



Central Oklahoma Chapter

ISSUE 1 - August
2014-2015 EDITION

www.ashrae.org
www.ashraecok.org

Sou'Wester

Monthly Newsletter of the Central Oklahoma Chapter



Table of Contents

President's Message: <i>Another New ASHRAE Year in</i>	2
History Message: <i>A Cornhusker Who Has Served Well</i>	3
Chapter Technology Transfer: <i>Year's Programs</i>	4
ASHRAE Annual Fall Golf Tournament Sponsorship	5
YEA: <i>Kick-Off & Social Event</i>	6
Student Activities: <i>Involvement & Ideas</i>	6
ASHRAE Annual Fall Golf Tournament Sign-Up Form	7
Membership Promotion: <i>How to Benefit From Your</i>	8
Research Promotion: <i>Funding & Contribution</i>	8
Refrigeration: <i>Tour Ideas</i>	9
Governmental Activities: <i>State & Local Involvement</i>	9
Honors & Awards: <i>First Step of Peer Recognition</i>	9
COK Chapter Contact Information	10
Misc Advertisements	11-12

UPCOMING EVENTS

- August Board of Governors Meeting
August 25th, 11:30am
Junior's West Oil Center Bldg,
2601 NW Expressway-Basement Level
- ASHRAE COK Annual Fall Golf Tournament
September 8th, 11:30am Registration ; 1pm Shotgun Start
Kickingbird Golf Course
1600 E Danforth, Edmond, OK 73034
- YEA Kick-Off Social Event
September 18, 3:00pm
The Barrel
4308 N Western Ave, OKC, OK
- October Chapter Meeting
October 1, 11:30am Lunch
3rd Floor Retail Space of 50 Penn Place
Secretary Teague; State Secretary of Energy & Environment

Another New ASHRAE Year in Central Oklahoma

President's Message

By: Joe Sanders

The thought of having to write this President's Message has been gnawing at me for the better part of two and half years. For some reason, this task has been one of the only duties of being a chapter president that constantly concerned me and often kept me awake at night. Really, I have to come up with a topic for ten different President's Messages? And here I'm already struggling to belt out number one! The bright side is that there are a lot positive things to look forward to as we prepare to kick off another new ASHRAE year in central Oklahoma.



Joe Sanders
2014-2015 Chapter President

With the annual golf tournament in less than a month, the push to find sponsors and sign up teams is underway. The golf tournament is our largest single fundraiser every year, every dollar of profit goes back to research and to scholarships for local students. If you haven't yet, make sure and get your team entered so you can join us. More information can be found inside this newsletter.

Michael Wilson has been hard at work putting together a great slate of programs that we feel you will find interesting and informative. We are excited to be able to welcome Oklahoma's Secretary of Energy and Environment, Michael Teague, as our first speaker in October. Secretary Teague will be presenting on his vision for the future of Oklahoma's energy policy. Watch for more information on this guest and other meeting topics in future newsletters.

As you should have seen already, we are reincarnating the printed roster for our members. Over the past few years we have relied on an online version, but several of you have requested we bring back the paper copy complete with a full updated contact list and product directory. Please make sure and update your personal bio on society's website, www.ashrae.org, so that your most current information is included. Also, if you are interested in advertising in the roster please contact John Semtner, jsemtner@adgokc.com, and he can give you more details.

We're off to a great start already this year and we have a dedicated team of volunteers that are working hard to make sure the momentum continues and that you get the most out of your membership. I look forward to seeing you at the golf tournament and this year's chapter meetings! One President's Message down, nine to go....maybe this won't be so bad.

Joe Sanders

ASHRAE Central Oklahoma Chapter President



A Cornhusker Who Has Served Well

Historian Message

By: Alan Loeffler

Most every chapter member has seen David Royal either in front of a lectern at a chapter meeting or working on a building control issue with his company, Automated Building Systems. Recently I caught up with David over lunch and found out more about our most recent chapter past-president. Like a small group of other chapter volunteers, this past year was David's second time to be an ASHRAE chapter president. He was chapter president of the ASHRAE chapter in Omaha while he lived there. Because of his history with more than one chapter, his insight into chapter activities has been refreshing. "Cross pollination" brings new ideas and ways of looking at similar issues.

Background: David is a farm boy. His father farmed near Palmyra, Nebraska (population 110) until David was in the 5th grade. Then he lived in Lincoln where he graduated from high school in 1967. His Cornhusker farm background taught him the value of labor and he demonstrated it in both school and his work history. His interest in all things electrical took him to DeVry Institute in Chicago where he graduated with an Associate's Degree in Electronics. Later, after service in the Nebraska National Guard, he completed his formal education at the U of Nebraska with a BS in Electrical Engineering.

His work history has given him an interesting background. In the Chicago area during his school years he helped make military bombs (!) (Brunswick Corporation lab) and test circuits in a microphone factory (Shure Corp as a soldering joint inspector). In Omaha, he began his building controls work at Johnson Controls and another controls contractor before he launched his own company in 1983. Having known ABS over the years from factory meetings, he came to Oklahoma City in 2008 to continue his building controls career. What about the ASHRAE chapter year just ending?

Highlights: 1) Research Promotion. Our chapter again was among the top givers in Society as measured in dollars/member. 2) David's favorite event was our April chapter meeting in which Dr. Lily Wang spoke on the subject of Classroom Acoustics as affecting learning. Not only did David appreciate the lecture, but he helped make arrangements for Dr. Wang to visit the impressive acoustic lab at Governair Corporation after her lecture, which she thoroughly enjoyed. David knew Dr. Wang from his many years in Omaha.

Frustrations: We have a rather weak "leadership pipeline" in our chapter. David volunteered to serve as an officer in our chapter a few years ago when the nominating committee was frustrated in finding individuals to "get into the chairs". He pointed out that we also had frustration in the nominating committee this year. "When I was in Omaha, it was understood that if someone agreed to be on the Board of Governors, he would eventually work into the officer chairs, so we had a pretty steady stream of volunteers. It seems to me that we should move that direction in our chapter as well."

Other Suggestions: 1) "Committee chairmen should have a vice-chairman or additional members in the committee. This is how future leaders are developed. We had too many 'one person committees' this past year". 2) Online financial accounting. David feels that there would be multiple advantages for the Board of Governors to have online access to view our chapter finances. He believes there are software packages which would accomplish this.

Many thanks go to David's past and current service to our chapter. David continues to serve on the Board of Governors as well as act as our Web Master. Thank you David, our chapter Cornhusker. Maybe the "Big Red of the North" can produce more than big football players.



David Royal
2013-2014 Chapter President



Chapter Technology Transfer (CTT)

Year's Programs

By: Michael Wilson

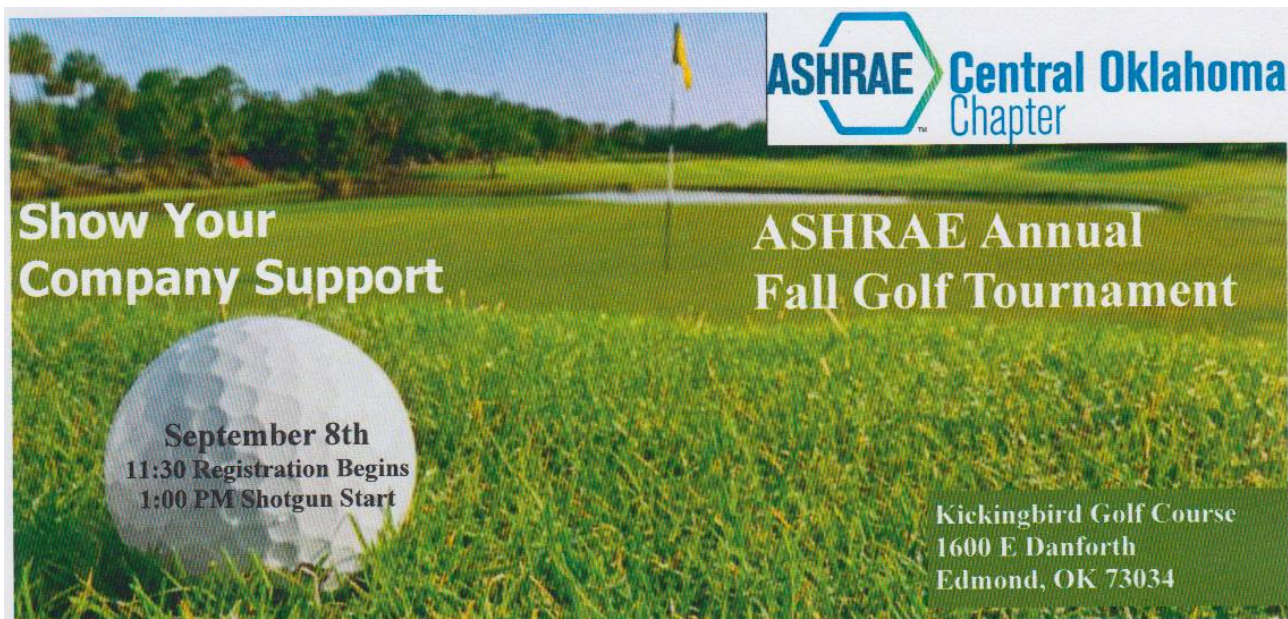
We are very excited for this year's programs for the monthly chapter meetings. A survey was sent out a few months back and we received a lot of good suggestions and ideas. This was used to help tailor the speakers to meet the interests of our members and we anticipate you will enjoy them. Most of the programs have already been filled and some of the topics include ASHRAE bEQ, VRF, ethics, energy, retro-commissioning, and hopefully a tour. Also, we plan to have one or two of this year's programs as an evening session, so if you typically cannot make it in the afternoon this would be a great opportunity for you to join us.


This year we will start big with our first speaker being the Oklahoma Secretary of Energy and Environment, Michael Teague. He is the former Tulsa District commander of the Army Corps of Engineers. Secretary Teague will be speaking to us about his role to develop and advance policies that encourage responsible environmental stewardship. I invite you to try to attend on October 1st and for more information about this office please visit their website at <http://www.ok.gov/energy/>.

If you have any ideas for events, want to get involved, or if you want to sponsor an event please contact me. Michael Wilson can be reached at 405-416-8373 or michael.wilson@guernsey.us

Upcoming Meetings and Events

Date	Event	Location	Topic	Presenter
10/01/14	October Meeting	50 Penn Place, 3rd Floor 11:30am Lunch	Secretary of Energy & Environment	Secretary Michael Teague
11/05/14	November Meeting	50 Penn Place, 3rd Floor 11:30am Lunch	Retro-Commissioning of Health Care Facilities	Ed Tinsley
12/03/14	December Meeting	50 Penn Place, 3rd Floor 11:30am Lunch	Ethics	Bruce Pitts
01/07/15	January Meeting	50 Penn Place, 3rd Floor 11:30am Lunch	Variable Refrigerant Flow (Past Presidents Night)	Joe Vincent
02/04/15	February Meeting	50 Penn Place, 3rd Floor 11:30am Lunch	ASHRAE bEQ Program (Distinguished Lecturer)	Ross Montgomery
03/04/15	March Meeting	50 Penn Place, 3rd Floor 11:30am Lunch	TBD	TBD
04/01/15	April Meeting	50 Penn Place, 3rd Floor 11:30am Lunch	TBD	TBD
05/06/15	May Meeting	50 Penn Place, 3rd Floor 11:30am Lunch	TBD	TBD





Show Your Company Support

ASHRAE Annual Fall Golf Tournament

September 8th
11:30 Registration Begins
1:00 PM Shotgun Start

Kickingbird Golf Course
1600 E Danforth
Edmond, OK 73034

The Annual Central Oklahoma ASHRAE Golf Tournament is around the corner once again. This is our Chapter's major fundraiser for Research and the Chapter Scholarship fund, and your support is needed. We ask that you help show your company's support of ASHRAE by helping sponsor this important event. This event is a great opportunity help advance our industry, as well as, a great opportunity to put your company's name in front of many industry contacts.

There are different levels of sponsorship that you can participate in. The following list shows the levels as well as the benefits you gain from each level:

Bronze Level \$300 Sign at Tee Box with Company Name

Silver Level \$600 Putting Contest Sponsor

Gold Level \$1000 Company Name & Logo on every sign plus 4 golf entry fees

Platinum: \$2500 Tournament Sponsor plus 4 golf entry fees & Special Recognition
 Make Sure you don't miss out , sign up today!

Check enclosed: Make checks payable to CENTRAL OKLAHOMA CHAPTER ASHRAE
 Contact/Billing Information:

Name: _____
 Address: _____
 City, State, Zip: _____
 Email Address: _____

Company: _____
 Phone: _____
 We Now Accept Credit Cards



Level of Sponsorship: **Bronze** **Silver** **Gold** **Platinum** (please circle one)

Please send this completed form to:
 ASHRAE Golf Tourney
 C/O Trane, INC. Attn: Bryan Garcia
 305 Hudiburg Circle
 Oklahoma City, OK 73108 or email: bdgarcia@trane.com

If you have any questions, please call or email:
 Bryan Garcia 717-7614
 email: bdgarcia@trane.com





YEA

Kick-Off & Social Event

By: Andy Donehue

We are excited to kick off the 2014-2015 year of YEA. As the Central Oklahoma Chapter YEA Chair I will be responsible for planning this year's events. YEA is a group of ASHRAE members 35 years of age and younger that gets together about once a month in different social settings. I encourage everyone 35 years and younger to get involved in this group. It is a great way to network and to meet other people in the industry outside of your office. Even if you are older than 35 you are more than welcome to join us at our events. To our more experienced members (older than 35), I would like you to urge the younger people in your office to get involved in ASHRAE and more specifically YEA.

We have many exciting things that we are planning for the year. I am fortunate enough to be involved in the ASHRAE Leadership Training Weekend in Washington D.C on September 5th-8th. This training is a personal and business development course that will give me some ideas and tools to be a better leader in our local chapter. For our first YEA event we will be having a Happy Hour at The Barrel on September 18 at 3:00. The address is 4308 N. Western Ave. If you would like more information about YEA, please contact me or go to www.ashrae.org/YEA.

If you have any ideas for events, want to get involved, or if you want to sponsor an event please contact me. Andy Donehue can be reached at 405-317-0552 or andy.donehue@trane.com.



Student Activities

Involvement & Ideas

By: Caleb Spradlin

My name is Caleb Spradlin and I am currently a design engineer at TME. I am looking forward to working with high school and college students to spark their interest in this industry. I am excited about the coming year and have several activities planned.

I plan to be more active in the student chapters at both the University of Oklahoma and Oklahoma State University. I will also be looking for ASHRAE members to volunteer as judges for a high school competition during engineer's week. I also welcome any additional ideas geared towards middle school and grade school students. Lastly, I would like to promote the scholarship opportunities provided by the Central Oklahoma ASHRAE Chapter.

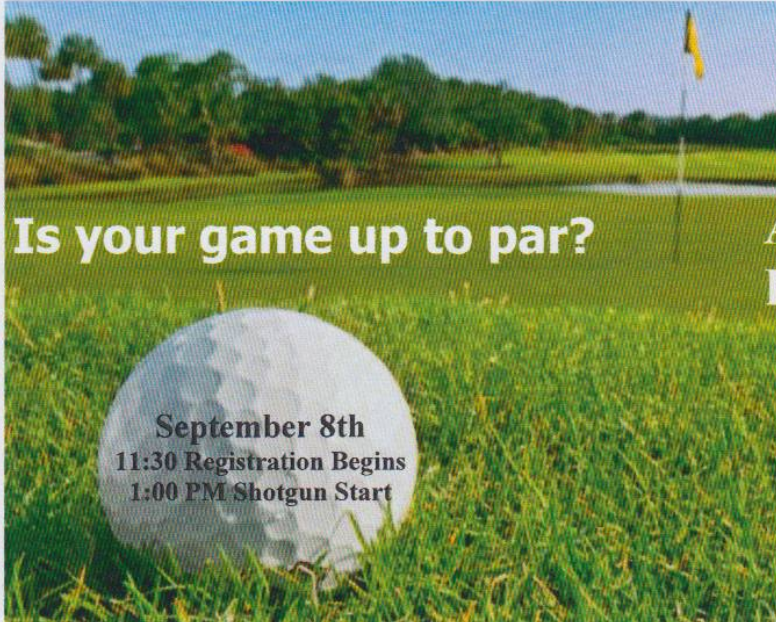
Caleb Spradlin can be reached at 405-463-6570 or cspradlin@tme.com

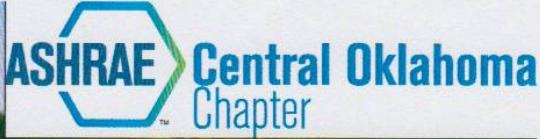
Social Media Cross-Promotion Information

In the very near future several of the more popular social media sites will host ASHRAE Central Oklahoma Chapter information, events, status updates, connections, and more. The Central Oklahoma Chapter will need your help grow these social media connections in this digital age. Several of these sites currently existing but are in the process of being updated and streamlined to provide the same content across all platforms. If you are interested in helping in the social media endeavor, please contact David Royal via email david.royal@abscompanies.com

facebook







Is your game up to par?

**ASHRAE Annual
Fall Golf Tournament**

September 8th
11:30 Registration Begins
1:00 PM Shotgun Start

Kickingbird Golf Course
1600 E Danforth
Edmond, OK 73034

Please join us for a wonderful round of golf and fun. We will be playing this year's tournament at **Kickingbird Golf Course in Edmond**. ASHRAE has consolidated down to one golf tournament a year, so you will not want to miss this one! It will once again be a lot of fun for everyone involved. So come and enjoy the fellowship and of course the great golf. The entry fee is **\$100 per person**. This fee will cover prizes, green fees, cart, range balls, lunch before the round.

Hole Sponsorship Begins at Only \$300 per Company

12:00 Lunch and Range Balls
1:00 Shotgun Start
After Round: Awards

With Hole Sponsor and 4 entries: \$700 for All!

Please sign me up for the golf tournament. Here is my information:

Player 1 Name: _____

Player 3 Name: _____

Player 2 Name: _____

Player 4 Name: _____

Company Hole Sponsor Name: _____ @ \$300

Check enclosed: Make checks payable to CENTRAL OKLAHOMA CHAPTER ASHRAE

Contact/Billing Information:

Name: _____

Company: _____

Address: _____

Phone: _____

City, State, Zip: _____

PO #: _____

Email Address: _____

We now accept credit cards!

Please send this completed form to:

ASHRAE Golf Tourney

C/O Trane, INC. Attn: Bryan Garcia

305 Hudiburg Circle

Oklahoma City, OK 73108 or email: bdgarcia@trane.com

If you have any questions,
please call or email:

Bryan Garcia 717-7614

email: bdgarcia@trane.com





Membership Promotion

How You Benefit From Your ASHRAE Membership

By: Daniel Brazeale

There is an endless amount of benefits from joining ASHRAE! As you'll see this coming year one of the largest benefits is the ability to network and connect with peers and colleagues in our marketplace. Another benefit that isn't as well known is the access to valuable information. ASHRAE provides discounts to members on literature in the ASHRAE bookstore, develops Standards for our industry, and publishes the ASHRAE Journal every month with technical features. Not to mention they send an updated copy of the ASHRAE Handbook (Rotating between Refrigeration, Fundamentals, HVAC Applications, and HVAC Systems and Equipment) each year. Ultimately taking advantage of all the benefits ASHRAE has to offer will help you grow personally and professionally.

As we kick off this New Year it is our Chapter's goal to try and increase membership. One of the avenues we are going to pursue is to attract more individuals from contractor's offices. If you know of anyone that would benefit from ASHRAE please send me their contact information.

Another aspect to Membership is keeping our roster updated. Please let me know if someone you know has moved out of our chapter, left the industry, or has passed away. Additionally, if you need help registering for membership, renewing your membership or simply want to chat feel free to email or call.

Daniel Brazeale can be reached at 405-464-3677 or dbrazeale@eei-ok.com



Research Promotion

Funding & Contribution

By: Adam Shupe

The ASHRAE Research community and I would like to thank everyone that supported last year's ASHRAE Research Campaign. We had a great year in 2013-14 and anticipate an exceptional 2014-2015.

Region VIII is a substantial player in raising money for Research Promotion and currently is the largest in implementing the funded research. ASHRAE has research projects focused on your field and the specific topics that affect you and your business the most.

We begin the year with a great opportunity to support ASHRAE Research and the Chapter Scholarship fund by becoming a sponsor for the Annual Central Oklahoma ASHRAE Golf Tournament. Please look for details on how to participate.

I hope that Research Promotion can count on your support this year. Please visit www.ashrae.org/contribute if you would like to contribute.

Adam Shupe can be reached at 405-535-6244 or ashupe@burnsmcd.com



Refrigeration

Tour Ideas

By: Jason Keyes

Having accepted the role of the 2014-2015 Refrigeration Chair it's time to start thinking of ideas for this year's Refrigeration Tour. There have been several locations already mentioned including a commercial refrigeration facility, university central plant, and perhaps a local brewery or distillery. I would greatly appreciate your feedback on these ideas as well as any others you may have.

Please contact me via, phone, email, or catch me at a meeting and let me know what you think. I'm looking forward to another great ASHRAE year and planning a great Refrigeration Tour!

Jason Keyes can be reached at 405-948-1794 or jason.keyes@abscompanies.com



Governmental Activities

State & Local Involvement

By: Byron Hughes

The GGAC is now in its second year and progress is clearly visible. The Central Oklahoma chapter is coordinating with the Northeastern Oklahoma Chapter to establish statewide consistency in future codes. One of the main goals of this committee is to be involved in local as well as state government at all levels and to provide both with information that coincides with ASHRAE standards. This is especially important in matters of energy.

Byron Hughes can be reached at 405-947-6502 or bhughes@rbakins.com



Honor & Awards

First Step of Peer Recognition

By: Tino Mendez

The mission of the Honors and Awards Committee is to identify and see that individuals that have served ASHRAE with honor and distinction are recognized by their peers in an appropriate and timely manner.

We have several individuals in our Chapter that have served at the local, regional and International levels and we will be pursuing that recognition for them this year. The first step is to make sure that their BIO is updated at Society level by logging on the ASHRAE website and reviewing and editing.

They have to do this themselves but I can help.

Tino Mendez can be reached at 405-590-4479 or tinomendez@cox.net

2014-2015 COK CONTACT INFORMATION

	Contact	Company	Phone	Email
<u>OFFICERS:</u>				
President (CRC Delegate)	Joe Sanders	RB Akins Company	(405)947.6502	jsanders@rbakins.com
President Elect (CRC Alternate)	John Semtner	ADG	(405)232.5700	jsemtner@adgokc.com
Secretary	Mark Furgason	Automated Building Systems	(405)947.1794	mark.furgason@abscompanies.com
Treasurer	Stephanie Thomas	TME, Inc	(405)463.6570	stthomas@tme corp.com
<u>BOARD OF GOVERNORS:</u>				
Board of Governors	David Royal	Automated Building Systems	(405)948.1794	david.royal@abscompanies.com
Board of Governors	Rick Marsh	Trade Mechanical	(405)521.1497	rmarsh@trademech.com
Board of Governors	Grant Flurry	Federal Corporation	(405)239.7320	gflurry@federalcorp.com
Board of Governors	Brian Sauer, P.E.	F+S+B	(405)840.2931	bsauer@fsb-ae.com
Board of Governors	Adam Shupe	Burns & McDonnell	(405)200.0306	ashupe@burnsmcd.com
Board of Governors	Michael Wilson	Guernsey US	(405)416.8373	Michael.wilson@guernsey.us
Board of Governors	Daniel Brazeale	Engineered Equipment Inc.	(405)525.7722	dbrazeale@eei-ok.com
Board of Governors	Jason Keyes	Automated Building Systems	(405)948.1794	jason.keyes@abscompanies.com
Board of Governors	Dusty Stoabs, P.E.	F+S+B	(405)840.2937	dstoabs@fsb-ae.com
<u>COMMITTEE CHAIRS:</u>				
Historian	Alan Loeffler	Federal Corporation	(405)239.7301	aloeffler@federalcorp.com
Research Promotion	Adam Shupe	Burns & McDonnell	(405)200.0306	ashupe@burnsmcd.com
Refrigeration	Jason Keyes	Automated Building Systems	(405)948.1794	jason.keyes@abscompanies.com
Technology Transfer	Michael Wilson	Guernsey US	(405)416.8373	michael.wilson@guernsey.us
Governmental Activities	Byron Hughes	RB Akins Company	(405)947.6502	bhughes@rbakins.com
Student Activities	Caleb Spradlin	TME, Inc	(405)463.6570	cspradlin@tme corp.com
YEA	Andy Donehue	Trane	(405)717.7667	andy.donehue@trane.com
Membership Promotion	Daniel Brazeale	Engineered Equipment Inc.	(405)525.7722	dbrazeale@eei-ok.com
Webmaster, Homepage, & Electronic Comm.	David Royal	Automated Building Systems	(405)948.1794	david.royal@abscompanies.com
Honors & Awards	Tino Mendez	Retired	(405)843.3579	tinomendez@cox.net
Newsletter	Damon McClure	Harrison-Orr Air Conditioning,	(405)520.2492	damonm@harrisonorr.com



LEED Building Tour

Friday, September 26th

UCO Campus

Join USGBC Oklahoma for an exclusive tour of the LEED Certified University of Central Oklahoma (UCO) Forensics Science Institute. This is a great opportunity to get first-hand insights from the design, construction and ownership team on what all was involved in pulling this excellent project together. Get the details [here](#).

The building tour will be followed immediately by an informal networking social hour on the UCO campus. Looking forward to seeing you there!

ASHRAE Certification Programs

BEMP Practice Exam Now Available

ASHRAE has launched a practice exam for the Building Energy Modeling Professional (BEMP) certification. The practice exam is designed to be similar in content and difficulty to the actual certification exam. It is a low-cost, online tool for limited self-assessment with a score report overview of performance at the end of the exam. Practice exams are already in place for the BEAP, CPMP and HFDP certifications. Practice exams for the HBDP and OPMP certifications are under development and should be launched later this year.

Visit www.ashrae.org/BEMP to learn more about the BEMP practice exam.

Visit www.ashrae.org/certification to learn more about ASHRAE certifications.

New Publications from ASHRAE

ASHRAE, a leader in building information technology, develops publications that impact every facet of the environment, both indoors and out.

Data Center Design and Operation – ASHRAE Datacom Series CD 4th Ed.



This CD-ROM presents the full text of all eleven ASHRAE Datacom Series publications and Standard 127-2012 in fully searchable and printable PDF format. Authored by ASHRAE Technical Committee 9.9, the Datacom Series provides comprehensive treatment of data center cooling, energy efficiency, and related subjects.

\$289 (\$246 ASHRAE Member) / CD / 2014

ASHRAE Reference Offers Design Guidance on Healthcare HVAC Systems



The second edition of *HVAC Design Manual for Hospitals and Clinics* provides in-depth design recommendations based on best practices from consulting and hospital engineers, with a focus on presenting what's different about healthcare HVAC systems.

\$129 (\$109 ASHRAE Member) / 312 pages / 2013

Visit www.ashrae.org/bookstore to learn more about these and other outstanding ASHRAE publications!

ASHRAE Learning Institute 2014 Fall Online Course Series

2 WAYS TO REGISTER

Take 3 or more courses and save 15% off registration!

Internet: www.ashrae.org/onlinecourses

Phone: Call toll-free at 1-800-527-4723 (US and Canada) or 404-636-8400 (worldwide)

Note: You may register up to 24 hours prior to an online course. Courses are in US Eastern Time.

High-Performance Building Design: Applications and Future Trends

Mon, September 8, 2014 – 1:00 pm to 4:00 pm EDT

Air-to-Air Energy Recovery Applications: Best Practices

Wed, September 10, 2014 – 1:00 pm to 4:00 pm EDT

Evaluation Methods for High-Performance Green Buildings

Mon, September 22, 2014 – 1:00 pm to 4:00 pm EDT

Fundamental Requirements of Standard 62.1-2013

Wed, September 24, 2014 – 1:00 pm to 4:00 pm EDT

NEW! Building Demand Response & the Coming Smart Grid

Mon, September 29, 2014 – 1:00 pm to 4:00 pm EDT

District Cooling & Heating Systems: Central Plants

Mon, October 6, 2014 – 1:00 pm to 4:00 pm EDT

Maximizing Customer Benefits Using Key Electric Utility Products

Mon, October 13, 2014 – 1:00 pm to 4:00 pm EDT

Combined Heat & Power: Creating Efficiency through Design & Operations

Mon, October 20, 2014 – 1:00 pm to 4:00 pm EDT

Design of Commercial Ground Source Heat Pumps

Wed, October 22, 2014 – 1:00 pm to 4:00 pm EDT

Energy Efficiency in Data Centers

Mon, November 3, 2014 – 1:00 pm to 4:00 pm EST

Commissioning for High-Performance Buildings

Wed, November 5, 2014 – 1:00 pm to 4:00 pm EST

Exceeding Standard 90.1-2013 to Meet LEED® Requirements

Wed, November 12, 2014 – 1:00 pm to 4:00 pm EST

The following courses are comprised of two parts. Registrants must attend both parts in order to receive CEU/PDH credits.

Complying with Standard 90.1-2013

Part 1 - Mon, September 15, 2014 – 1:00 pm to 4:00 pm EDT

Part 2 - Wed, September 17, 2014 – 1:00 pm to 4:00 pm EDT

Healthcare Facilities: Best Practices for Design & Applications

Part 1 - Wed, October 8, 2014 – 1:00 pm to 4:00 pm EDT

Part 2 - Wed, October 15, 2014 – 1:00 pm to 4:00 pm EDT

HVAC Design Training 2 Courses, 5 Days of Intense Instruction November 2014 – Atlanta, GA

HVAC Design: Level I - Essentials

ASHRAE's *HVAC Design: Level I - Essentials* provides intensive, practical training for HVAC designers and others involved in delivery of HVAC services. Gain practical skills and knowledge in designing, installing and maintaining HVAC systems that can be put to immediate use. The training provides real-world examples of HVAC systems, including calculations of heating and cooling loads, ventilation and diffuser selection using the newly renovated ASHRAE Headquarters building as a living lab.

HVAC Design: Level II - Applications

ASHRAE's *HVAC Design: Level II - Applications* provides advanced instruction on HVAC system design for experienced HVAC designers and those who complete the *HVAC Design: Level I - Essentials* training. In two days, gain an in-depth look into *Standards 55, 62.1, 90.1, and 189.1* and the *Advanced Energy Design Guides*. Training will focus on a range of topics including: HVAC equipment and systems; energy modeling; designing mechanical spaces; designing a chiller plant; and BAS controls.

Visit www.ashrae.org/hvacdesign to register