THE HOT AIR DIFFUSER

Idaho ASHRAE Chapter Newsletter

SEPTEMBER 2011 Volume 18 Issue 1

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carl@ymcinc.com

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shelleyw@musgrovepa.com

Historian—Steve Hardy
steven.hardy@cshqa.com

Resource Promotion—Scott Mackay
scottmac@mckinstry.com

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PRESIDENT'S MESSAGE

First things first, I want to welcome everyone back to another exciting year for our ASHRAE chapter. I hope that everyone had an enjoyable summer and were able to enjoy the sunshine whenever possible. I would like to start this year off by letting you know the goals I presented to our DRC for our chapter:

1) Establish a CRC Committee.
Idaho will be hosting the 2013 CRC and now is the time to start planning. I have been informed by other chapters that it takes 10-13 people on a CRC Committee to ensure a successful event. With that being said, I am looking for volunteers that are willing to put the time into making this event memorable for all that attend. I would also like to hear who you think would be the ideal candidate to chair this event. Keep in mind that this will showcase the best of what Idaho has to offer to ASHRAE members and their families throughout our region.

2) Fill all open committee chairs.
We started this year off with quite a few open chair positions and I want to send a personal thank you to those who have stepped up and accepted the challenge. These people include but are not limited to:

1. Carl Marcum – Student Activities
2. Shelley Weatherby - Newsletter
3. Kerry Gaul – Technology Transfer
4. Scott Mackay – Research Promotion
5. Rick Goeres – Membership
6. Steve Hardy – History

I would like our chapter members to help support all of our chair positions by joining a committee and volunteering a bit of your time. A one person committee is never ideal and our chapter's success in these areas depends on the support that is provided. Please contact me or the individuals listed above if you would like to get more involved with chapter operations by lending a helping hand.

3) Don't screw a good thing up.
I would like to commend Carl for a job well done last year and want to build on the successes that we had and have as a team. I am always looking for suggestions on how to make your experience with our chapter better as well as how to make ASHRAE a more desirable organization to join.

We are also looking at some new and exciting opportunities for our chapter such as setting up an Idaho ASHRAE Facebook page. The district goal for having our Facebook page operational is October 1st, and I will keep you informed as we move along. I am looking forward to another fantastic year for our chapter and building on everything that has been set in motion thus far. Please feel free to contact me with any questions or concerns at either 841-4656 (cell) or cory.law@siemens.com.

Our first meeting is September 14th at Wahooz. Hope to see you all there.

Cory Law
President Idaho ASHRAE Chapter

SEPTEMBER PROGRAM

This month's speaker will be Jeff Johnson with Johnson Thermal Systems. Topics presented will include: Introduction of the Vapor-Compression Cycle, Brief Overview of Less Common Refrigeration Cycle, Overview of the Pressure-Enthalpy (p-h) Chart, Relationships Between the P-H Chart & How it Correlates to a Real Piece of Refrigeration Equipment, and an Explanation of Economized Cycles.

When: WEDNESDAY, September 14, 2011 (11:45AM-1:00PM)

Where: WAHOOZ, 1385 S. Blue Marlin Lane Meridian, Idaho

Please RSVP at www.idahoashrae.com

INSIDE THIS ISSUE:

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.

IMPORTANT DATES

SEPT. 14, 2011—ASHRAE MONTHLY MEETING

OCT. 12, 2011—ASHRAE MONTHLY MEETING

NOV. 9, 2011—ASHRAE MONTHLY MEETING

DEC. 14, 2011—ASHRAE MONTHLY MEETING

JANUARY 11, 2012—ASHRAE MONTHLY MEETING

MEMBERSHIP

On behalf of the Idaho ASHRAE Chapter I would like to extend a big "Welcome" to all new and existing members for the upcoming 2011-2012 year. We have many great speakers and events planned this year so I would I like to encourage all members to participate in some capacity. I know we are all busy with our personal and professional lives but try and make time to at least attend the monthly meetings on the second Wednesday of each month. If you have any interest in helping out on a committee please let me or any of the other chairpersons or officers know. We could use your help. Our chapter will be hosting our region's conference in August of 2013 and planning for it will require a lot of effort. We only host it every 13 years so I encourage you to get involved. Our chapter's strength is dependent on membership participation. If you have any questions regarding your membership or if you know of a potential new member please give me a call at 384 -0585.

Rick Goeres
Idaho ASHRAE Membership Chair

HISTORY LESSON

Five Years Ago

The chapter president was Arden Davis. The meeting was held on Friday, September 8, 2006, at the Idaho Power Building. Michael Hatten, PE, SOLARC Architecture and Engineering, Eugene, OR, gave a presentation on Tools For Sustainable Design.

Ten Years Ago

The chapter president was Greg Hobbs. The meeting was held on Friday, September 14, 2001, at the Double Tree Riverside. Carl Bokenkamp, Idaho Power Company, gave a presentation on fuel cell technology, potential uses, and the inner workings of these devices.

Fifteen Years Ago

The chapter president was Chuck Keene. The meeting was held on Friday, September 13, 1996, at the Red Lion Riverside. John Church, Idaho Power Company, presented his economic outlook for the Boise area. Special guest Ken Clark, ASHRAE Region IX DRC attended this meeting.

Twenty Years Ago

The chapter president was Ken Tewksbury. The meeting was held on Friday, September 13, 1991. Shirl Boyce, Boise Chamber of Commerce, gave his views on the economic outlook for the Boise area.

Twenty Five Years Ago

The chapter president was Adrian Fannin. The meeting was held on Friday, September 12, 1986, at the Kings Table Restaurant. Chuck Mickelson, Boise City Engineer, presented a slide show on geothermal heating. Special guest Larry Staples, ASHRAE Region IX Chairman, attended this meeting.

NEWS FROM THE HOME OFFICE

Expanded Data Center Classes, Guidance Provide More Data Center Energy Efficiency Options

ATLANTA – Since the publication of ASHRAE's Thermal Guidelines for Data Processing Environments in 2004, there has been a continued focus on providing guidance to datacenter operators regarding how to best maintain high reliability while operating their facilities in the most energy efficient manner.
In a new whitepaper, "2011 Thermal Guidelines for Data Processing Environments – Expanded Data Center Classes and Usage Guidance," published by ASHRAE Technical Committee (TC) 9.9, Mission Critical Facilities, Technology Spaces and Electronic Equipment, a roadmap has been outlined to facilitate a significant increase in the operational hours during which economizer systems are able to be used, and to increase the opportunity for datacenters to become "chillerless," eliminating mechanical cooling systems entirely, in order to realize improved Power Usage Effectiveness (PUE). The Green Grid created the popular PUE metric that is widely used to compare the total power to the IT power.

The major change that is introduced in the whitepaper is the addition of two new datacenter classes. The classes have been added primarily for facilities that are willing to explore the tradeoffs associated with the additional energy saving of the cooling system through increased economizer usage and what that means in terms of the impact to IT Equipment attributes such as reliability, internal energy, cost, performance, contamination, etc. "This whitepaper is truly ground-breaking in that it achieves alignment between representatives of the major IT equipment manufacturers on wider environmental tolerances for IT equipment while providing guidance and a methodology for owners and operators to optimize the operating environment of their datacenter based on the criteria most important to their business needs," Don Beaty, chair of the Publications Subcommittee for TC 9.9, said. "In order to most quickly meet the current demands of the industry, we are using a two-step approach to introduce this important information sooner rather than later. The information in this whitepaper will be incorporated into the third edition of the Thermal Guidelines publication." The whitepaper can be obtained from www.tc99.ashraetcs.org.

In other datacenter related news, the third edition of the ASHRAE datacom book, "Thermal Guidelines for Data Processing Environments" is scheduled for publication later this year. year through an ASHRAE Undergraduate Senior Project Grant.

ASHRAE Urges Congress to Continue Funding for Important Building Data Survey

ATLANTA—The recent announcements regarding the U.S. Energy Information Administration's (EIA) decision to not release the results of the 2007 Commercial Buildings Energy Consumption Survey (CBECS), and to halt work on the 2011 edition of the Survey, have prompted ASHRAE to request action.

EIA has opted not to release the 2007 CBECS results—a national sample survey that collects information on the stock of U.S. commercial buildings, their energy-related characteristics, energy consumption and expenditures—and has suspended work on a 2011 Survey due to statistical issues and funding cuts, respectively.

ASHRAE has issued a letter strongly urging Congress to include funding for CBECS in the Fiscal Year 2012 appropriations bills to allow work on the 2011 edition of the Survey to continue. This is particularly important in light of the 2007 CBECS data discrepancies.

"Information from CBECS plays a critical role in building energy efficiency through the many federal and private sector programs that use the Survey's data in their efforts to establish benchmark levels and promote energy efficient practices, including ASHRAE's Building Energy Quotient (Building eQ) program," Lynn G. Bellenger, P.E., ASHRAE president, said. "Additionally, many of ASHRAE's committees depend upon CBECS to help develop some of the standards in use by the federal government, states and local jurisdictions."

Currently, the latest version of CBECS data is from 2003. If funding is not provided, work on the 2011 CBECS data will not continue, and the government and industry will be forced to rely on data that is nearly a decade old and in need of revisions and enhancements, resulting in potential missed opportunities to increase building efficiency and reduce energy use.

Guide for Achieving Advanced Energy Savings Published by Industry Leaders

ATLANTA – Guidance to get you at least halfway to achieving net-zero-energy design is now available from leading industry organizations in a new publication.

Advanced Energy Design Guide for Small to Medium Office Buildings: Achieving 50% Energy Savings Toward a Net-Zero-Energy Building is the first book in a series of Advanced Energy Design Guide (AEDG) publications that provides recommendations to achieve 50 percent energy savings when compared with the minimum code requirements of ANSI/ASHRAE/IESNA Standard 90.1-2004, Energy Standard for Buildings Except Low-Rise Residential Buildings. The book was developed by a committee representing a diverse group of energy professionals drawn from ASHRAE, the American Institute of Architects (AIA), the Illuminating Engineering Society of North America (IES), the Department of Energy (DOE) and the United States Green Building Council (USGBC).

The series follows the earlier six-book series that provided guidance to achieve 30 percent savings. The ultimate goal is to provide guidance to achieve net-zero-energy buildings, that is buildings that produce more energy than they consume. "This guide will help in the design of new office buildings and major renovations that consume substantially less energy compared to the minimum code-compliant design, resulting in lower operation costs," Bing Liu, chair of the 50% AEDG project committee, said. "Of equal importance is that energy-efficient buildings offer a great possibility to enhance the working environment, including indoor air quality, thermal comfort and natural lighting."

A significant addition to the new 50 percent guide is the inclusion of a performance path; specifically, offering guidance for early stage energy modeling."Whole-building energy modeling programs can provide more flexibility to evaluate the energy-efficient measures on an individual project," Liu said. "Simulation programs have learning curves of varying difficulty, but energy modeling for office design is highly encouraged and is considered necessary for achieving energy savings of 50 percent."

The groups note that meeting the 50 percent energy savings goal is challenging and requires more than doing business as usual. The Guide offers eight essentials to achieve advanced energy savings:

-Obtain building owner buy-in
-Assemble an experienced, innovative design team
-Adopt an integrated design process
-Consider a daylighting consultant
-Consider energy modeling
-Use building commissioning
-Train building users and operations staff
-Monitor the building

ASHRAE, AIA, IES, DOE and USGBC are currently developing the second guide in the 50 percent series, which will focus on K12 schools. Publication is targeted for fall of 2011, followed by a guide for medium/big box retail in the winter of 2012 and large hospitals in the spring of that year.
Advanced Energy Design Guide for Small to Medium Office Buildings: Achieving 50% Energy Savings Toward a Net-Zero-Energy Buildings is available as a free download at www.ashrae.org/freeaedg. A print version is available for $82 ($69, ASHRAE members). To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478. Bulk discounts are available to individuals, companies and organizations who are interested in purchasing multiple copies.

ASHRAE Commends Senators Shaheen (D-NH) and Portman (R-Ohio) for Introducing the Energy Savings and Industrial Competitiveness Act of 2011

ATLANTA – New legislation introduced in the U.S. Senate would help pave the way to make buildings more energy efficient by reducing barriers in the residential, commercial and industrial sectors to make use of new technologies. "ASHRAE commends and thanks Senators Shaheen and Portman for their leadership in introducing the Energy Savings and Industrial Competitiveness Act of 2011," Lynn G. Bellenger, ASHRAE's 2010-2011 president, said. "This bill takes a significant step forward in our nation's efforts to conserve the environment and encourage sustainability while fueling the economic recovery. We are particularly pleased that the legislation would encourage the U.S. Department of Energy to work with code and standard development organizations to develop definitions of energy use intensity (EUI) for use in model codes or in evaluating the efficiency impacts of the codes. In many ways the focus of this legislation parallels ASHRAE's own focus on increasing energy efficiency, as seen through Standards 90.1 and 189.1, our building professional certifications and training programs."

ASHRAE worked with Senators Jeanne Shaheen (D-N.H.) and Rob Portman (R-Ohio) to develop this legislation, and will continue to be an active partner in developing this, and similar legislation.

ANSI/ASHRAE/IES Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings, was developed in partnership with the Illuminating Engineering Society of North American (IES). Standard 90.1 provides minimum requirements for the energy-efficient design of buildings except low-rise residential buildings. Without plug loads, Standard 90.1-2010 site energy savings are 32.6 percent and energy cost savings 30.1 percent compared with the 2004 version. Including plug loads, the site energy savings are estimated at 25.5 percent and energy cost savings 24 percent using the same basis.

ANSI/ASHRAE/USGBC/IES Standard 189.1-2009, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings, is the first code-intended green building standard in the United States. It covers site sustainability, water use efficiency, energy efficiency, indoor environmental quality and the building's impact on the atmosphere, materials and resources as well as construction and plans for operation. ASHRAE's partners in developing 189.1 are the Illuminating Engineering Society of North America and the U.S. Green Building Council. Standard 189.1 serves as a jurisdictional compliance option of the International Green Construction Code being developed by the International Code Council, the American Institute of Architects and ASTM International. For complete information on the standard, including a readable copy, visit www.ashrae.org/greenstandard.

ASHRAE Grants: Reusing Air to Save Energy in Low-Income Housing

ATLANTA – Reducing energy costs through reuse of air to help make homes for low-income households in hot and humid climates is the goal of a student research project being funded by ASHRAE. Statistics show that some 38.6 million households in the United States are in need of low-income home energy assistance. In hot and humid climates, reducing residential energy consumption is a challenge due to high humidity in warm months.

Through ASHRAE's grants-in-aids program Simge Andolsun, a student at Texas A&M University, plans to model a new HVAC&R energy saving strategy with partial conditioning or reuse of air. Partial conditioning is based on using the remaining energy of the air returning from the occupied zones in unoccupied zones before it returns to the system or is exhausted from the system, according to Andolsun. "The strategy is expected to provide substantial – over 50 percent – reduction in the overall HVAC&R energy consumption of residential buildings before any onsite energy reduction, according to the project, Partial Conditioning (Reuse of Air) as an Energy Saving Strategy for Sustainable Affordable Housing in Hot and Humid Climates.

Andolsun is one of 21 students who will receive a grant through ASHRAE Graduate Student Grant-In-Aid Award Program, which is designed to encourage students to continue their education in preparation for service in the HVAC&R industry. The grants, totaling $210,000, are awarded to full-time graduate students of ASHRAE-related technologies.

Andolsun's project will be modeling on Colonias, or residential neighborhoods at the Mexican border in Texas, which has the second highest number of housing units eligible for low-income home energy assistance. The state's hot and humid climate also results in 45 percent higher average energy consumption for air conditioning when compared to that for heating.

The study will be conducted in four steps: data collection, baseline design and modeling, partial conditioning design and modeling, and analysis and recommendations.

Other recipients of ASHRAE grants-in-aid are:

- Bikash Acharya, University of Maryland, College Park, Electrostatic Enhanced Separation of Fine Liquid Droplets from Gas Streams
- Aleksandar Andelkovic, Faculty of Technical Sciences Novi Sad, Serbia, Development of an Integrated Building Design Method by Coupling Building Energy Simulation and Computational Fluid Dynamics; also receives the Grant-In-Aid Life Member Club grant given to the highest top-rated applicants and supported by a financial contribution from the club.
- Simge Andolsun, Texas A&M University, Partial Conditioning (Reuse of Air) as an Energy Saving Strategy for Sustainable Affordable Housing in Hot and Humid Climates
- Stephen F. Bourne, University of Texas, Austin, Emissivity Changes due to Dust Fouling for Horizontal and Rafter Installed Radiant Barrier Systems
- Howard Cheung, Purdue University, Modeling and Testing of Heat Pump Systems
- Jordan D. Clark, University of Texas at Austin, Development of Library of Mass Transfer Correlations for Indoor Surfaces for Use in Passive Pollutant Removal Applications
- Brian Matthew Fronk, Georgia Institute of Technology, Condensation Heat Transfer and Pressure Drop of Binary Fluid Mixtures in Microchannels
- Caroline Hachem, Concordia University, Investigation of Design Methodology for Net-Zero-Energy Solar Neighborhoods
- Vibhash Chandra Jha, university of Maryland, Development of High Performance Compact Absorption Refrigeration Systems Utilizing Innovative Force-Fed Micro Channels – Application of Low-Grade Waste Heat
- Kyle Konis, University of California, Berkeley, Developing a Field-Based Monitoring Procedure for Indoor Environmental Quality to Assess Façade Performance
- Abhinav Krishna, Purdue University, Organic Rankine Cycle with Solution Circuit for Waste Heat Recovery
- Ki Sup Lee, Purdue University, Establishment of Design Procedures to Predict Room Airflow Requirements in Partially Mixed Room Air Distribution Systems
- Shichao Liu, University of Texas, Exposure Study in Hospital Waiting Rooms: Analysis of Airflow Distributions for Exposure Reduction
- Wei Liu, Tianjin University, Validation of CFD Models for Predicting Air Distribution and Contaminant Transport in a Commercial Aircraft Cabin
- Raphael Kahat Mandel, University of Maryland, Thin Film Evaporation on MIcrogrooved Surfaces
- Peter May-Ostendorp, University of Colorado at Boulder, Near-Optimal Control of Mixed-Mode Buildings and Generalized Rule Extraction
- Ananda Krishna Nagavarapu, Georgia Institute of Technology, Investigation of Binary Fluid Heat and Mass Transfer Phenomena at Microscales in Internal and External Ammonia Water Absorption; also receives the Grant-In-Aid Life Member Club grant given to the highest top-rated applicants and supported by a financial contribution from the club.
- Kashif Nawaz, University of Illinois at Urbana Champaign, Aerogel Coated Metal Foams for Desiccant Applications
- Amanda Pertzborn, University of Wisconsin-Madison, Optimization of Advanced Ground-Source Heat Pump Systems
- Sugirdhalakshmi Ramaraj, Purdue University
- Feini Zhang, University of Illinois at Urbana-Champaign, Hybrid Water-/Air-Cooled Condensers for Organic Rankine Cycles

ASHRAE Makes Guidance on Green Buildings Easily Accessible in eBook Format

ATLANTA –ASHRAE has published its first ever eBook for use on the Apple iPad. The third and latest edition of "ASHRAE GreenGuide: The Design, Construction and Operation of Sustainable Buildings" is now available in an eBook format to allow iPad users convenient access to the book's guidance, which covers each stage of the building process, from planning to operation and maintenance of a facility, with emphasis on teamwork and close coordination among interested parties. The eBook follows ASHRAE's latest mobile apps on duct fitting databases and Standard 62.1, Ventilation for Acceptable Indoor Air Quality.

The GreenGuide eBook includes embedded links to other sections of the book and to graphics and relevant web pages. "We want people to have access to ASHRAE guidance wherever they are, without having to carry around a hardback book," Sheila Hayter, chair of the organization's Publishing and Education Council, said. "With the release of GreenGuide eBook, detailed information on the design of high performance buildings is as close as one keeps their iPad."

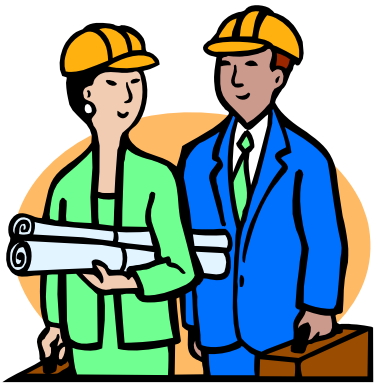
The GreenGuide eBook is available as a download in Apple's iBooks store for $39.99 and requires the iBooks app.

ATTENTION: ASHRAE MEMBERS

The Chapter is now accepting advertisements in the monthly newsletter.

Sponsorship Rates are as follows:

	Per Issue	Annual (9 issues)
Business Card	$10.00	$50.00
Quarter Page	$25.00	$200.00
Half Page	$40.00	$325.00



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