attracted ourselves to ASHRAE. We need to share that passion!

But we also need to explore new ways of making the best use of members' time. Life is busy and only getting busier, especially for those with young families. With today's technology, it's almost impossible to escape the demands of work and its intrusion on our personal lives. Leveraging technology to make volunteer time more effective must be one of our priorities.

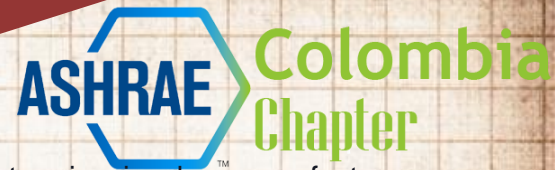
Presidential Member Tom Phoenix appointed an ad hoc committee to review the time commitment required for ASHRAE Winter and Annual Conferences. I look forward to implementing the recommendations from their findings.

Besides ASHRAE's three key value propositions, why become active in ASHRAE? Many active chapter members report their ASHRAE connection provides opportunities well beyond what is offered from the workplace. It provides them opportunities to build and reinforce their professional skill and knowledge. It offers networking opportunities to build important business relationships either with customers or other engineers.

New members and students

Our industry is people-based, and ASHRAE plays an important role in connecting people. Many of our members first learned about ASHRAE while students. They joined for many reasons: They knew someone in the industry who was a member and a mentor or some had a stimulating professor who encouraged membership or used an ASHRAE Handbook to support their lectures. This often

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resulted in opportunities to participate in a student branch.

Students and new engineers are the future of our Society. They need our encouragement and support. For example, Toronto had four student branches only a decade ago and now has seven...with more to come. The Southern Alberta Chapter hosts a "meet the graduates night" in early spring. The chapter encourages students to bring their resumes and get to know the industry players in a relaxed setting. Successes like this should inspire us to do more to recruit young people into ASHRAE and our industry.

Our Young Engineers in ASHRAE program, known by its acronym YEA, is vibrant and working well. Each of us can encourage YEA members to be even more involved in chapters, regions and Society. We should make sure that they are embraced after graduation. We must pay attention to their ideas. True to the concept of the iron ring, we are responsible to mentor and encourage their active participation in chapters, regions and our Society.

But what about our broader industry communities? My job as president – and your job as ASHRAE members – is to cultivate an environment that breeds excellence and encourages innovation to flourish. We will accomplish this through research and standards development and by making connections with organizations related to our industry and the public.

Research

We currently have 60 active research projects. They are generating global interest for their work in sustainable climate control. As we promote research investment, we need to show how that investment is going to deliver real, measurable and practical results that impact people's lives. Continued success depends on this. We're leveraging partnerships with associations and governments around the world. For example, we've been successful in attaining government support of research for our standards and Advanced Energy Design Guide Series.

HVAC enterprise

The HVAC&R enterprise, involves manufacturers, consultants, contractors, owners and operators. We can enhance our reach by providing more products and services for original equipment manufacturers and their sales engineers. We can step up our offerings to owners and facility users.

Our VITAL program (Value to Industry of Technical ASHRAE Leadership), is an initiative designed to connect employers with ASHRAE. VITAL shows employers that ASHRAE's value is based on volunteerism and standardizing of industry practices. Committed companies encourage employees to join, often paying their dues and costs of participation. They recognize that employees involved in ASHRAE are more likely to know ... and contribute to state-of-the-art standards.

Public

In addition to communicating within our membership community, our connections with external communities help to reinforce our credibility with broader local, national and international audiences. We will continue to increase public awareness about why high-quality design and operation enhances everyone's quality of life.

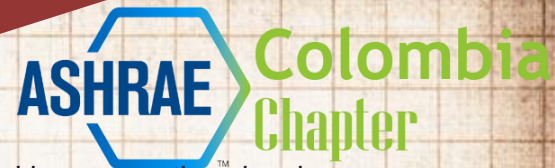
But none of this happens without you – the women and men who are ASHRAE members. In ASHRAE, we have some of the best minds in the industry, right here, right now. You are the reason organizations want to partner with ASHRAE. We're catalysts for action, and the world is counting on us to make it happen.

What's next?

We need your skills, ideas, and continued investment so that together we can build an even stronger HVAC&R enterprise of research and education. I'm asking you to stay informed and stay connected.

A mobilized and empowered grass roots membership shows our partners who we are and how we can assist them with the success of their enterprise. I am going to expand the ad hoc work

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started last year focused on volunteer time spent at summer and winter meetings.

We're going to ask for participation of local members on the ad hoc committee to explore new effective ways of getting involved in chapter activities. 6

So, what will it take for our research, innovation and application engine to grow and continue to deliver phenomenal results? Our collective responsibility is to make sure that owners and users get the best value for the money they spend to support ASHRAE.

I am challenging each chapter to engage at least one more employer to support ASHRAE. At the same time, I want to assure existing supporters that we appreciate them. I am proposing an employer recognition event for chapters to pay tribute to employers supporting ASHRAE.

We simply must make better connections so that owners and employers understand the true value of ASHRAE membership. They need to be motivated to participate in our Society. We're also acutely aware that some employers are struggling to engage their employees in taking advantage of their ASHRAE memberships. We'll work with our staff and volunteers to develop a strategy to support these employers.

In conclusion, making connections has been foundational in building ASHRAE's reputation as the industry leader. BUT we won't rest on our laurels; we will move forward with even bolder steps. We will make sure today's discoveries become tomorrow's design standards.

As I embark on my presidential year, I'm sincerely grateful to all of you for your warmth and your encouragement. And I invite and encourage all of you to participate – to Make Connections-- from volunteering, to attracting members and to telling the ASHRAE story within our industry and beyond. ASHRAE and our global society will all reap the rewards.



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NEW RESEARCH FROM ASHRAE OUTLINES MEASURES TO REACH TOWARD NET ZERO ENERGY

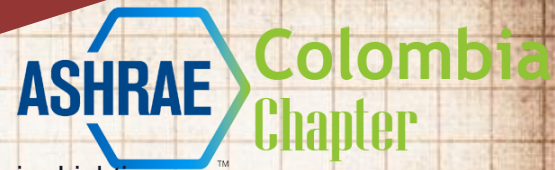
Por Jodi Scott - Ashrae. **ATLANTA** – Application of 30 specific energy savings measures across all building types and climate zones resulted in cutting energy use by nearly half, according to results of newly approved research funded by ASHRAE.

The national weighted change is 47.8 percent more energy efficient than Standard 90.1-2013 based on site energy and 47.8 percent more energy efficient than 90.1-2013 based source on energy.

The question of “how energy efficient can commercial and multifamily buildings become in the near future if first cost is not considered” was explored in ASHRAE 1651-Research Project, “Development of Maximum Technically Achievable Energy Targets for Commercial Buildings: Ultra-Low Energy Use Building Set.”

“The value of establishing such ultra-low-energy targets for buildings is two-fold,” Jason Glazer, principal engineer for GARD Analytics who oversaw

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the project, said. "These targets will indicate to building design professionals what may be achieved if first cost is not considered and challenge the creativity of those professionals to achieve similar results in actual designs with the real-world constraints of first costs. They also will help advance design guides, standards and codes by providing an ultimate goal."

For the project, researchers assembled a list of energy efficiency measures that can be included in the design of non-residential buildings. The list included both commonly used and cutting edge energy efficiency measures, according to Glazer.

From the resulting list of almost 400 measures, 30 were chosen for additional analysis. Sixteen prototype buildings that were consistent with Standard 90.1-2013, *Energy Efficiency Standard for Buildings Except Low-Rise Residential*, across 17 climate zones were used as baseline models. The 30 measures then were individually modeled. Each of the 30 measures, often with many options, were applied to each building and climate combination. In general, the measures were applied in the following order:

- Reduce internal loads
- Reduce building envelope loads
- Reduce HVAC distribution system losses
- Decrease HVAC equipment energy consumption
- Major HVAC reconfigurations.

"It is useful to understand how far energy efficiency measures can go to reduce the use of energy in the built environment," Glazer said. "It is also important to understand that many of the measures used in the project are widely available today."

After each measure was applied to each of the 272 building and climate combinations, if the energy consumption was reduced, it remained in the model. After all 30 measures were applied, the projected U.S. national weighted energy consumption for new buildings was nearly cut in half compared to Standard 90.1-2013.

The 30 energy efficiency measures modeled were:

- LED Exterior Lighting
- Highest Efficiency Office Equipment
- High Performance Lighting (LED)
- Shift from General to Task Illumination
- Optimal Daylighting Control
- Optimal Roof Insulation Level
- Optimal Choice of Vertical Fenestration
- External Light Shelves
- Daylighting Control by Fixture
- High Performance Fans
- High Performance Ducts to Reduce Static Pressure
- Demand Controlled Ventilation/CO2 Controls
- Multiple-Zone VAV System Ventilation Optimization
- Optimal Water/Air Cooling Coils
- Occupant Sensors for Air Handling Equipment
- Energy Recovery Ventilators
- Indirect Evaporative Cooling
- High Efficiency/Variable Speed Packaged DX Cooling
- High Efficiency Heat Pumps
- Ground Source Heat Pump
- High Efficiency and Variable Speed Chillers
- Heat Recovery from Chillers
- High Efficiency Boilers
- High Efficiency Building Transformers
- Chilled/Cooled Beam
- Dedicated Outside Air System with Heat Recovery
- Underfloor Air Distribution
- Hybrid/Mixed Mode Ventilation
- Radiant Heating and Cooling and DOAS
- Variable Refrigerant Flow Air Conditioning

The cost of ASHRAE 1651-RP, *Development of Maximum Technically Achievable Energy Targets for Commercial Buildings: Ultra-Low Energy Use Building Set*, is free for ASHRAE members (\$30, non-members.) To order, visit www.ashrae.org/bookstore or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide) or fax 678-539-2129.

ASHRAE, founded in 1894, is a global society advancing human well-being through sustainable technology for the built environment. The Society and its more than 55,000 members worldwide focus

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on building systems, energy efficiency, indoor air quality, refrigeration and sustainability. Through research, standards writing, publishing, certification and continuing education, ASHRAE shapes tomorrow's built environment today. More information can be found at www.ashrae.org/news.



2016-04-27 21:32:30

2016 IAQ STANDARD PUBLISHED BY ASHRAE

Por Jodi Scott - Ashrae. **ATLANTA** – Requirements regarding multifamily residential dwellings, environmental tobacco smoke, and operations and maintenance are among changes to ASHRAE's newly published indoor air quality standard.

ANSI/ASHRAE Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*, sets minimum ventilation rates and other requirements for commercial and institutional buildings.

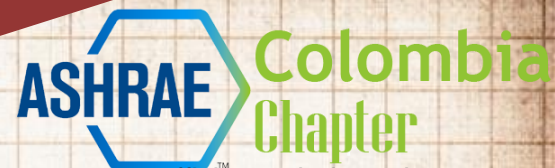
"The latest version of Standard 62.1 contains changes that affect high rise residential spaces, the indoor air quality procedure, laboratory exhaust and demand control ventilation," Hoy Bohanon, chair of the Standard 62.1 committee, said. "Designers and users of the standards who are involved with those spaces or processes will benefit from using the up-to-date requirements."

As with the 2016 version of Standard 62.2, *Ventilation and Acceptable Indoor Air Quality in Residential Buildings*, the scope of Standard 62.1 has changed. Multifamily residential dwelling spaces have been removed from the standard and now are covered under 62.2, according to Hoy Bohanon, chair of the Standard 62.1 committee. Spaces outside of the dwelling space such as corridors, lobbies, fitness rooms, retail, etc., remain covered by Standard 62.1.

Other major changes are:

- Revision of the definition of "environmental tobacco smoke" (ETS) to include emissions from electronic smoking devices and from smoking of cannabis.
- Revision of operations and maintenance requirements to more closely align with the requirements in ASHRAE/ACCA Standard 180-2012, *Standard Practice for Inspection and Maintenance of Commercial-Building HVAC Systems*.
- Addition of requirements to the Indoor Air Quality Procedure for determining minimum ventilation rates by including consideration of the combined effects of multiple contaminants of concern on individual organ systems.
- Assignment of laboratory exhaust to a default of Air Class 4, with an explicit allowance for a responsible environmental health and safety professional to determine that a lower air class is appropriate for particular systems.
- Reduction of ventilation allowed to zero through the use of occupancy sensors (not through contaminant or carbon dioxide measurements) for spaces of selected occupancy types, provided that ventilation is restored to V_{bz} whenever occupancy is detected.
- Changes of language related to demand control ventilation confirming that the standard is intended to be used for physical operation in addition to calculations for code review.

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The cost of Standard 62.1-2016, *Ventilation for Acceptable Indoor Air Quality*, is \$84, ASHRAE members (\$99, non-members). To order, visit www.ashrae.org/bookstore or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide) or fax 678-539-2129.

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2016-04-28 18:02:15

ASHRAE REVISES COMMISSIONING CERTIFICATION TO MEET DOE GUIDELINES

Por Jodi Scott - Ashrae. **ATLANTA** – Revised requirements for ASHRAE's certification program will provide earners with recognition by United States government agencies for contracts requiring commissioning services.

Due to take effect Sept. 15, 2016, ASHRAE's commissioning certification program will validate competency against the Better Buildings Workforce Guidelines scheme requirements for the Building Commissioning Professional set forth by the National Institute of Building Sciences (NIBS) Commercial Workforce Credentialing Council (CWCC). The goal is to achieve U.S. Department of Energy (DOE) recognition by the summer of 2017 of services provided by these certificants. The ASHRAE certification will be known as the Building Commissioning Professional (BCxP).

Current ASHRAE certified Commissioning Process Management Professionals (CPMPS) will be able to renew against these new scheme requirements beginning in 2017. Those who do so will earn the ASHRAE BCxP certification designation valid for three years.

"This update will not only help ensure the continued validity and relevance of ASHRAE's commissioning

certification but also add value," ASHRAE President David Underwood, who holds an ASHRAE commissioning certification, said. "DOE recognition of ASHRAE's commissioning certificate will help ensure quality services are provided by these professionals as well as increase consumer confidence in the service provided and ultimately ensure the quality and performance of buildings."

ASHRAE had a role in developing the Guidelines through its participation on the Board of Advisors for the NIBS' CWCC. The CWCC works to establish voluntary national guidelines to improve the quality and consistency of commercial building workforce credentials.

The purpose of the Better Buildings Workforce Guidelines is to reduce the confusion and uncertainty around workforce credentialing, lower costs, and support better credentials, better workers and better buildings. The Guidelines set an industry-validated Job Task Analysis (JTA) for each of four, key energy-related jobs, building energy auditor, building commissioning professional, building operations professional and energy manager, as certification schemes and learning objectives for training programs.

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NEXT TECHNICAL EVENTS

ANNUAL MEETING: St Louis, Mo, June 25 - 29, 2016

SUPPORT THE CHAPTER

We kindly request you to support the chapter. You can do by paying the chapter dues when renewing your membership in the ASHRAE web page. If you like the job we are doing, please, let us know.

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Please, write to us and tell us how we are doing. What subjects are you interested in order to get the Lecturers in the particular subject.

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