

# THE HOT AIR DIFFUSER IDAHO CHAPTER NEWSLETTER

APRIL 2009

VOLUME 15 ISSUE 8



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## PRESIDENT'S MESSAGE

Greetings Idaho ASHRAE members,

This month our ASHRAE program will be replaced by our annual technical conference on April 10, 2009 starting at 8:00 at the Oxford Suites in Boise. Along with nine different topics, this year we are offering a full breakfast and lunch, included with your registration. If you have not registered yet, please do so as soon as possible to reserve your seat. Seating is limited, and we are already at 2/3 capacity, so go to [www.idahoashrae.com](http://www.idahoashrae.com) as soon as possible, or contact Kenny Calkins to register by mail. We would like to get everyone registered no later than Monday 4-6-09.

We also have several sponsorship and exhibitor slots still available. This year, we have included over two hours of exhibitor time, so if you are interested, please see the available options for sponsorship and exhibition at [idahoashrae.com](http://idahoashrae.com).

I look forward to seeing everyone at the technical conference, and if there is someone outside of ASHRAE you think may be interested, please let them know of this great learning and networking opportunity.

Jeff Fulcher, PE  
President  
Idaho Chapter ASHRAE

## APRIL PROGRAM

**ASHRAE TECHNICAL CONFERENCE**  
(See attached for detailed schedule)

**WHEN: FRIDAY, April 10, 2009**  
**8AM—5PM**

**WHERE: Oxford Suites, Boise**

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## Sabol & Rice of Idaho

**MANUFACTURER'S REPRESENTATIVE**  
PHONE: (208) 362-7910 • FAX: (208) 362-7920  
11770 W. PRESIDENT DRIVE • SUITE A  
BOISE, IDAHO 83713

### ACCESS DOORS

ACUDOR - Duct, Architectural and Fire Rated Access Doors  
NAILOR - Duct and Fire Rated Access Doors

### AIR CONDITIONERS/HEAT PUMPS

ESSICKS - Evaporative Cooling Solutions  
RETROAIRE - Replacement Package Terminal Air Conditioners and Heat Pumps  
\*SPACEPAK - High Velocity Central A/C System

### AIR DISTRIBUTION

AIROLITE - Louvers, Perforates  
AJ MANUFACTURING - Stainless Grilles & Diffusers  
AMERICAN WARMING - Industrial Dampers  
\*NAILOR - Grilles, Diffusers, VAV Boxes, Dampers  
WESTERN CANWELL - Ridge Ventilators

### AIR DUCT

\*FLEXMASTER USA - Insulated, Acoustic Flex Duct

### AIR HANDLERS

\*ESSICK - Evaporative Coolers  
\*HASTINGS - Duct Furnaces, Make-up Air  
RAPID - Gas-Fired Make-up Air and Evap. Cooling  
SEASONS 4 - Custom-built HVAC specialty equipment and direct replacement of existing multi-speed, single speed indoor and roof top units.  
WESTAIRE - Indirect/Direct Evap Coolers

### AIR MONITORS

AIRTEST - Gas Monitors and Transmitters

### AIR / WATER FILTRATION

FLANDERS - Filters (Bag, Cartridge, HEPA), Housings  
PEP FILTRATION - Commercial and Industrial Filtration  
PUROFLUX - Process and Cooling Water Filtration Systems  
STERVENT - Dust Collectors

### BOILERS/BURNERS

CHROMOLOX - Electric Boilers and Steam Generators  
PARKER BOILER - Flexible Tube Boilers  
WEBSTER - Forced Draft Burners  
WEIL MCCLAIN - Boilers for every application, with unmatched reliability.

### COMPRESSORS

\*KAESER - 3-600 HP Rotary Screw

### CRITICAL AIRFLOW CONTROLS

TEK -AIR - Airflow Measurement and Control for Indoor Air Quality and Energy Consumption

### ENCLOSURES

SPDINAKER - Rooftop Screening Systems, Welded Wire Partition Systems

### EXHAUST SYSTEMS

VAN-PACKER - Exhausting & Venting Stacks

### FANS AND BLOWERS

\*ACME ENGINEERING - Roof Exhausters, Fans, Blowers  
AMERICAN COOLAIR - Propeller Fans  
BROAN - Ventilation Fans, Heaters and Attic Ventilation  
ILG - Propeller Fans  
NUTONE - Ventilation Fans, Heaters and Attic Ventilation

### HEAT TRANSFER

ALFA-LAVAL - Plate Heat Exchangers  
BALTIMORE AIRCOIL - Cooling Towers  
CC SOLUTIONS - Field-Erected Cooling Towers  
RENEWAIRE - Energy Recovery Ventilators  
SPDINAKER - Energy Recovery Ventilators  
SUPER RADIATOR - Industrial Coils  
THERMAL - Condensers, Fluid Coolers  
WATTS RADIANT - Radiant heat solutions from hydronic and electric radiant floor heating and snow melt systems

### HUMIDITY CONTROL

DESERT AIRE - Refrigeration Dehumidifiers  
\*VAPAC - Steam Humidifiers

### KITCHEN HOODS

CAPTIVE-AIRE - Nation's leading manufacturer of commercial kitchen ventilation systems  
GAYLORD - Commercial Kitchen Ventilation Systems

### PUMPS / WATER SPECIALTIES

BARNES - Waste Water Pumps  
BLACKMER - Positive Displacement Pumps  
ICI - Terminal Valve Kits  
\*PEERLESS - In-line, End Suction, Multi-Stage Pumps  
WHEATLEY - Exp. Tanks, Heat Exchangers

### SOUND / VIBRATION CONTROL

AEROSONICS, INC. - Duct Silencers  
\*M.W. SAUSSE - Spring Isolators

### SPACE HEATERS

CHROMOLOX - Solutions for industrial heating applications  
NAILOR - Electric Duct Heaters  
Q-MARK - Electric Space Heating  
REDD-I - Electric Space Heating  
RUFFNECK - Explosion-Proof Heaters  
SOLARONICS - Gas Infra-red Heaters

\*Stocked Lines (Boise and/or Salt Lake City)

## HISTORY LESSON

### Five years ago

The chapter president was Matthew May. The meeting was held on April 9, 2004, at the Red Lion Riverside. Boise State University senior engineering students Jennifer Cole and Kate Roeske gave a presentation titled "Biological Applications of Atomic Force Microscopy". The presentation included a history of AFM, the theory behind AFM, and advantages of using AFM for biological research.

### Ten years ago

The chapter president was Brent Robertson. The meeting was held on April 9, 1999, at the Double Tree Riverside. A 1 hour tech session was given by Gil Avery, a mechanical engineering consultant from Memphis, TN, on selecting control valves and control piping for heating and cooling coils. The lunch presentation was also by Mr. Avery on control considerations for the 21<sup>st</sup> century.

### Fifteen years ago

The chapter president was Roger Albers. The meeting was held on April 8, 1994, at Edwards Restaurant. Joseph Prin, Beacon Light Industries, allegedly sang, tap danced, and told dirty jokes in conjunction with a discussion of the "Bulb Boss", an energy saving lighting control.

### Twenty years ago

The chapter president was Pat House. The meeting was held on April 14, 1989, at the Kings Table Restaurant. Greg Miner, Residuals Management, Inc., gave a presentation on hazardous materials including asbestos.

**Steve Hardy**  
**Historian**

## IMPORTANT DATES

APRIL 10, 2009—ASHRAE Technical Conference

APRIL 12, 2009—Easter Sunday

MAY 8, 2009—ASHRAE Chapter Meeting

MAY 25, 2009—Memorial Day

JUNE 12, 2009—ASHRAE Golf Tournament

## QUOTE OF THE MONTH

"A lie can travel halfway around the world while the truth is putting on its shoes."

*-Mark Twain (1835-1910), American author and humorist*

## NEWS FROM THE HOME OFFICE

### Stimulus Funding for Schools Provides Energy Efficiency Opportunities

#### *ASHRAE Advanced Energy Design Guide Provides Simple Tool*

ATLANTA – As school boards and superintendents develop programs to utilize recent U.S. economic recovery stimulus funds, projects focused on improving energy efficiency can result in long-term savings for school districts.

Guidance from The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) can help schools earn an A+ in achieving that efficiency.

The American Recovery and Reinvestment Act (ARRA) signed by President Obama on February 17, 2009, provides significant funding and financing opportunities to modernize, renovate and repair public schools. Under the “State Fiscal Stabilization Fund” up to \$48.3 billion can be allocated to schools. An additional \$25 billion in eligible bonds also have been authorized.

ASHRAE and other leading building industry organizations have developed the *Advanced Energy Design Guide for K-12 School Buildings*. The guide provides recommendations for achieving 30 percent energy savings over the minimum code requirements of ANSI/ASHRAE/IESNA Standard 90.1-1999. Estimates show that a full 16 percent of schools districts’ controllable costs is spent on energy.

“Beyond energy savings, by implementing the recommendations, schools may benefit from an improved learning environment, reduced operating costs, reduced environmental and climate impacts, and enhanced teaching opportunities on the environment,” ASHRAE President Bill Harrison said.

The recommendations in the guide allow those involved in designing or constructing school buildings to easily achieve advanced levels of energy savings without having to resort to detailed calculations or analysis. All of the energy-saving recommendations for each of the eight U.S. climate zones are summarized in a single table. Additional recommendations point to other opportunities to incorporate greater savings into the design of the building.

More than 14,000 free copies of the *Advanced Energy Design Guide for K-12 School Buildings* were sent to school systems in the United States last spring.

Details on the stimulus funding for educational facilities can be found on the Department of Education’s Recovery page (<http://www.ed.gov/policy/gen/leg/recovery>). Copies of the *Advanced Energy Design Guide for K-12 School Buildings* are available for free download at [www.ashrae.org/freeaedg](http://www.ashrae.org/freeaedg) or print copies may be ordered from the ASHRAE Bookstore at [www.ashrae.org](http://www.ashrae.org).

## ASHRAE Rolls into Louisville for 2009 Annual Conference

ATLANTA – The pounding hoof beats into the final turn. Ice tinkles in the glass of a frosted mint julep. The plaintive echoes of rivercraft are heard as they signal the drawbridge. These are the sights and sounds of Louisville....the home of ASHRAE's 2009 Annual Conference. “*Rolling on the River* serves as the conference theme and echoes ASHRAE’s mission,” Bill Harrison, ASHRAE president, said. “A steady flow of rapidly advancing standards and research, both complimented by our technical and educational program, will enhance ASHRAE’s ability to drive the ongoing transformation to a more sustainable built environment.”

The ASHRAE Annual Conference takes place June 20-24. To register or for more information, visit [www.ashrae.org/louisville](http://www.ashrae.org/louisville). Most events take place at the waterfront Galt House Hotel.

The ASHRAE technical program, with nearly 100 sessions, focuses on optimal indoor air quality. It begins Sunday, June 21, and ends Wednesday, June 24, with all sessions at the Galt House. Complete program details will soon be available at [www.ashrae.org/louisville](http://www.ashrae.org/louisville). The technical program features a large building systems track that begins with an introduction to large buildings and addresses sustainable large building design, energy modeling, smoke control and specifically indoor sports facilities, entertainment venues, and museums and libraries. Other tracks with multiple programs include systems and equipment, indoor air quality, energy and sustainability.

The conference keynote speaker is Susan Roaf, professor of architectural engineering at Heriot Watt University, Edinburgh. Roaf’s thought-provoking comments include a range of building- and climate-related risks that individuals will face in the future along with a range of actions that homeowners and legislators can take to future-proof lifestyles against the growing challenges of the 21<sup>st</sup> century. She speaks at the Plenary Session on Saturday and the technical plenary on Sunday.

The ASHRAE Learning Institute offers two full-day professional development seminars and four half-day short courses, focusing on a range of HVAC&R related topics. New sessions include *Data Center Energy Efficiency* and *Air-to-Air Energy Recovery Systems*. ASHRAE’s Standard 90.1 course has been revamped to focus on using the standard to meet LEED and federal tax credit requirements.

ASHRAE also launches its newest certification program – Commissioning Process Management Professional. The certification recognizes that those who manage the commissioning process need to have people- and project-management skills in addition to knowledge of building design, construction, operations and maintenance. For more information, visit [www.ashrae.org/cpmp](http://www.ashrae.org/cpmp).

ASHRAE technical tours offer an inside view of how technology developed by members is practically applied in building environments. Tours include the central steam and chilled water plant at Louisville Medical Center, an HVAC system for a Class 100/1000 cleanroom at the University of Louisville, the CMTA Corporate Headquarters Building, and the Scribner Place YMCA and Aquatic Center. In addition, ASHRAE President-Elect Gordon Holness, P.E., Fellow ASHRAE, Life Member, a consulting engineer and chairman emeritus, Albert Kahn Associates Inc., Detroit, Mich., takes office as 2008-09 president. Holness presents his inaugural address at the president’s luncheon on Monday, June 22, focused on energy efficiency in existing buildings.





**ASHRAE TECHNICAL CONFERENCE**  
 April 10, 2009  
 Oxford Suites Conference Rooms  
 Boise, Idaho



**REGISTRATION FORM**

When: April 10, 2009  
 Where: Oxford Suites – 1426 Entertainment Avenue, Boise, Idaho  
 How to Register: Fill in the information requested below.

**Mail to:**  
 Kenny Calkins / ASHRAE  
 c/o Cloverdale Plumbing  
 11627 West Fairview Ave.  
 Boise, ID 83713

**Make Checks Payable to: ASHRAE**

Registration Fee: \$ 75.00 for Members, \$ 95.00 for non-members

Members include the following organizations: ASHRAE

Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone Number: \_\_\_\_\_

Fax Number: \_\_\_\_\_

Amount Enclosed: \_\_\_\_\_

Email Address: \_\_\_\_\_

MEMBER (Registration)	<input type="checkbox"/> Yes (\$75) <input type="checkbox"/> No (\$95)	\$
<b>Total</b>		\$

**Sponsorship**

1 - Meal Sponsor - \$1000 (includes table, recognition and conference registration for 4, pamphlets, general session VIP table and 5 minutes of mic time)	\$
1 - Event Sponsor - \$500 (includes table, recognition and conference registration for 2)	\$
1 - Exhibitor Cost - \$250 (includes table plus conference registration for 1)	\$
<b>Total</b>	\$

**Professional Development Units**

Please indicate below whether or not you wish to receive Professional Development Credits for this seminar.

YES:

NO:

ASHRAE-Idaho presents:



# 2009 Technical Conference

## *Bottom Line Thinking on High Performance Buildings*

**Date:** Friday, April 10, 2009  
**Time:** 8 am – 5:00 pm  
**Location:** Oxford Suites (1426 Entertainment Ave, Boise)

### **Two Keynote Lectures (Breakfast and Lunch):**

- ***William Coad, ASHRAE Distinguished Lecturer***  
The Ethics and the Economics of Energy Conservation  
VAV System Design: Problems and Opportunities

### **Seven Informative Sessions to Choose From:**

- ***Indirect Evaporative Cooling***  
Richard Bourn, Western Cooling Efficiency Center
- ***Modeled vs Actual Building Energy Use***  
Micah Allen, E-Source
- ***Commercial Building ENERGYSTAR Certification***  
Brad Weaver, BetterBricks
- ***Designing OSA Economizers and DCV that Works***  
Reid Hart, PECCI
- ***Smoke Management Issues, Basic and Advanced***  
Michael Myers, ASHRAE Distinguished Lecturer
- ***Laboratory Design and Common Mistakes***  
Bill Schultz, Phoenix Controls
- ***Understanding the Federal Stimulus – What Engineers Should Know***  
Ken Eklund, OERb

**Registration:** \$75 each, ASHRAE members  
\$95 each, non-members  
Registration includes: Breakfast and Lunch

**Door Prizes:** Valuable prizes will be drawn at the conclusion of the day

**Exhibitors:** A limited number of exhibit spaces available for \$250 each

**Sponsors:** Two sponsorship levels available – \$500 or \$1000

**Details:** Contact Kenny Calkins at [Kenny@Cloverdaleplumbing.com](mailto:Kenny@Cloverdaleplumbing.com) to learn more about your opportunities to attend, exhibit, and/or sponsor this conference.

# ASHRAE 2009 Technical Conference

Oxford Suites  
1426 Entertainment Avenue, Boise  
April 10, 2009

## Agenda

Time	Topic/Activity	
<b>8:00am</b>	<b>Registration, Visit Vendor Exhibits</b>	
	<i>Breakfast and Breakfast Keynote</i>	
8:30 am	<b>William Coad, ASHRAE Distinguished Lecturer “The Ethics &amp; the Economics of Energy Conservation”</b>	
9:30 am	Move to Breakout Sessions, Visit Vendor Exhibits	
	<i>Session 1</i>	<i>Session 2</i>
10:00 am	Smoke Management Issues, Basic Michael Myers, ASHRAE Distinguished Lecturer	Modeled vs. Actual Building Energy Use Micah Allen, E SOURCE
11:00 am	Commercial Building Energy Star Certification Brad Weaver, BetterBricks	Indirect Evaporative Cooling, Dick Bourne, UC Davis Western Cooling Efficiency Center
<b>12:00 pm</b>	<b>Visit Vendor Exhibits</b>	<b>Visit Vendor Exhibits</b>
	<i>Lunch and Lunch Keynote</i>	
12:30pm	<b>William Coad, ASHRAE Distinguished Lecturer “VAV System Design: Problems and Opportunities”</b>	
<b>1:30 pm</b>	<b>Visit Vendor Exhibits</b>	<b>Visit Vendor Exhibits</b>
2:00pm	Designing OSA Economizers and DCV that Works, Reid Hart, Portland Energy Conservation	Laboratory Design and Common Mistakes, Bill Schultz, Phoenix Controls
<b>3:00 pm</b>	<b>Visit Vendor Exhibits</b>	<b>Visit Vendor Exhibits</b>
3:30 pm	Understanding the Federal Stimulus – What Engineers Should Know, Ken Eklund, OERb	
4:30pm	Door Prizes, Adjourn	

## 2009 ASHRAE Technical Conference

Breakfast and Lunch are both included with your registration!

This year, we are pleased to be serving the following:

8:30 – 9:30 Breakfast:

Oregon Trail Buffet:

Breakfast Quiche, Bacon and Sausage, Breakfast Potato, Juice, Fresh Brewed Coffee and Tea.

12:30 – 1:30 Lunch:

Oxford Luncheon Buffet:

Fresh Fruit Tray, Mixed Green Salad and Dressing, Pasta, London Broil, Potato, Fresh Vegetable Medley, Rolls and Butter, Chef's Dessert, Ice Tea and Assorted Soda.

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# 2009 ASHRAE TECHNICAL CONFERENCE EXHIBITOR AND SPONSORSHIP FORM

The 2009 ASHRAE Technical Conference is scheduled for April 10 at the Oxford Suites, 1426 S. Entertainment Avenue, Boise. The lineup of speakers for the conference includes:

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Registration Cost	\$ 75 for ASHRAE members \$ 95 for non-members
Exhibitor Cost	\$250 (includes table plus conference registration for 1)
Event Sponsor	\$500 (includes table, recognition and 2 registrations)
Meal Sponsor	\$1,000 (includes table, recognition and 4 registrations, pamphlets, general session VIP table and 5 minutes of mic time)

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## Conference Agenda

- 8:00 a.m.** Exhibits Open/Registration
- 8:30 William Coed, ASHRAE Distinguished Lecturer: *Ethics and Economics of Energy Construction*
- 9:30** Visit Vendor Exhibits
- 10:00 Smoke Management Basic Issues, Michael Myers, ASHRAE Distinguished Lecturer  
Modeled vs. Actual Building Energy Use, Micah Allen, E SOURCE
- 11:00 Commercial Building Energy Star Certification, Brad Weaver, BetterBricks  
Indirect Evaporative Cooling, Dick Bourne, UC Davis Western Cooling Efficiency Center  
William Coed, ASHRAE Distinguished Lecturer: *VAV System Design: Problems and Opportunity*
- 12:00** Visit Vendor Exhibits - Lunch
- 12:30 p.m. VAV System Design, Problems and Opportunities, William Coad, ASHRAE Distinguished Lecturer
- 1:30** Visit Vendor Exhibits
- 2:00 Designing Outside Air Economizers and Demand Control Ventilation that Works, Reid Hart, PEI  
Laboratory Design and Common Mistakes, Bill Schultz, Phoenix Controls
- 3:00** Visit Vendor Exhibits
- 3:30 Understanding the Federal Stimulus, What Engineers Should Know, Ken Eklund, OERb
- 4:30 Adjourn

To register as an exhibitor or sponsor, please contact Kenny Calkins of Cloverdale Plumbing:  
[Kenny@Cloverdaleplumbing.com](mailto:Kenny@Cloverdaleplumbing.com)

# 2009 ASHRAE Technical Conference

**8:30 am - 9:30 am**

## **Breakfast Keynote Speaker**

**William Coad, ASHRAE Distinguished Lecturer: “The Ethics and the Economics of Energy Conservation”**

This talk explores the economics of energy conservation and the failure of economic alternatives in the search for more energy conservative buildings and machines. Then, based upon this observation, an alternative perspective leads to the conclusion that energy conservation is an ethic, and if this ethic is embraced by those who practice in the energy sciences, the inevitable result will be improved system performance, energy conservation and improved economics.

William J. Coad, President of Coad Engineering Enterprises is a consulting principal, past Chairman and CEO of McClure Engineering Associates, and past President of ASHRAE. He received his degree in Mechanical Engineering from Washington University in 1957 and is a registered professional engineer in 38 states. He is a member of the Board of Directors of Mestek Corporation of Pittsburgh, Pennsylvania, Exergen Corporation of Watertown, Massachusetts and HBS Acquisition Corporation of Delaware.

In the field of Engineering Education, he served as a lecturer in Mechanical Engineering (undergraduate level) for 12 years at Washington University in St. Louis, and for 17 years as an Affiliate Professor teaching graduate courses in Mechanical Engineering and serving as a student thesis advisor in building environmental systems design.

Mr. Coad is a member of the Consulting Engineer’s Council, the American Society of Mechanical Engineers (ASME) and a Fellow in the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE). He is a recipient of ASHRAE’s Distinguished and Outstanding Service Awards, the Crosby Field Award for the best paper published by ASHRAE in 1985, the Louise & Bill Holladay Distinguished Fellow Award, the award for Best Journal Article of 1991, the Andrew T. Boggs Service Award and ASHRAE’s highest award for technical achievement, the F. Paul Anderson Award. He is a recipient of the Washington University Alumni Achievement Award, and the Donald Julius Groen Prize of the British Institute of Mechanical Engineers.

He has published 2 books and numerous articles and papers in the United States and Foreign Journals on topics related to various aspects of Engineering Philosophy and Building Environmental Systems.

**10:00 am – 11:00 am**

## **Track 1**

### **Michael Myers, P.E., ASHRAE Distinguished Lecturer: “Smoke Management Systems - The Basics”**

As design professionals, mechanical engineers and designers need to know the basics of smoke management systems for high-rise buildings, atriums, and malls. This presentation is intended to introduce the viewer to the concept of the two different types of smoke management systems, namely zoned smoke control and smoke evacuation systems. This presentation includes a brief history of the smoke management research that was initiated by the 1980 MGM Grand Hotel Fire in Las Vegas, Nevada as well as current criteria for the application of the two different systems. A brief introduction to software modeling is included to expose the viewer to the methods and tools available to assist in designing these systems. Standards used in the presentation are NFPA-92a and 92B and the IBC.

Michael E. Myers, PE is a Senior Mechanical Engineer for Johnson, Avedano, Lopez, Rodriguez & Walewski Engineering Group, Inc. in Fort Myers, Florida. He received his degree from Franklin University in Columbus, Ohio in 1980. He is a registered professional engineer in Ohio, Florida, New Jersey and Colorado.

As a professional engineer, Mr. Myers has served as a mechanical engineering department head for a major A/E educational firm and as an associate vice-president for a consulting MEP firm. His specialties range from chilled water systems, steam systems, air-handling systems to smoke management systems.

Mr. Myers' ASHRAE involvement has included chapter level offices from Treasurer to President. He is currently the new Electronic Communications Chair and Webmaster for Region XII.

Mr. Myers is a co-author of an HVAC engineering handbook to be released in 2009.

## **Track 2**

### **Micah Allen, E Source: “Modeled versus Actual Building Energy Use”**

Modeling & prescriptive rules can be excellent tools for designing buildings. Unfortunately, buildings have a stubborn habit of performing based more on how they're used and the laws of physics than their computer simulations. Until humans live a purely virtual world, like the Matrix, it is worthwhile to note where reality trumps the most sophisticated analysis and design guidelines. This presentation will outline some of these situations, as well as hint at some of the new modeling tools on the horizon.

Micah Allen, manager of the *E source Technology Assessment Service*, has expertise in areas including green buildings, demand-side management in electric cooperatives, energy efficiency, on-site renewable energy generation, industrial facility design, and “green job” education. He has worked for the International Center for Appropriate and Sustainable Technology (iCAST), Enermodal Engineering, and Stangl Associates. As a consultant for energy engineering projects, Micah managed such initiatives as energy-efficient retrofits of homeless shelters and assisted with feasibility study calculations for a minerals processing plant. Micah conducted building energy research at institutions in Japan and Denmark while getting his advanced education. He holds a BS and MS in mechanical engineering from the University of Buffalo in New York.

**11:00 am – 12:00 pm**

### **Track 1**

#### **Brad Weaver, Better Bricks: “Commercial Building Energy Star Certification”**

An overview of EPA’s Energy Star program from the Certifying Engineer’s view.

Brad Weaver has over 20 years of mechanical design covering all sectors and much of the United States. His last ten years have been focused on energy conservation primarily using UFAD. This has been for both office and casino environments. The last three years have been as a resource conservation consultant.

### **Track 2**

#### **Dick Bourne: “Indirect Evaporative Cooling”**

After reviewing market needs and forces that are beginning to change dry climate cooling practices, this presentation will present background and progress in implementing the Western Cooling Efficiency Center and its focus on accelerating the implementation of better cooling strategies. Subsequent material will discuss and show visual materials for specific cooling technology options for commercial, residential, new, and retrofit applications. The discussion will include comments on technical performance, economics, and maintainability. Conclusions will estimate the potential impact of these technologies over time.

Dick Bourne is Associate Director of the UC Davis Western Cooling Efficiency Center, which he founded in 2006 to advance the implementation of energy-efficient cooling systems appropriate in dry Western Region climates. Dick was founding president of the Davis Energy Group (DEG) from 1981 through 1997, and continued as a DEG principal through 2006. A former associate professor at the University of Nebraska, Dick has

presented more than 150 special lectures, workshops, and technical papers on energy subjects since 1974. He served as Chairman of ASHRAE's radiant heating/cooling technical committee, and holds 19 U.S. patents.

Dick is responsible for technology development efforts at the WCEC, including projects focused on the cost-reduction of radiant floor cooling systems. At DEG he managed a team developing energy-efficiency technologies. Projects included the DualCool system for packaged rooftop cooling units; the IDEC advanced two-stage evaporative cooler; the HyPak hydronic rooftop cooling unit; the NightSky night-radiative cooling system; and the SunCache low-cost solar water heating system. He has been a registered professional engineer in California since 1977. His educational background includes a BA degree from Amherst College (1965), a BSME from West Virginia University (1967), and a MSME from Stanford (1968).

**12:30 am – 1:30 pm**

### **Lunch Keynote Speaker**

**William Coad, ASHRAE Distinguished Lecturer: "VAV System Design: Problems and Opportunity"**

William J. Coad, President of Coad Engineering Enterprises is a consulting principal, past Chairman and CEO of McClure Engineering Associates, and past President of ASHRAE. He received his degree in Mechanical Engineering from Washington University in 1957 and is a registered professional engineer in 38 states. He is a member of the Board of Directors of Mestek Corporation of Pittsburgh, Pennsylvania, Exergen Corporation of Watertown, Massachusetts and HBS Acquisition Corporation of Delaware.

In the field of Engineering Education, he served as a lecturer in Mechanical Engineering (undergraduate level) for 12 years at Washington University in St. Louis, and for 17 years as an Affiliate Professor teaching graduate courses in Mechanical Engineering and serving as a student thesis advisor in building environmental systems design.

Mr. Coad is a member of the Consulting Engineer's Council, the American Society of Mechanical Engineers (ASME) and a Fellow in the American Society of Heating, Refrigerating, and Air Conditioning Engineers (ASHRAE). He is a recipient of ASHRAE's Distinguished and Outstanding Service Awards, the Crosby Field Award for the best paper published by ASHRAE in 1985, the Louise & Bill Holladay Distinguished Fellow Award, the award for Best Journal Article of 1991, the Andrew T. Boggs Service Award and ASHRAE's highest award for technical achievement, the F. Paul Anderson Award. He is a recipient of the Washington University Alumni Achievement Award, and the Donald Julius Groen Prize of the British Institute of Mechanical Engineers.

He has published 2 books and numerous articles and papers in the United States and Foreign Journals on topics related to various aspects of Engineering Philosophy and Building Environmental Systems.

**2:00 pm – 3:00 pm**

### **Track 1**

#### **Reid Hart P.E., Portland Energy Conservation: “Designing Outside Air Economizers and Demand Control Ventilation that Works”**

An outside air economizer seems like a pretty simple system; just use outside air for free cooling. But surveys of small package units and commissioning of large systems show that they are problematic. Reid will talk about some of the issues of getting economizers to really work, from placement of outside air sensors, to the sequence of operation, to proper tuning, to specifying the right equipment to do the job. The difference between ideal savings and realized savings will also be discussed. Once you’ve got the basic economizer working, the added benefits of demand controlled ventilation will be discussed.

Reid Hart’s work in the energy field started 30 years ago at an Oregon residential solar construction company. This was followed by work as an energy analyst and energy project manager doing energy analysis of schools, institutional, commercial, and military facilities in the Western US and Europe, for EMC Engineers and Systems West Engineers. Fourteen years ago he joined EWEB to supervise their commercial energy management group. He also taught Energy Control Strategies for the Lane Community College Energy Management Technician program for 12 years and teaches for the NEEI Energy Management Certification.

He joined Portland Energy Conservation, Inc. in 2008. As Associate Director of PECI’s Technical Research Group, Reid focuses on technical training and energy savings research. He earned his bachelors degree from UCLA and is active in the local ASHRAE chapter and on ASHRAE technical committee 7.6, system energy utilization. In December, 2007 the Oregon Association of Professional Energy Managers presented him with the Energy Manager of the Year award.

### **Track 2**

#### **Bill Schultz, Phoenix Controls: “Laboratory Design and Common Mistakes”**

**3:30 pm – 4:30 pm**

**Ken Eklund, OERb: “Understanding the Federal Stimulus – What Engineers Should Know”**