



KANSAS CITY CHAPTER

TECHNOLOGY FOR A
BETTER ENVIRONMENT

ASHRAE BREEZE

A publication of the Kansas City Chapter of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.

Editor: Jason Funk <http://www.kcashrae.org/>

September 2011

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September Program

Holiday Inn Hotel & Suites
Overland Park – West
8787 Reeder Road (Hwy 69 and 87th Street)
Overland Park, Kansas 66214

September Meeting
Monday, September 12, 2011
11:30 a.m. – 1:00p.m.
Lunch with Chapter Meeting Following

Topic: UV Water Disinfection
Speaker: Mr. Ryan McAfee
Special Event: ASPE

Menu

Country Fried Chicken Salad

Tossed Greens topped with special recipe battered fried chicken strips and served with a tangy honey mustard sauce.

Boston Creme Pie

RSVP by Deadline of September 8th at Noon

To: **Jerri Brewer**

Email: jerri.brewer@hei-eng.com

Lunch / Seminar Fees

\$20 – Members

\$25 after RSVP deadline

September Program

UV Water Disinfection

Our first technical session on Monday, September 12, 2011 is during a joint meeting with ASPE. This joint meeting requires a topic of interest to both disciplines. For this special meeting our technical session topic is Ultraviolet and Chlorine Dioxide Fluid Disinfection presented by Ryan A. McAfee, P.E., LEED AP with Mac Water Technologies.

Ryan A. McAfee, P.E., LEED AP

Mr. Ryan McAfee is the President and Chief Executive Officer of MAC Water Technologies, Inc. He earned his Bachelor of Science degree in Mechanical Engineering at Kansas State University, Master's degree in Business Administration at Baker University, and received his Professional Engineering (P.E.) license and LEED Accredited Professional certificate. Ryan has over 10 years of experience in industrial and municipal fluid design and disinfection systems.



MAC Water Tech has designed and installed disinfections systems in the United States and internally, ranging from the oil industry, food ingredients, pharmaceutical manufacturing, and potable water.

The technical presentation is about using ultraviolet (UV) light and chlorine dioxide (ClO₂) for fluid disinfection. The presentation covers traditional lamp and microwave UV generation, and traditional and on-demand chlorine dioxide generation. The presentation will address the pros and cons of each type of disinfection along with the required equipment and supplies

Hope to see everyone at this month's technical program! Please send RSVP's to Jerri Brewer by **Noon, Thursday, September 8th** .

President's Message

September 2011

School's back in session, the Chiefs are losing all of their pre-season games and the Breeze is out, that must mean that summer must be over. We still have a few weeks of summer on the calendar and it sure still feels like summer outside. However, it's time to **begin** the 2011-2012 Kansas City ASHRAE Chapter Year.



Since our last chapter meeting in April, the Kansas City Chapter of ASHRAE has still been active. The Golf Tournament was held on June 3, delayed from the originally scheduled date in May due to an unscheduled downpour. June 30th brought the end of the ASHRAE year with the KC Chapter exceeding our Research Promotion goal for the year. July 21st was our first Board of Governor's (BOG) Meeting and August 4-6th was the Region IX CRC.

This was the third CRC that I have attended and I enjoy them more and more every time I attend. It's a great place to meet other interesting members and to learn about how we can do things better as a chapter. One item that all of the chapters are amazed about is our meeting attendance. Last year we averaged 121 people per meeting with some meetings having in excess of 150 people attending.

I believe that good attendance begins with good programs. Tom Benassi and committee have been working on an excellent series of speakers, tours and activities that should make this year great. We will have several joint meetings this year, starting out with ASPE in September and again in January 2012. We will also have joint meetings with Mechanical Contractors Association in October and Kansas City Area Healthcare Engineers in December. Maybe we can set a new attendance record!

In the coming months we will be transitioning our chapter website www.kcashrae.org to different host, simplifying the process to keep it up to date. In addition, we will be requiring members to sign up and pay for the chapter meeting on the website. We have been working for two years to move the website to a new location and add this feature. We believe that we will be able to provide more accurate counts to the hotel and reduce the long line the check in at the beginning of the meetings. Please bear with us as we make the transition to this new and exciting technology.



Finally, the **Pub Crawl** is coming up quickly on **September 29th**. Please see the sign-up sheet in this edition of the Breeze in order to participate in this exciting and fun social event.

Please do not hesitate to contact me with any questions or concerns or any suggestions you might have to make your association with ASHRAE and our chapter more productive. My e-mail address is bellis@burnsmcd.com.

Blake Ellis
Chapter President

2011 Chapter Regional Conference Summary

This year's Region IX Chapter Regional Conference (CRC) was held in El Paso, Texas on August 4-6, 2011. Blake Ellis, Tom Benassi and Susan Nagel attended from the Kansas City Chapter. The CRC is a great place to get to know other members from the other ASHRAE Chapters in our region and expand your personal and professional network. In attendance was the current ASHRAE President Ron Jarnigan as well as ASHRAE Vice President Tim Wentz.

Education Sessions: *Friday Afternoon.....*

- ASHRAE Distinguished Lecturer Shelia Hayter presented “Integrating Renewable Energy Systems in Buildings
- ASHRAE Distinguished Lecturer Mike Brandenuehl presented “Building Energy Modeling”

Relaxing at the Pool: *after the education sessions.....*



Friday Entertainment: *Friday Evening at VIVA! El Paso.....*



Friday evening the group attended the VIVA! El Paso show celebrating its 31st anniversary this summer in El Paso's McKelligon Canyon Amphitheater. An outdoor musical drama, VIVA! performance chronicled the 400 year history and cultural evolution of the El Paso region.

Awards:

The Kansas City Chapter continues to be one of the strongest chapters in the Region and was fortunate again to receive several awards at the El Paso CRC including:

• Full Circle	• CRC Meeting & Attendance Honor Roll
• Membership Promotion 2nd Place	• Red Ribbon Award – Jason Funk, Membership
• ASHRAE Research Chapter Investor	• Runner Up Dollars Paid Per Member
• ASHRAE Region IX Technology Award – 1st Place, Blake Ellis, TECO Thermal Energy Storage	• ASHRAE Region IX Best Chapter Joint Meeting – ASHRAE & BOMA
• Presidential Award of Excellence – KC Chapter, Kelly Johnson	• ASHRAE Research Certificate of Achievement for Exceeding Goal – Blake Ellis

Next Year's CRC: Plan to attend next year's CRC, it's open to all ASHRAE members! The 2012 CRC is being hosted by the Big Sky Chapter in Billings, Montana from August 2-4, 2012. It's only a short drive to Yellowstone from Billings, so bring the family and..... ***Plan your CRC & Yellowstone Trip Now!***

4th Annual Kansas City ASHRAE

Putt-Putt Pub Crawl

Benefiting ASHRAE Research!!

Thursday, Sept 29th, 2011

Waldo District: 75th & Wornall

Registration Begins at 3 pm at Lew's Grill & Bar

Shotgun Start at 4 pm

"Awards Ceremony" and Appetizers 7 pm - ?



Entry Fee of \$150 per Team Includes:

-4 Person Team Putt-Putt Registration, Drinks, Appetizers at Registration and After Party, Prizes

THIS IS A GREAT OPPORTUNITY TO INVITE YOUR CLIENTS OUT FOR AN EVENING OF FUN!! THERE IS A LIMITED NUMBER OF SPACES, AND TEAMS WILL BE REGISTERED FIRST COME, FIRST SERVED.

Contact the following with questions:

Jeff Ewens	jeff.ewens@me-engineers.com	913.894.4455
Andy Price	aprice2@trane.com	913.307.8677
Amber Crosley	amber.crosley@crbusa.com	913.894.4455
Austin Allen	austin.allen@hei-eng.com	913.742.5608
Susan Nagel	susan.nagel@crbusa.com	913.742.5612

Registration/Reservation

4th Annual ASHRAE Putt-Putt Pub Crawl, Sept. 29th, 2011

Player 1 (captain)
Player 2
Player 3
Player 4
Captain's Email

Hole Sponsor (\$150 Donation) _____(company name/contact)

Sponsorship Includes: Company Logo on Banner and Scorecards, Sign at sponsored hole, registration or after-party, Recognition at ASHRAE meetings and in the Breeze, (2) Volunteers from your company to work a hole(optional), (6) Drink tickets per volunteer during the event.

****DISCOUNT!!! - Hole Sponsorship AND Team Registration Fee = \$250 (SAVE \$50!!)****

Mail Check payable to ASHRAE/KC Chapter along with registration form to Jeff Ewens, M-E Engineers, 300 Wyandotte, Suite 450, Kansas City, MO 64105 (816) 474-1056

4th Annual Kansas City ASHRAE Putt-Putt Pub Crawl

Sponsorship Form

Benefiting ASHRAE Research!!!

Thursday, September 29th, 2011

**Waldo District
75th & Wornall**



Sponsorship Includes:

- Company Logo on Banner and Scorecards
- Signage at Sponsored Hole, Registration or After-Party
- Recognition at ASHRAE meetings and in the ASHRAE Breeze
- Recognition at the ASHRAE meetings
- (2) Volunteers from your company to work a hole (optional)
- (6) Drink Tickets per Volunteer during the event

Please email a completed version of this form, a company logo, and questions regarding sponsorships to Amber Crosley: amber.crosley@crbusa.com 816-807-0308

Sponsorship Information

Company Name _____

Contact Name _____

Phone Number _____

Email _____

Volunteer 1 _____

Volunteer 2 _____

<u>Description</u>	<u>Cost</u>	<u>QTY</u>	<u>Total</u>
Hole Sponsorship	\$150 x	_____ =	_____
Hole Sponsorship & Team Registration	\$250 x	_____ =	_____
Additional Volunteers (inc 6 drink tickets)	\$15 x	_____ =	_____
Total			_____

**Mail Check payable to ASHRAE/KC Chapter along with registration form to Jeff Ewens,
M-E Engineers, 300 Wyandotte, Suite 450, Kansas City, MO 64105**

Fall 2011 YEA Leadership Weekend

September 30 - October 2, 2011

Atlanta, GA

ASHRAE YEA Leadership Weekend is just around the corner...

Register today!

Are you interested helping develop the skills and education of the future leaders of the industry? Look no further than YEA Leadership Weekend!

YEA Leadership Weekend is an opportunity for the future leaders of ASHRAE to learn more about Society, develop soft skills and network with other young professionals. **This event will be held the weekend of September 30 – October 2, 2011, in Atlanta, GA.**



The event includes segments on understanding one's personality as well as other types, leadership development for young professionals, communication techniques and ASHRAE leadership opportunities. Objectives of leadership weekend are:

- Leadership
- Networking
- Communication
- Professional Development

YEA Leadership Weekend is a great opportunity for any YEA member. Encourage the young professional engineers you know to take advantage of this event. **Registration is now open** and will close on **Tuesday, September 6, 2011. Only the first 30 registrants will be accepted, so don't wait to sign up!**

You can learn more about this event at www.ashrae.org/YEAleadershipweekend or e-mail your questions to Rhiannon Loomis at rloomis@ashrae.org.

Young Engineers in ASHRAE
www.ashrae.org/yea
Phone: (678) 539-1178
Fax: (404) 321-5478

We would love to hear from you!
Email: rloomis@ashrae.org
1791 Tullie Circle NE
Atlanta, GA 30329

Research Promotion – Kansas City Chapter

The Research Promotion Campaign annually raises funds to support ASHRAE's research program. It is conducted by the Society's membership through local chapter volunteers and receives over 7,000 contributions each year from the membership and companies associated with the HVAC&R industry.

This annual support totals more than \$1.5 million annually and is matched dollar-for-dollar by ASHRAE from the proceeds of the annual winter AHR Exposition. Since ASHRAE pays all the fund raising expenses, **100% of every donor's invested dollar goes into the research program.**

2010– 2011 Research Promotion Campaign Results

Despite the current economic times, the 2010 – 2011 ASHRAE Research Promotion Campaign was a success at all levels.

Society Level:

At the society level, ASHRAE exceed both the fundraising goal as well as the \$2 million mark with a total of **\$2,163,606** donated to ASHRAE research for the year. It went down to the last minute, but when the smoke cleared we exceeded the goal by 3%.

Region IX:

Region IX is comprised of thirteen chapters located between the Kansas City and Springfield, MO area west to the states bordering the Pacific Ocean and the Southwest United States. The region goal was \$160,000 and we were able to beat it by 24.3% for a total of **\$198,899**. Eleven of the thirteen chapters met their goals.

Kansas City Chapter:

Last Year, our goal was \$27,200 and we were able to raise **\$30,694** (112.8% of goal) for ASHRAE Research! Thank you to everyone who donated last year to make it such a great success. Also congratulations to Blake Ellis for an excellent campaign and setting the bar high for me in the upcoming year.

2011 – 2012 Research Promotion Campaign Goals

Every July 1, the slate starts anew and this year the Kansas City Chapter has a **goal to raise \$28,000** for the 2011 – 2012 year. Look for events such as the raffle at each meeting, the Pub Crawl and other ASHRAE events to help us meet those goals.

Individual or company contributions can be made by mailing checks payable to ASHRAE Research to:

Jim Van Hoecke
McQueeney Group
8820 Bond
Overland Park, KS 66214

ASHRAE, Inc. is a 501(c)(3) non-profit organization and ASHRAE Research Canada is a registered non-profit organization in Canada. Contributions from U.S. citizens and businesses and from Canadian businesses are deductible as allowed by law.

Jim Van Hoecke
2011 – 2012 Research Promotion Chair

Student Activities Announcements

ASHRAE Design Competition

Congratulations to Kansas State University for **placing 2nd in the ASHRAE Student Design Competition** in the **HVAC System Category**.

Their goal was to select the most appropriate HVAC system for the Drake Well Museum, a museum dedicated to the oil industry, in Pennsylvania. The owner required the system to be energy efficient and sustainable as outlined by ASHRAE standards 90.1 and 189.1. A challenge of the project was meeting the stringent humidity and temperature set points required to preserve the artifacts and displays.



K-State's team decided to pursue a system combining ground source heat pumps and active chilled beams. Four water-to-water ground source heat pumps provided the service hot water or service chilled water that allowed the active chilled beams to condition the air in the spaces. Three water-to-air ground source heat pumps provided the conditioned outside air that was introduced at the active chilled beams to satisfy ventilation requirements as well as partly addressing the humidification of the building while additional humidifiers and dehumidifiers assisted. Energy recovery wheels were also implanted and a four pipe ground source system allowed for simultaneous heating and cooling based on the specific needs of zones. Their design had 15 zones that were determined based on space use, exposure, and occupant density. K-State chose this system because it met the Museum and owner requirements while being inventive.

Members of the team included Jordan Bartholomew, Sean Kolich, Elizabeth Ourecky, Kimberly Pierson, Curtis Whittit, and advisors Julia Keen and Fred Hasler. Congratulations!



K.C. ASHRAE Scholarship Winners

There was some stiff competition but, Andrew Christensen, Christopher Vail and Benjamin Noe were selected as this year's scholarship winners. Congratulations to them and good luck with this school year. We hope to see you at some upcoming ASHRAE events!

How can I Become an ASHRAE Member?

We encourage you to join ASHRAE, a leader in sustainability and the premier source for the latest technology in HVAC&R. There are two ways to join ASHRAE. The first and the easiest is to visit the website www.ashrae.org. Or, you can complete the application below and mail it in. You will automatically become a member of the Kansas City chapter after joining. Feel free to contact membership committee chair, Reid Begnoche, reid.begnoche@siemens.com with questions.

Member Benefits and Resources

Publications & Resources



- The ASHRAE Handbook — the indispensable, industry-wide resource for all HVAC&R professionals. (Available to Members and Associate Members)
- ASHRAE Journal — the most trusted monthly technical magazine in the HVAC&R community
- ASHRAE Insights — the monthly newsletter of key Society news and activities
- HVAC&R Industry News — a weekly electronic news resource keeping ASHRAE members abreast of the latest industry news and information
- Access to the members-only resource website

Professional Education and Career Development



- Maximize your knowledge with seminars and courses from the ASHRAE Learning Institute
- Maintain your professional designation/license with over 40 courses
- Earn PDHs / CEUs / AIA LUs
- Build communication and management skills by participating in a technical program or technical committee

Networking



- Meet with industry experts and colleagues at chapter, region and Society meetings
 - Connect locally, regionally and internationally with over 160 chapters worldwide
 - Learn, share and grow at the ASHRAE Annual & Winter Meetings, and the AHR Expo at the ASHRAE Winter Meeting

What Do Members Say About Being a Member of ASHRAE?

Thirteen years ago, I joined ASHRAE as a student member. Since that time, I have been embraced by a community of peers from throughout the world that continues to help to build both my knowledge of HVAC&R and career as a Professional Engineer.

– RL, Winnipeg, Manitoba, Canada

ASHRAE has provided me with incredible opportunities to network with others in the industry while being of service to them. Now, in my advanced years, I am satisfying my mentoring thirst.

– LS, Prairie Village, Kansas

Being a member of ASHRAE has helped me make invaluable contacts in the HVACR industry - the annual meetings are an easy way to keep on top of every aspect of the industry as they provide opportunities for networking, information about the newest codes and chances to participate in updates to standards.

– SS, Washington, DC

To be an ASHRAE member is very important internationally, for me especially, in Argentina and Brazil. With the growth of green buildings, energy savings and sustainability, ASHRAE standards are a valuable resource. The ASHRAE community is a constant source of friends and professionals with similar ways of thinking.

– WL, Buenos Aires, Argentina

ASHRAE National Updates:

ASHRAE Assists Students with Tuition through Scholarships, Released August 15, 2011

ATLANTA—To help support future generations of engineers, ASHRAE is awarding over \$74,000 in scholarship money for the 2011-2012 school year.

“ASHRAE’s scholarship program has a strong history of supporting students,” William Murphy, Ph.D., P.E., chair of the Scholarship Trustees, said. “Many students who are seeking outside help to attend college are already working in the industry part time and are planning their careers around an area of HVAC&R. We hope that this early exposure to the industry will lead to employment opportunities in the field during and after college. These are future ASHRAE members and industry leaders, and ASHRAE is pleased to help them along their way.”

The 17 recipients of ASHRAE’s scholarship assistance are as follows:

- Reuben Trane Scholarship: \$10,000 to be awarded over two years, Andrew James, California State Polytechnic University, mechanical engineering. The scholarship was established by the Trane Co. in memory of its founder, an innovative engineer, inventor and business executive.
- Willis H. Carrier Scholarships: \$10,000 for one year, Kimberly Luebcke, Southern Illinois University-Edwardsville, mechanical engineering; and Daniel Nish, University of Akron, mechanical engineering. The scholarship was established by the Carrier Corp. in memory of its founder, who installed the world’s first scientifically designed air-conditioning system.
- Frank M. Coda: \$5,000 for one year, Sze Wong, City University of Hong Kong, mechanical engineering. The scholarship was created in memory of ASHRAE’s former executive vice president, who served from 1981-2004.

The following awards include one-year \$3,000 scholarships:

- Duane Hanson Scholarship: Zachary Koehnke, California State Polytechnic University, mechanical engineering. The scholarship was established by Gayner Engineers and is named for the company’s former president.
- Alwin B. Newton Scholarship: Isaac Lima, University of Central Florida, mechanical engineering. The scholarship is named for an industry pioneer and ASHRAE Fellow who was granted 219 patents.
- Henry Adams Scholarship: Matthew Reeves, University of South Florida, pre-engineering. The scholarship was established by Henry Adams Inc. in memory of its founder, a Charter Member and sixth president of ASHRAE’S predecessor society, ASHVE, in 1899.
- ASHRAE Region IV/Benny Bootle Scholarship: Steven Wrightenberry, North Carolina State University, aerospace engineering. The scholarship was established collaboratively by Region IV and Benny Bootle, a former Region IV director and regional chair on the ASHRAE Board of Directors.
- ASHRAE Region VIII Scholarship: Ashley Neese, University of Oklahoma, aerospace engineering. This scholarship was established by Region VIII, which includes Arkansas, Oklahoma and Mexico and parts of Louisiana and Texas.
- ASHRAE Memorial Scholarship: Valerie Smith, Kettering University, mechanical engineering.
- ASHRAE General Scholarships: Tao Yu, University of Cincinnati, mechanical engineering; and Hannah Jones, Cedarville University, mechanical engineering.
- High School Senior Scholarships: Boyd King, Arkansas Technical University, engineering; and Justin Altemus, University of Delaware, engineering. The scholarships were established in 2010 for high school seniors entering their freshman year of college in engineering or engineering technology program.
- Engineering Technology Scholarships: Addie Farr, Dunwoody College of Technology, heating, air-conditioning systems design; Anthony Stamm, John A. Logan College, HVAC&R and green technology; and Rhone Jadis, DeVry University, electronics engineering technology.

ASHRAE has created two new undergraduate scholarships to begin awarding for the 2012-13 Society year. They are the:

- Boggarm S. Setty Scholarship, which will award a one-year \$3,000 scholarship to an undergraduate engineering student attending an institution within ASHRAE Region III, which covers Delaware, Maryland, southern New Jersey, Pennsylvania, Virginia and Washington, D.C.

An ASHRAE Fellow and a member of the Society since 1972, Setty has served on more than 50 technical committees for the society.

- David C.J. Peters Scholarship, which will award a one-year \$5,0000 scholarship to a third-year student in a four-year undergraduate mechanical engineering program or a fourth-year student in a five-year undergraduate mechanical engineering program at Pennsylvania State University, Virginia Polytechnic Institute and State University or California State University at San Louis Obispo. The scholarship was created by Southland Industries to honor Peters, a tireless advocate of recruiting quality.

Over the course of 20 years ASHRAE has awarded a combined \$1 million to over 200 deserving undergraduate and graduate students. It is ASHRAE's belief that aiding these future leaders of the heating, ventilation, air-conditioning and refrigeration industry will in turn benefit society as they lead the way in sustainable HVAC&R technology.

For more information on ASHRAE scholarships, visit www.ashrae.org/scholarships. Applications are now being accepted for the 2012-13 undergraduate, regional and university-specific scholarships. The deadline is Dec. 1, 2011.

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

ASHRAE, DOE Further Working Relationship to Advance Energy Efficiency Released July 25, 2011

ATLANTA – Building on a long-established working relationship, ASHRAE and the U.S. Department of Energy (DOE) recently signed an updated memorandum of understanding, committing to further improve efficient use of energy.

The agreement was signed at ASHRAE's 2011 Annual Conference in Montreal. It represents an update of an agreement last signed in 2007.

Together ASHRAE and the DOE agree to work cooperatively to improve the efficient use of energy, improve the visible and widespread use of renewable energy sources and to minimize the impact of energy use on the environment.

"By renewing our memorandum of understanding, ASHRAE and DOE pledge to combine our collective energy conservation efforts," ASHRAE President Ron Jarnagin said. "We are committed to leading our country and our world toward a sustainable energy future."

Specifically the agreement notes that ASHRAE and the DOE are committed to working together in the following goals:

- Promote and support the continued development of ASHRAE standards related to energy efficiency, including:
 - oANSI/ASHRAE/Illuminating Engineering Society (IES) Standard 90.1, Energy Efficient Design of New Buildings Except Low Rise Residential Buildings
 - oANSI/ASHRAE/IES Standard 90.2, Energy Efficient Design of Low-Rise Residential Buildings
 - oANSI/ASHRAE Standard 62.1, Ventilation and Acceptable Indoor Air Quality In Commercial, Institutional, Industrial and High-Rise Residential Buildings
 - oANSI/ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings
 - oANSI/ASHRAE/IES Standard 100, Energy Efficiency in Existing Buildings
 - oANSI/ASHRAE Standard 135, BACnet® – A Data Communication Protocol for Building Automation and Control Networks
 - oANSI/ASHRAE/USGBC/IES Standard 189.1, Standard for the Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, and
 - oProposed ASHRAE/NEMA Standard 201, Facility Smart Grid Information Model
- Support a goal for the 2013 version of Standard 90.1 to be 50 percent more energy efficient than the 2004 version of Standard 90.1.
- Promote and support Standard 90.1 through training programs, including self-directed learning, building interaction and ASHRAE chapter-oriented training.
- Cooperate in promotion for the adoption of Standard 90.1 in building codes and in the International Standards Organization (ISO) standards.
- Collaborate on the accelerated development and distribution of advanced energy design guidance publications, such as 50 percent Advanced Energy Design Guides, which can be utilized as an alternative to the prescriptive path in Standard 90.1-2013, for a more sustainable built environment.

- Work within the building community and related professions to encourage the interoperability of building related software and integrated solutions among design disciplines, manufacturers, contractors, building owners and operators, to increase energy efficiency, health and productivity in new and existing buildings.

- Provide and support communication of information regarding technology transfers to building owners and management about the interrelationships between mechanical systems and building operating costs, noting energy, indoor environmental quality workplace performance, client satisfaction and public safety.

- Collaborate to increase the impact of the energy hubs created as part of the DOE Energy Efficient Building Systems Regional Innovation Cluster Initiative.

- Support the development and implementation of next-generation refrigerants that achieve Low-global warming potential targets and concurrently improve equipment energy efficiency.

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New ASHRAE Research Program Grant Fosters Development of Innovative Technology Released August 3, 2011

ATLANTA – A new research grant from ASHRAE will provide seed funding for novel research deemed to have the potential to significantly advance the state-of-the-art in HVAC&R.

The ASHRAE Innovative Research Grant is designed to encourage out-of-the box research to complement the research proposed and guided by the Society's technical committees. The award carries a base grant of \$50,000 per year for two years, with an additional \$25,000 available in the third year if matched by an industrial contributor. Pre-proposals are due Sept. 1.

"ASHRAE wants to foster the development of new and innovative technology and/or analysis tools," James Braun, Ph.D., P.E., recent chair of ASHRAE's Research Administration Committee that oversees the grant, said. "Most current research related to HVAC&R is prescriptive and geared toward addressing specific issues or problems that are common within the field. Typically, the focus is on existing technologies or tools. However, new technologies and tools don't always build directly on existing approaches. Our hope with this grant is to encourage out-of-the box research that will result in successful projects, which lead to additional research and development down the road and ultimately to adoption of new technologies and tools that can make an impact within the field."

The program criteria are based on novelty of the research; importance of the problem; potential for success; student involvement; and cost sharing. Pre-proposals are due Sept. 1 and should be submitted to Michael Vaughn, ASHRAE's manager of research and technical services, at mvaughn@ashrae.org, and should include "ASHRAE Innovative Research Grant Submission" as the subject line in the message. For more information on the program, visit www.ashrae.org/research and click on the link for "ASHRAE Innovative Research Grant Program."

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What is Energy Use Intensity? ASHRAE Seeks to Define, Educate Release July 26, 2011

ATLANTA – While the importance of building energy performance metrics to reduce energy use is accepted worldwide, there is no single generally accepted definition of that metric. Currently, proposed relative energy use reduction targets are subject to interpretation and difficult to verify.

Under a new initiative, ASHRAE is working to define one clear, logical metric to move the building industry toward producing net zero energy buildings by 2030. The U.S. Congress has mandated a series of relative fossil fuel energy use reductions in federal buildings ending in a 100 percent reduction of fossil fuel energy by 2030. Congress is considering applying similar relative energy use reductions in all buildings through the use of building energy codes adopted by state and local government.

"We must address buildings as entire living entities," ASHRAE President Ron Jarnagin said. "As such, we need to establish energy targets for building design that provide a total building energy use goal to strive toward that can subsequently drive the development and application of any number of prescriptive solutions."

A forum seeking input on the energy target initiative was held at ASHRAE's 2011 Annual Conference in Montreal, June 25-29. Also, ASHRAE has developed a public policy brief asking Congress to foster collaboration among the U.S. Department of Energy, the National Institute of Standards and Technology and the U.S. Environmental Protection Agency and ASHRAE along with partner organizations to:

- Establish a single objective definition of energy use intensity (EUI) for the design of commercial buildings
- Determine a single objective baseline EUI for design of commercial buildings from which to measure relative energy use reductions
- Create a performance environment that will support reduction in energy consumption associated with all loads in commercial buildings
- Identify a single objective set of commercial building types and simulation models for establishment of target design EUIs
- Produce one set of design target EUIs for the commercial building sector to guide the development of future energy codes and standards and building energy codes adopted by state and local government

"EUIs are very helpful for setting performance-based design goals," Jarnagin said. "The current focus on reduction of energy use in building stock has made the use of EUIs popular by governmental organizations, non-government organizations and building industry groups, including ASHRAE. Given that there is no clear single definition for EUIs, comparing one organization's EUI goals to another's is confusing, particularly since everyone tends to use the same units, kBtu/ft²-yr. Our goal is to develop and promote technical tools to assist the commercial building design and construction industry in moving toward higher performing buildings. Defining design energy use targets is a large part of achieving that goal."

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Data Centers, Standards 90.1 and 189.1 Featured in ASHRAE Fall Educational Courses Release August 11, 2011

ATLANTA – Three new courses related to data center efficiency and ASHRAE standards on energy efficiency and high-performance building design are part of the 12 online professional development courses being offered this fall by ASHRAE through the ASHRAE Learning Institute (ALI).

ALI courses provide professional development through in-depth information that is timely, practical and advanced beyond a fundamental level. The online courses allow attendees to log in to learn from anywhere with an Internet connection. Course participants earn continuing education credits for each seminar completed. Courses are instructor-led, drawing upon professional knowledge of leading practitioners.

The courses are:

- Basics of High-Performance Building Design, Sept. 19
- Advanced High-Performance Building Design, Sept. 21
- Fundamental Requirements of Standard 62.1-2010, Ventilation for Acceptable Indoor Air Quality, Sept. 26
- Complying with Standard 90.1-2010: HVAC/Mechanical, Energy Standard for Buildings Except Low-Rise Residential Buildings, Sept. 29
- Complying with Standard 90.1-2010: Envelope/Lighting, Oct. 3
- Healthcare Facilities: Best Practice Design, Oct. 31
- Healthcare Facilities: Best Practice Applications, Nov. 2
- Evaluating the Performance of LEED®-Certified Buildings, Nov. 7
- Project Management for Improved IAQ, Nov. 9
- Data Center Energy Efficiency, Part 1, Oct. 10, and Part 2, Oct. 12
- Using Standard 90.1 to Meet LEED Requirements, Part 1, Oct. 17, and Part 2, Oct. 19
- Implementing Standard 189.1, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings, Part 1, Oct. 24, and Part 2, Oct. 26

For registration costs and to register, visit www.ashrae.org/onlinecourses. Site licenses are available to organizations that will be having five or more seminar participants. For more information, e-mail edu@ashrae.org or call 678-539-1146.

ASHRAE, founded in 1894, is an international organization of some 50,000 persons. ASHRAE fulfills its mission of advancing heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education.

Standard 90.1-2007 Established as National Reference Standard for Federal, Commercial Buildings by DOE

Release August 17, 2011

ATLANTA – Commercial and high-rise residential buildings, including federal buildings, must now meet requirements in ASHRAE/IESNA's 2007 energy efficiency standard, under recent rulings issued by the United States Department of Energy (DOE) that finds the standard saves more energy than the 2004 version.

ANSI/ASHRAE/IESNA Standard 90.1-2007, Energy Standard for Buildings Except Low-Rise Residential Buildings, has been established by the DOE as the commercial building reference standard for state building energy codes under the federal Energy Conservation and Production Act. As a result, states are required to certify by July 20, 2013, that they have reviewed and updated the provisions of their commercial building code regarding energy efficiency, including a demonstration that the provisions of their commercial building codes regarding energy efficiency meet or exceed 90.1-2007.

The DOE also has issued a rule that requires new federal buildings, for which the design for construction begins on or after Oct. 11, 2012, to meet the requirements of 90.1-2007.

Prior to the new rules, federal and commercial buildings had to meet requirements in the 2004 standard.

"We are pleased with this recognition that the 2007 standard saves more energy than the 2004 standard, thereby pushing the marketplace toward more energy-efficient buildings," ASHRAE President Ron Jarnagin said. "ASHRAE continues to build on the foundation of efficiency contained in Standard 90.1. We recently published the 2010 version of the standard, which results in more than 30 percent energy savings over the 2004 version. We currently are working on the 2013 standard, with a renewed focus on increasing the stringency to achieve a significant reduction in energy consumption."

The Illuminating Engineering Society (IES), cosponsor of the 90.1 standard, is also pleased with the DOE's favorable determination on the energy savings achieved in 90.1-2007, according to Rita Harrold, IES director of technology.

"As ASHRAE President Ron Jarnagin indicates, the work is ongoing through the dedication and expertise of voluntary consensus committee members from both organizations who continue to meet the challenge of developing additional requirements for energy efficient buildings," Harrold said.

"The DOE has determined that the quantitative analysis of the energy consumption of buildings built to Standard 90.1-2007, as compared to buildings built to Standard 90.1-2004, indicates national source energy savings of approximately 3.9 percent of commercial building consumption," according to the DOE. "Additionally, DOE has determined site energy savings are estimated to be approximately 4.6 percent."

The DOE noted that the newer version of the standard contained 11 positive impacts on energy efficiency. These impacts included changes made through the public review process in which users of the standard comment and offer guidance on proposed requirements. The positive impacts include:

- Increased requirements for building vestibules;
- removal of data processing centers and hotel rooms from exceptions to HVAC
- Modification of requirements regarding demand controlled ventilation, fan power limitations, retail display lighting requirements, cooling tower testing requirements, commercial boiler requirements, part load fan requirements, opaque envelope requirements and fenestration envelope requirements.

ASHRAE and IES currently are working on the 2013 standard, having published the 2010 last year. Some 30 percent energy savings can be achieved using the 2010 version of Standard 90.1 vs. the 2004 standard. Without plug loads, site energy savings are 32.6 percent and energy cost savings 30.1 percent. Including plug loads, the site energy savings are estimated at 25.5 percent and energy cost savings 24 percent.

Since being developed in response to the energy crisis in the 1970s, Standard 90.1 now influences building designs worldwide. It has become the basis for building codes, and the standard for building design and construction throughout the United States. ASHRAE and IES publish a revised version of the standard every three years.

Students Dig Deep in Practical Design Knowledge to Win ASHRAE Design Competition

Release August 23, 2011

ATLANTA-ASHRAE's 2011 Student Design Competition drilled students on their knowledge of HVAC&R system selection and design as well as integrated building design to encourage practical design.

This year's Competition featured a mock design of the Drake Well Museum located in Titusville, Pa., the site where Edwin L. Drake drilled the world's first oil well in 1859 and launched the modern petroleum industry. Among the 20-plus entries from around the world, three were awarded first place in the three categories that the Competition offers.

First place in HVAC System Design is awarded to Holly Brink, Michael Crabb, James Dougherty Jr., Andrew Gilliam and Gina Halbom of the University of Nebraska. Their faculty advisor is Grenville Yuil, Ph.D.

After analyzing three system designs, the team chose a variable air volume system with heat and ground cooled geothermal heat recovery chiller/heater. The higher initial cost of the system is countered by its overall efficiency, low maintenance and federal tax incentives. The final system design outperformed baseline case energy by 33 percent.

The team noted that, "sustainability is a difficult achievement when considering the design for museum buildings. For HVAC design, the strict temperature and humidity requirements increase the amount of energy needed for tempering outdoor air. Also, the additional MERV filters that protect air quality increase the ductwork's static pressure and thus increase the amount of fan energy needed for maintaining airflow. It is the team's opinion that the positive aspects of the design outweigh the higher cost. These positive aspects help preserve the history of the nation's oil industry while reducing the museum's impact on the environment."

First place in HVAC System Selection is awarded to Lynn Gualtieri, Evan Oda, Kristin Porter, Navid Saiidnia, Jeffrey Wong and Cameron Young of California Polytechnic State University, San Luis Obispo, Calif. Their faculty advisor is Jesse Maddren.

The team chose a water-source variable refrigerant volume (VRV) system, which includes a ground-source water loop, a dedicated outdoor air (DOA) unit and humidifiers, as well as addition of a solar array. The VRV is split into two systems: a constant environmental control system for the collections areas and galleries, and a standard environmental control system for the offices, education center, auditorium and lobby. In each separate system the latent and sensible load were decoupled - the VRV fan coils handle the sensible load while a DOA unit with humidifiers handles the latent load.

This setup allows the entire VRV system to control the indoor environment to specified conditions. The advantage of having two systems is the standard environmental control system can be completely shut off during non-occupied hours, which saves energy when compared to running a single large DOA at very low part load.

First place in Integrated Sustainable Building Design is awarded to Te Qi, Zhang Qiqi and Chen Yuanyi of Tianjin University, China. Their advisors are Liu Junjie and Long Zhengwei.

The students integrated a ground-source heat pump for space conditioning and domestic hot water; optimized the fenestration (quantity, location and type of windows); added a solar heat storage system with thermal solar collector; changed the building orientation to 5 degrees south to the east for more efficient orientation; and used thermal mass in walls to reduce heating and cooling loads.

The team had to build detailed energy simulation models, and they demonstrated they understood synergy and compromise when they noted "as for modeling and simulation research, it is essential to integrate different modeling strategy to evaluate a building performance. Through this process, we find sometimes they contradict each other. However, they sometimes support each other. "

The competition recognizes outstanding student design projects, encourages undergraduate students to become involved in the profession, promotes teamwork and allows students to apply their knowledge of practical design.

The first place teams are given 10-15 minutes to present their projects at the 2012 Winter Conference in Chicago, Jan. 21-25.

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2010-2011 Kansas City ASHRAE Chapter Committee Chairs

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Kelly Johnson	Past President	kjohnson@heartlandhydronics.com	913-481-2281

Updated 08/30/11

Chapter Events Calendar for 2011-2012

Chapter Events Calendar for 2011 – 2012

The following table is the Kansas City ASHRAE Chapter Meeting and Events planned for the 2011/2012 Chapter year. Additional programs, tours, and speaker ideas are welcome. Please contact Program Chair, Tom Benassi at tbenassi@mmccontractors.com

Topics, speakers, meeting times listed are subject to change or revision. Watch for updates in future newsletters and on the Chapter website: www.kcashaer.org

Date	Time	Event/Speaker	Subject	Special Guests	Location
Sep 12 2011	11:30 – 1:00	Ryan McAfee	UV Water Disinfection	ASPE	Holiday Inn
Sep 29 2011	5:30 - ??	4 th Annual Putt-Putt Pub Crawl		Membership Promotion	Waldo District (75 th & Wornall)
Oct 3 2011	5:30 – 7:30	Interactive Proposal Preparation / Mike Kotubey	Integrated Project Delivery 101	Student Night / Mechanical Contractors Association	Holiday Inn
Nov 7 2011	11:30-1:00	Ken Loudermilk	Chilled Beam Design		Holiday Inn
Dec 5 2011	11:30-1:00	Lynn Van Winkle	Steam System Design in Hospitals	Kansas City Area Healthcare Engineers	Holiday Inn
Jan 9 2012	11:30-1:00	Vince Wedelich	Engineering Ethics	ASPE, Membership Promotion	Holiday Inn
Feb 6 2012	5:30-7:30	Bob Feduke	Psychometrics	Student Night	Holiday Inn
Mar 5 2012	TBD	TOUR			
Apr 2 2012	11:30-1:00	Nick Gangemi	Data Center Design	Research Promotion	Holiday Inn
May 2012	TBD	36 th Annual Golf Tournament			Overland Park Golf Club