



## **ASHRAE**

### **2009-2010 OFFICERS**

#### **President**

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[jpfauber@heapy.com](mailto:jpfauber@heapy.com)

#### **President-Elect**

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#### **Secretary (Acting)**

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#### **Treasurer**

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### **Committee Chairs**

#### **Membership**

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[GDSchweitzer@heapy.com](mailto:GDSchweitzer@heapy.com)

#### **History**

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#### **Board of Governors**

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Ramsay-Cohron  
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#### **Board of Governors**

Frank Mauro 224-0861  
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Dayton Chapter  
PO Box 3202 Dayton, OH 45401  
<http://www.daytonashrae.org>

# **February Lunch Meeting**

## **Geothermal Heating Systems**

**Featured Speaker: Designing Geothermal Systems**  
**Kirk T. Mescher, PE, LEED AP**  
**Principal, CM Engineering (See Bio, page 3)**

**Tech Session: Pitfalls of Rules of Thumb in Geothermal Heat Pump Design**

**Andrew Chiasson, Ph.D., P.E. (See bio, page 2)**  
**Assistant Professor, University of Dayton**

## **February 8, 2010**

**10:30 Tech Session**

**11:30 Lunch**

**11:45 Chapter Business**

**12:00 Featured Speaker**

**Paid members: Free**

**Student ASHRAE Members: \$10 at the door**

**Guests: \$20 at the door**

**Engineer's Club of Dayton**  
**110 East Monument Avenue**

**RSVP: For reservations contact Jeremy Fauber at Heapy Engineering, [jpfauber@heapy.com](mailto:jpfauber@heapy.com) or 224-0861 no later than noon Thursday, Feb. 4th.**

**Next Board of Governors Meeting:**

**February 18, 8 AM**

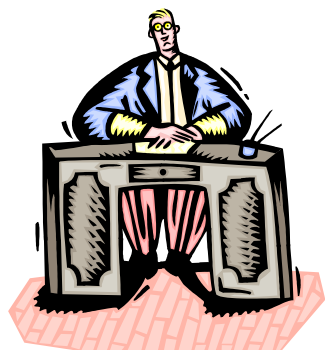
**Heapy Engineering**

**All are Welcome and Encouraged to Attend**



**Raising Efficiency  
to New Levels**





## Presidential Ponderings

By all accounts the January holiday party was a success and enjoyed by all who attended. The Dayton Chapter wishes luck to the Sinclair Community College Culinary Team in their upcoming competition. I would also like to

thank Russ Marcks for the time and effort he put into planning and arranging the event for the chapter.

I'm pleased to announce the remaining meetings for the local chapter to close out the year. In February we welcome Kirk Mescher to the local chapter to give a presentation on geothermal systems. Kirk has been designing geothermal systems for over a decade and is a current member of TC 6.8 Geothermal Energy Utilization. Kirk has some very innovative approaches to designing geothermal systems and I think you will enjoy what he has to say. In March we welcome another distinguished lecturer to the chapter as we bring in Richard Pearson to give a presentation on energy management in buildings. ASHRAE president Gordon Holness has pointed out that in 20 years approximately 80% of the building stock is existing today. With this in mind the key to minimizing energy usage over the coming decade is more efficient use of the buildings we currently have. Our final regular meeting of the year will be a tour of the Salvation Army building under construction. Our tour will give us an up close look at a single pipe heat pump system that saves energy by minimizing pumping costs. If you are interested in learning more, ask Kirk Mescher about single pipe geothermal systems when he is in town, he can give you some thoughts and pointers on it, too.

Jeremy Fauber, PE

## **Come to the next BOG meeting 2/18/2010!**

**Tech Session Speaker: Andrew Chiasson,  
Ph.D., P.E.**

An Assistant Professor at the University of Dayton (Dayton, OH) in the Department of Mechanical and Aerospace Engineering, with a focus in the Renewable and Clean Energy Program. He is a Professional Engineer with several years of experience in the fields of HVAC, applied hydrogeology, ground-source heat pump applications, and geothermal resource utilization.

## Coming Events 2009/2010

**September 14, 2009**—Lunch—Young Engineers in ASHRAE - Primary-Secondary/ Variable primary chilled water control sequence.

**October 20, 2009**—Mini-ASHRAE Show and program, Sinclair Community College—Student night. Featured speaker: Tom Werkema, Science of Carbon Counting.

**November 9, 2009**—Dinner—Research Promotion Donor Recognition Night, Membership Promotion Night—Dessicant Dehumidification for Operating Room Applications

**December 14, 2009**—Lunch—Facility Insulation

**January 16, 2010** - Gourmet Dinner by Sinclair's Culinary Competition Team

**January 23-27, 2010**—ASHRAE Winter Meeting, Orlando, FL

**February 8, 2010**—Lunch— Single Pipe Geothermal Systems with Kirk Messer

**March 8, 2010**— Dinner—Energy Management in Buildings with Richard Pearson

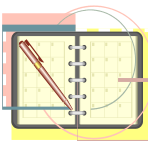
**April 12, 2010**— Dinner—Tour Salvation Army Building Renovation

**April 21, 2010**—ASHRAE Webcast, 1:00 PM

**May 13, 2010**—Golf Outing

June—Green Expo

**June 20-24, 2010**—ASHRAE Annual Meeting,



## Upcoming Board Meetings:

Meetings are held at 8 AM on the third Thursday of the month at Heapy Engineering. Bill's Donuts and fresh coffee are always available.

Next meetings:

**February 18, 2010**

March 18, 2010

April 22, 2010

## Research Promotion News

Use the form on page 6 to make your tax-deductible contribution today!



## Help Wanted:

**Dayton Chapter needs YOU to continue our success. See note from future President Pavlak on page 4 for ways you can help!**



**KIRK T. MESCHER, P. E., LEED® AP**  
**PRINCIPAL**  
**Mechanical / Electrical / Plumbing Engineer**

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**Education**

University of Missouri-Rolla  
B.S. Mechanical Engineering

Extensive undergraduate work  
on ASHRAE RP 173-Method  
of Testing for Air-to-Air  
Energy Exchangers

Graduate studies in the  
application and analysis of  
HVAC systems

**Professional and Civic**

**Affiliations**

American Society of Heating,  
Refrigeration, and Air  
Conditioning Engineers  
(ASHRAE)

- Member of National  
Program Committee
- Research Committee Chair  
for TC 5.5 Air-to-Air Energy  
Recovery
- Committee Chair for SPC 84  
Method of Test for Air-to-Air  
Energy Recovery Systems
  - Technical Committee  
Member of the following:

TC 3.5 Desiccants & Sorption

TC 6.5 Geothermal Heat  
Pumps

TC 9.4 Applied Heat Pumps

City of Columbia, Missouri  
Electrical Review Board

City of Columbia, Missouri  
Building Commission

**Registration**

Professional Engineer -  
Missouri, Oklahoma, Texas,  
Washington, Illinois,  
Colorado, Kansas, Arkansas,  
Georgia, and Wisconsin

**Certification**

LEED® AP - 2004

With over 29 years experience in the engineering field, Mr. Mescher is a principal and founding partner of CM Engineering, Inc. Mr. Mescher has served as project manager and lead designer on numerous mechanical and electrical projects that include plumbing, HVAC, lighting, electric power, fire alarm, and fire sprinkler systems.

In 2001 Mr. Mescher embarked on the development of a revised geothermal heat pump water distribution network. The design was based upon a distributed primary secondary design philosophy. This One Pipe distribution network was developed and installed in a number of schools in Missouri and Illinois. During the design, installation and commissioning processes a number of benefits were noted. Energy consumption data for these facilities was tracked against other school heating and cooling systems. The energy consumption data indicated improved overall system performance over other geothermal systems.

In October of 2009, the cover article of the ASHRAE Journal "One Pipe Geothermal Design-Simplified GCHP system" was written by Mr. Mescher. This peer reviewed primer presents some of the design and operational benefits of One Pipe systems. Throughout the process, Kirk has been a regular speaker at ASHRAE national meetings, Local Chapters, Heat Spring geothermal designer training and other various professional settings. Through his commitment to his profession Kirk has earned Distinguished Service Awards from ASHRAE and has chaired a number of national committees.

The One Pipe design proved an essential means for providing a campus wide heating and cooling system at Lakeland Community College. One Pipe has allowed for the installation of a diversified geothermal utility around the campus such that buildings may be added to the loop as the campus expands or buildings are renovated. This expandable flexible system has provided the college with a highly energy efficient central geothermal network. This work has proven to be the foundation for one of the world's largest geothermal installations at Ball State University (10,000 tons) and Hampton University (5000 tons).

With Geothermal installations numbering in the 100's, Kirk is recognized as one of the industries leading engineer's for geothermal and energy recovery technologies.

**One Pipe Installations (abbreviated)**

- Ashland Schools, Ashland, MO
- Clopton Elementary, Clarksville, MO
- Douglas Elementary School, Clinton, IL
- Lincoln Elementary School, Clinton, IL
- Lincoln Elementary School, Macomb, IL
- Fairview Elementary School, Normal, IL
- Hudson Elementary School, Normal, IL
- Edison Elementary School, Macomb, IL
- Brigham Elementary School, Bloomington, IL
- Carlock Elementary School, Carlock, IL
- Oakdale Elementary School, Normal, IL
- Glenn Elementary School, HVAC, Normal, IL
- Franklin Elementary School, Sterling, IL
- Jefferson Elementary School, Sterling, IL
- Mendota-Lincoln School, Mendota, IL
- Lakeland Community College, Mattoon, IL

**Patents**

- Co-Patent Holder Application of Desiccants to Aluminum Foil Substrates.
- Principal Researcher and Product Developer for "SEMCO Exclusive" Selective Heat Recovery Equipment.

700 Cherry Street - Suite C - Columbia, Missouri - 65201

# An important note from our next President:



## Dayton ASHRAE Needs Your Talent

Dayton ASHRAE will soon be electing new officers and appointing committee chairs. There will be many positions open, including Secretary, and many committee positions. No matter what talents and interests you have, Dayton ASHRAE can use your help. Whether your talents lie in organizing social events, arranging technical programs, website design or fundraising for Research, your talent and energy are needed.

Not sure you are ready to lead, but willing to assist? That's great, too! The Board and committees have many seasoned veterans who will guide and mentor you. Involvement in the local chapter will give you the opportunity to grow both personally and professionally. If you have an interest in serving the local chapter, please contact Rick Pavlak by phone 937 224 0861, email [rpavlak@heapy.com](mailto:rpavlak@heapy.com), or any of the current chapter officers or committee chairs for more information. We look forward to hearing from you.

# **Right from the Start – Commissioning for High Performing Buildings**

**April 21, 2010**

**1:00 – 4:00 P.M. EDT**

**Sinclair Community College**

**14-130**



**Snacks and Drinks at 12:45**



Hear from leading commissioning experts about how commissioning supports a smoother construction process, maximizes energy and cost reductions, and provides a facility that operates as intended. This program will define the “what, why, when, and who” of the commissioning process and provide you with tools to commission your high performing building.

This free webcast is sponsored by the ASHRAE Chapter Technology Transfer Committee with support from ASHRAE’s [High Performing Buildings Magazine](#).





# 2009-2010 ASHRAE RESEARCH Dayton ASHRAE

## Contribution Form

Last year was a good year for the Dayton Chapter, but we can't let down now! With so much work to do to reach ambitious energy consumption reduction goals, more research is needed than ever before! You can help make the difference!

This industry gives all of us our livelihood. ASHRAE's research and educational programs are what keeps our industry and profession on the leading edge and assures its continued existence. Confident that you will recognize the benefits of this investment, I am asking you to help fund future HVAC&R research and development.

Amount enclosed: \_\_\_ \$250 \_\_\_ \$150 \_\_\_ \$100 \_\_\_ \$50 \_\_\_ Other (specify) \_\_\_\_\_

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

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

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

Member Number (If known): \_\_\_\_\_

Do you want to be recognized in the Dayton newsletter as a contributor? (circle) YES NO

Mail completed form with your check, payable to ASHRAE Research to:

Denny Lammlein  
29 Sandelwood Street  
Springboro, OH 45066





Albuquerque, New Mexico

June 26-30, 2010

## ASHRAE 2010 Annual Conference

[Technical Program](#) [ASHRAE Learning Institute](#) [Social Events](#) [Tours](#)

Home to the breathtaking Sandia Mountains and to the world's largest hot air balloon festival, Albuquerque is the perfect place for ASHRAE to set its sights on Raising Efficiency to New Levels.

Join the Society as it builds on efforts to provide technical guidance to increase the efficiency of buildings and systems. From pending publication of the nation's first code-intended standard for green buildings to release of a new version of its energy conservation standard to expansion of the Building Energy Quotient program, the sky is the limit when it comes to energy efficiency.

The 2010 Annual Conference also offers you the opportunity to help take your career to the next level through a variety of educational courses and the technical program, which focuses on a wide-range of programs and papers addressing the energy efficient system design for high elevations and dry climates.

**Join ASHRAE as we move onward and upward to improve energy use around the world.**

### Technical Program

With a focus on energy efficiency system design for high elevations and dry climates, this year's Annual Conference features more market-based papers and programs than in previous technology-driven ASHRAE conferences. In addition, the conference includes traditional full-length Technical Papers as well as a new Conference Paper format. Preliminary program submissions include energy efficient design and operation of data centers, central chilled water plant innovations, and latest research on refrigeration system and components and design applications for sustainable buildings.

#### **The technical program is organized along the following tracks:**

The complete technical program will be available online in mid-March and published in April Insights.

- [Track 1 What Is Sustainable Anyway?](#)
- [Track 2 Energy Facts and Simulation](#)
- [Track 3 Ventilation Systems](#)
- [Track 4 Refrigeration for the Future](#)
- [Track 5 Central Plant Systems](#)
- [Track 6 BIM/CAD/Paper and Pencils](#)
- [Track 7 Energy Conservation vs. New Generation](#)
- [Track 8 Living with HVAC&R Systems](#)
- [Track 9 High Efficiency HVAC Systems](#)
- [Track 10 Professional Skills](#)
- [Track 11 Data Center and High Density Cooling](#)

[Submit a Program for Albuquerque \(deadline is Feb. 12\)](#)

[\[Tips for Submitting a Program\]](#)

[Conference Paper Author, Reviewer and Track Chair Access](#)



For Release:

Jan. 25, 2010

Contact: Jodi Scott  
678-539-1140  
Amanda Dean

Public Relations  
[jscott@ashrae.org](mailto:jscott@ashrae.org)  
[adean@ashrae.org](mailto:adean@ashrae.org)

## Slash Urban Energy Use: ASHRAE Conference Offers Guidance on Cutting Energy Waste

ATLANTA – Bright lights, big cities translate into high energy use and cost.

Cities contribute to 67 percent of the world's primary energy demand, according to the 2008 World Energy Outlook published by the International Energy Agency. The Agency shows that cities emitted 19.8 gigatonnes of CO<sub>2</sub> from energy use in 2006, which is 71 percent of global energy related CO<sub>2</sub> emissions. Both of those percentages are expected to increase in the future.

To guide the building community and government in reducing energy use, ASHRAE is hosting *Existing Buildings in Urban Areas: Dramatically Cutting the Energy Waste*, a conference that will address theoretical and practical matters associated with major improvements in the energy efficiency of existing buildings. The conference takes place April 19-20, 2010, at the Grand Hyatt in New York, N.Y. To register or for more information, visit [www.ashrae.org/cutenergywaste](http://www.ashrae.org/cutenergywaste). Registrations costs are \$700 (\$620 ASHRAE members) for advanced registration; \$800 (\$720 ASHRAE members) for on-site registration.

“The greatest opportunity to change energy consumption in the built environment is through modification of existing buildings,” Michael Bobker, chair of the conference, said. “Only 2 percent of building stock is built new each year, so the focus must be given to the 98 percent of existing buildings if we are to reach the much-needed worldwide reduction in energy consumption for which we have been striving.”

The conference addresses investment and financial decision-making, effective public policies, and necessary technical steps (energy audits, commissioning, retro-commissioning, benchmarking of utility consumption and design and construction of energy related problems). It is divided into two tracks: technical and policy and management. Technical sessions include *The Engineering Process: Getting It Right; Urban Challenges to Net-Zero-Energy; Necessary Things: When the T-5 Upgrade Just Isn't Enough; Engineering Strategically with Models; Engineering Solutions for Tenancy and Metering Issues; and Building Performance and IEQ: Saving Energy While Enhancing Service Quality*. Policy and Management sessions include *The International Urban Challenge: Bringing Stakeholders Together; Energy Accountability: You Can't Control What You Don't Measure; What is Working: Tales from Around the World on Existing Building Energy Performance; Real Estate Decision-Making: Bridging the Gap Between Engineers and Decision Makers; Training and Education: Getting Staff Right; and Getting Energy Into Green Leases: A Mock Green Lease Negotiation.*



The Official Jobs Board for the American Society of  
Heating, Refrigerating and Air-Conditioning Engineers

Welcome to [ASHRAEJobs.com](http://ASHRAEJobs.com)  
Your source for HVACR Engineering Careers





**Dayton Chapter ASHRAE**  
<http://www.daytonashrae.org>  
**Membership Application and Roster Information 2009-2010**

\_\_\_\_\_  
**Your Name**

\_\_\_\_\_  
**Home Address**

\_\_\_\_\_  
**City**                      **State**                      **Zip**

(    )                      -                      \_\_\_\_\_  
**Home Phone**                      **Spouse Name**

\_\_\_\_\_  
**Home e-mail address**

\_\_\_\_\_  
**Your Company Name**

\_\_\_\_\_  
**Business Address**

\_\_\_\_\_  
**City**                      **State**                      **Zip**

(    )                      -                      (    )                      -                      \_\_\_\_\_  
**Business Phone**                      **Ext.**                      **Fax Number**

\_\_\_\_\_  
**Business e-mail address**

**SEND NEWSLETTER TO:** Home Address    Home email address    Business Address    Business email address

I prefer Lunch Meetings \_\_\_\_\_ I prefer Dinner Meetings \_\_\_\_\_ I have no preference \_\_\_\_\_

**Chapter achievements are accomplished through active committee involvement. If you would like to promote your Society by serving as a committee chair or assist on one of the chapter committees, please indicate in which committee you are interested below. Please indicate your first preference by number 1 and so on.**

- Education     Membership     Research     Historian     Newsletter     Chapter Office  
 CTT (Refrigeration; Technical, Energy & Government; Programs)     Golf Outing     Communication  
 Holiday Party     Honors & Awards

**Please Check Your Preferred Roster Affiliation**

**Consultant    Contractor    Industry/Government    Retired**  
**Education**                      **Student:** School \_\_\_\_\_ Degree \_\_\_\_\_ Approximate Graduation Date \_\_\_\_\_

**Wholesalers, Manufacturer's Rep/Sales Offices, Fill in trade names of products you represent below**

Air Devices	<input type="checkbox"/>	Louvers and Dampers
Air Handlers	<input type="checkbox"/>	Make-Up Air Units
Boilers	<input type="checkbox"/>	Packaged A/C
Building Automation	<input type="checkbox"/>	Pre-Insulated Pipe
Chillers	<input type="checkbox"/>	Pumps
Coils	<input type="checkbox"/>	Sound Attenuation
Computer Room Equipment	<input type="checkbox"/>	Steam Specialties
Cooling Towers	<input type="checkbox"/>	Air Terminal Units
Ductwork	<input type="checkbox"/>	Thermal Storage
Dust Collection	<input type="checkbox"/>	Unit Heaters
Fans	<input type="checkbox"/>	Unit Ventilators
Fan Coil Units	<input type="checkbox"/>	Vibration Isolators
Filtration	<input type="checkbox"/>	Valves
Heat Exchangers	<input type="checkbox"/>	Variable Speed Drives
Heating Equipment	<input type="checkbox"/>	Water Source Heat Pumps
Humidity Control	<input type="checkbox"/>	Water Treatment
Kitchen, Laboratory Fume Hoods	<input type="checkbox"/>	Other

*Dayton Chapter ASHRAE dues for the Society year beginning July 1, 2009 and ending June 30, 2010 are \$95 per year. Dayton Chapter ASHRAE dues include 6 dinner/lunch meetings, and both you and a guest for the holiday event. \* Note: Be sure to begin paying Local dues when you pay your National Dues.*

**Please return this application and a check or money order in the amount of \$95 made payable to Dayton ASHRAE to:**  
**DAYTON ASHRAE, PO Box 3202, Dayton, OH. 45401**

**Paid local dues with your annual dues? Please return the form anyway!**

Dayton BOMA  
**“March Madness”**  
Trade Show



- WHEN:** Thursday, March 25th  
First Round of the 2010 NCAA Tournament  
1:00 to 4:00p.m.
- WHERE:** Chapel Electric Co.  
1985 Founders Drive  
Located in Research Park
- MENU:** Hors d'oeuvres and Refreshments along with a  
Cash Bar
- COST:** \$75 Per 2' x 5' Table (Discounted price for ASHRAE members)

**Reservation Form**

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If you would like to reserve a table to display your products or services, please return this reservation form along with your check no later than Wednesday, February 25th.

The number of tables is limited, so be sure to reserve yours ASAP!

If you have any questions, please contact Nancy Ferrara at 299-2662.

Table Reservation [  ] Yes      Name \_\_\_\_\_

Company \_\_\_\_\_ Phone# \_\_\_\_\_

Address \_\_\_\_\_

**Send your reservation form and check to:  
Nancy Ferrara, Dayton BOMA, P.O. Box 680, Dayton, OH 45409-0680**

