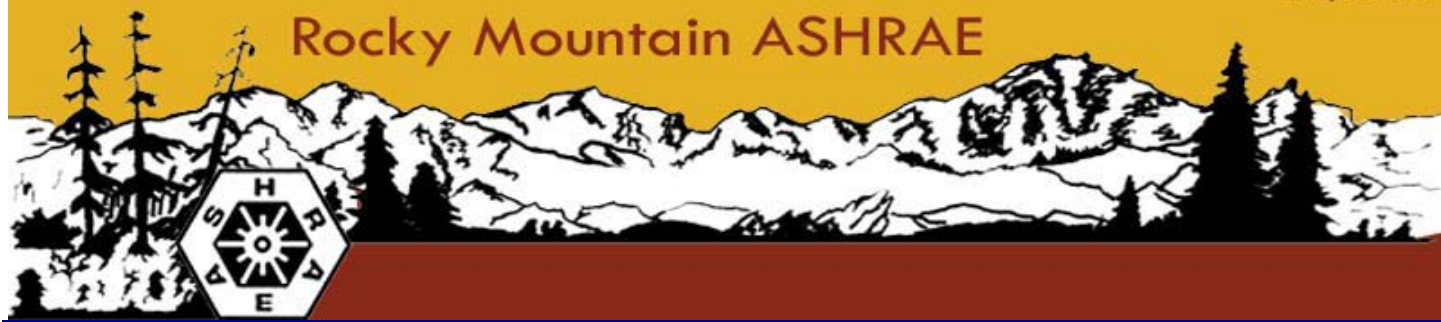


## Rocky Mountain ASHRAE



VOLUME 52, NUMBER 6

FEBRUARY 2011

EDITOR: MIKE HARRINGTON

## February MEETING

### Denver Meeting

**Date:** Wednesday, February 9, 2011

**Time:** 11:30 Registration/Lunch  
12:00 Program Begins

**Location:** Colorado Sheet Metal Apprenticeship  
Training Institute  
1515 W 47<sup>th</sup> Ave  
Denver, CO 80211

**RSVP:** Jon Rundquist  
[jonathan.e.rundquist@jci.com](mailto:jonathan.e.rundquist@jci.com)

**Cost:** \$25 Rocky Mtn Chapter Members  
\*Reservation must be made by 12:00 pm  
February 7, 2011  
\$30 Non-members and late reservations  
\$20 Students

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### ASHRAE 2011 MEETING SCHEDULE

FEBRUARY 9, 2011

MARCH 2, 2011

APRIL 6, 2011

TECH CONF: APR 15, 2011

MAY 4, 2011

JUNE 8, 2011

GOLF: JUNE 20, 2011

### "ASHRAE Technical Committee 5.2 Duct Design"

Our speaker is Kevin Gebke, Chairperson, ASHRAE Technical Committee. The presentation will cover associated activities of ASHRAE Technical Committee 5.2 Duct Design. This will include a general sense of the responsibilities of this technical committee along with the unique research projects and the latest updates to ASHRAE handbooks. The website for ASHRAE Technical Committee 5.2 can be found through this link:  
<http://tc52.ashraetcs.org/>

Kevin is an engineering graduate from the University of Illinois. He is currently employed as the New Product Development Engineer at DuctSox Corporation. He is an innovator with seven patents to his name and enjoys the great joy of thinking out of the box. He's actively involved with ASHRAE Technical Committees, including the Technical Committees of Duct Design and Room Air Distribution. He is the current chair of Technical Committee 5.2 Duct Design.

# PRESIDENT'S MESSAGE

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Dear Rocky Mountain ASHRAE:

I send warm greetings to you from the ASHRAE Winter Meeting here in Las Vegas. It's warm out here; sorry I missed the cold snap. Heading off to warm climates (unless it is Chicago) is only a minor benefit of the Winter Meeting. Most of the benefits are in meeting new ASHRAE members, hearing about new designs and technology and of course walking your feet off at the AHR Expo. If you didn't get a chance to make it this year we hope to see you next year.

For those of you who could make our "Getting Green with Rocky Mountain ASHRAE" event I thank you for your attendance and hope that you a great time. We had a good turnout, raised some good money for ASHRAE research and had a great educational experience. We will continue this event in years to come so keep it in the back of your mind.

See you next week for our joint meeting with SMACNA, which is always a bunch of fun.

As always if you have questions or concerns please feel free to email, phone, or just grab me during one of our monthly meetings.

Sincerely,



Ken Urbanek, PE, ASHRAE HBDP, LEED AP

Chapter President, Rocky Mountain Chapter of ASHRAE

# HISTORY

## Refrigeration Timeline through 1904

American Society of Refrigerating Engineers founded	1904	
	1904	Public debut of air conditioning; Missouri State Building, St. Louis World's Fair
Armour Building, Kansas City, MO, installed dual-duct air conditioning system; each room individually controlled with a thermostat	1902	
	1901	300 ton co-generation comfort air conditioning system installed at New York Exchange.
Hermetically sealed refrigeration system patented by Marcel Audiffren in France	1894	
	1893	Committee to define "standard ton of refrigeration" established by American Society of Mechanical Engineers
First air conditioned house in U.S. San Lorenzo, CA by M. Dillenberg of San Francisco.	1892	
	1891	The trade journal <i>Ice and Refrigeration</i> began publishing
Charles Tellier used refrigerated ship <i>Le Frigorifique</i> to send meat from France to South America	1879	
	1875	Cold storage plant using mechanical refrigeration by Thomas Mort of Australia
Carl Linde publishes paper using a rigorous thermodynamic approach to refrigeration: "The Extraction of Heat at Low Temperature by Mechanical Means."	1870	
	1868	Peter Van der Weyde patented thermostatically controlled refrigeration system
Ferdinand Carre patented aqua-ammonia absorption refrigeration.	1860	
	1855	First commercial ice making plant using vapor compression refrigeration constructed in Cleveland, Ohio by Alexander Twining.
John Harrison began experimenting with vapor compression for ice making in Victoria, Australia.	1854	
	1844	Dr. John Gorrie proposes an air-cycle refrigerating machine for making ice.
Caoutchoucine, a distillate of natural rubber, used as a refrigerant by John Hague in the first working model of a vapor-compression refrigeration machine.	1834	
	1805	Oliver Evans proposed a closed cycle vapor compression refrigeration system in <i>The Young Steam Engineer's Guide</i>
Thomas Moore of Maryland received US patent for a refrigerator. First patent issued in US on refrigeration.	1803	
	1748	G. Richmann presented papers on experiments with cold at St. Petersburg Academy of Sciences

# ROCKY MOUNTAIN ROSTER

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## Rocky Mountain ASHRAE 2010 - 2011 Board of Governors

Title/Committee Chair	Name	Email	Phone
President	Ken Urbanek	<a href="mailto:kurbanek@mkkeng.com">kurbanek@mkkeng.com</a>	303.796.6000
President-elect/Tech Conf.	Adam Bishop	<a href="mailto:adamb@cfmcompany.com">adamb@cfmcompany.com</a>	303.607.4438
Vice President/CTTC Chair	Michelle Swanson	<a href="mailto:mswanson@rmhgroup.com">mswanson@rmhgroup.com</a>	303.239.0909
Secretary	Jon Rundquist	<a href="mailto:jonathan.e.rundquist@jci.com">jonathan.e.rundquist@jci.com</a>	303.904.7923
Treasurer	Jessie Jones	<a href="mailto:jjones@rmhgroup.com">jjones@rmhgroup.com</a>	303.239.0909
Newsletter Editor	Mike Harrington	<a href="mailto:mharrington@setpointsystems.com">mharrington@setpointsystems.com</a>	303.733.2300
Past President	Justin Dunkin	<a href="mailto:justind@cfmcompany.com">justind@cfmcompany.com</a>	970.493.7293
Director	Kevin Parrot	<a href="mailto:kevinp@trinity-mechanical.com">kevinp@trinity-mechanical.com</a>	303.442.3175
Director	John Stumpf	<a href="mailto:jstumpf@CarrierWest.com">jstumpf@CarrierWest.com</a>	720.472.0422
Northern Section Chair	Mike Fulton	<a href="mailto:mfulton@westernmechanicalsolutions.com">mfulton@westernmechanicalsolutions.com</a>	720.934.8273
Membership	Chris Garofoli	<a href="mailto:CGarofoli@victaulic.com">CGarofoli@victaulic.com</a>	303.396.9006
Historian	Dale Eismueller	<a href="mailto:dale@werc.com">dale@werc.com</a>	303.406.4080
Website	Shane Newman	<a href="mailto:shanenewman@gmail.com">shanenewman@gmail.com</a>	303.421.6655
Student Activities	Craig Wanklyn	<a href="mailto:craig.wanklyn@me-engineers.com">craig.wanklyn@me-engineers.com</a>	303.421.6655
Sustainable Engineering	Megan Van Wieren	<a href="mailto:MeganLVanWieren@Eaton.com">MeganLVanWieren@Eaton.com</a>	303.974.1230
Government Activities	Celeste Cizik	<a href="mailto:CelesteLCizik@eaton.com">CelesteLCizik@eaton.com</a>	303.974.1212

# SUSTAINABLE ENGINEERING COMMITTEE

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If you would like to be a part of the meeting or have questions about the committee, please contact Megan Van Wieren at [sustainable@rockymtnashrae.com](mailto:sustainable@rockymtnashrae.com).

The SEC committee is currently focusing on the following items and/or issues:

- Developing a sustainable project for a deserving non-profit organization in Denver to be presented at the ASHRAE 2013 Summer Conference
- Planning for green building tours
- Collaboration between ASHRAE , AIA, USGBC, and the Governor's Energy Office
- To be added to the Rocky Mountain ASHRAE SEC mailing list please contact Megan at: [MeganLVanWieren@Eaton.com](mailto:MeganLVanWieren@Eaton.com)

## 2013 ANNUAL MEETING SUSTAINABILITY PROJECT

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In preparation for the 2013 Annual ASHRAE Society Meeting, the Rocky Mountain chapter is looking for possible projects that the chapter can sponsor in an effort to reduce the environmental impact of the meeting.

Each year, ASHRAE selects a Sustainability Project for members to volunteer their time and services. This project traditionally is done for a non-profit organization that would significantly benefit from energy efficiency upgrades and improved systems. A recent project organized by the Utah chapter involved adding a solar hot water heating system to an existing YWCA.

If you or your organization knows of a project which may be a candidate for our 2013 Annual Meeting Sustainability Project, please contact Brian Lynch at 720.472.1037 or [BL@westernmechanicalsolutions.com](mailto:BL@westernmechanicalsolutions.com).

# GREENING OUR MEETINGS

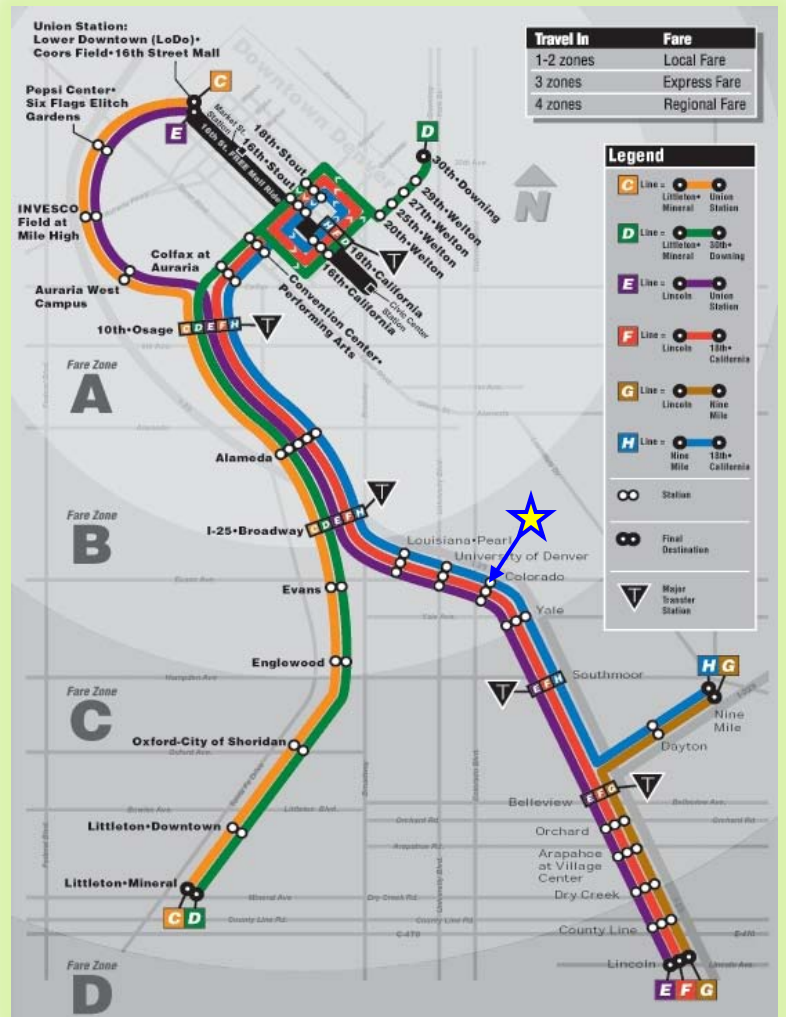
The Rocky Mountain Chapter of ASHRAE will present a free raffle ticket to anyone taking public transportation to the monthly ASHRAE meeting.

One raffle ticket will be given to each participant for each meeting. Visit [www.rtd-denver.com](http://www.rtd-denver.com) for system maps and times or contact [ridegreen@rockymtnashrae.com](mailto:ridegreen@rockymtnashrae.com) for further assistance.

Acceptable modes of alternative transportation:

- ✓ Walking
- ✓ Bicycling
- ✓ Bus
- ✓ Light Rail
- ✓ Alternative Fuel Vehicle
- ✓ High Efficiency Vehicle (35+ mpg)
- ✓ Carpooling (2 or more persons)

The ASHRAE meeting (Denver) at Dave & Buster's is located at the **Colorado Light Rail Station** for lines **E, F** and **H**. Any bus lines that pass through the **Evans and Colorado intersection** will also get you to Dave & Buster's.



# MEMBERSHIP PROMOTION

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Welcome to the “The Membership Promotion Page.” The chapter's roster has been updated. Please take a close look at the roster located at [www.rockymtnashrae.com](http://www.rockymtnashrae.com) for the following.

1. If you are a member of ASHRAE (student, associate, member, etc.), your name should be included in the roster.
2. Only the city and state of your primary contact address are included.
3. If no email address appears where your email address should be, ASHRAE does not have an email address for you.
4. Your name appears in the same format as recorded by ASHRAE. If ASHRAE doesn't have your titles or post-nominal letters (e.g., Dr., P.E., Ph.D., etc.), they are not included.
5. Your current member grade is also shown. If you are listed as an Affiliate Member or Associate Member grade and are interested in advancing to Associate Member or Member grade, please update your bio on the [www.ashrae.org](http://www.ashrae.org) website. Then send an email to [membership@ashrae.org](mailto:membership@ashrae.org) requesting the member grade advancement. I have recently completed this for myself, so I can talk you through it.
6. If any of your information is incorrect or if you want changes made to your information, please login at [www.ashrae.org](http://www.ashrae.org) and update your bio by following the link to Manage Membership under the Membership tab. Once you reach the membership page, click on Address Change to take you to your bio.
7. If you have been omitted from this list and want to know why, please let me know and I can investigate. Common reasons for omission include human errors and unpaid ASHRAE membership dues; most typically are easily corrected.

If you have questions or need membership assistance please send an email to [cgarofoli@victaulic.com](mailto:cgarofoli@victaulic.com) or call Chris Garofoli at 303-396-9006.

Also, please look around your company and through your contacts to let people know about the benefits of joining ASHRAE. We continue to bring in new young members of the industry to keep them involved with technology and standard advancements.

# ROCKY MOUNTAIN MEMBERSHIP APPLICATION



Name: \_\_\_\_\_ (Last) \_\_\_\_\_ (First) \_\_\_\_\_ (MI)  
Status: Renewal \_\_\_\_ New Member \_\_\_\_ Address Change \_\_\_\_

Please circle preferred mailing address: HOME BUSINESS

Home Address and Phone

Business Name, Address and Phone

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

p: \_\_\_\_\_

p: \_\_\_\_\_

Preferred email address: \_\_\_\_\_

Society Membership Number / Grade: \_\_\_\_\_

Name Tag (\$10.00) Paid? Y N

Name to appear on name tag as: \_\_\_\_\_

I would like to be contacted about serving on one of the following committees or functions (Please circle):

- |                       |                             |  |
|-----------------------|-----------------------------|--|
| A. Newsletter         | F. Chapter Historian        | K. Spouse's Night / Social Committee             |
| B. Membership         | G. Technical Seminars       | L. Colorado Engineering Council (Committee Help) |
| C. Meeting Attendance | H. Research Fund Promotions | M. General                                       |
| D. Education          | I. Monthly Meeting Programs | N. Energy Committee                              |
| E. Golf               | J. Publicity                | O. Sustainable Engineering Committee             |

Please mail this invoice and your check for \$50.00 (2010 / 2011 year) + \$10.00 (Name Tag if requested) payable to **Rocky Mountain Chapter ASHRAE** to the address listed below. ASHRAE will invoice you for both society and local dues every year following the first year.

Chris Garofoli  
Rocky Mountain Chapter ASHRAE Membership Promotion Chair  
c/o Victaulic  
3416 Alcott Street Denver, CO 80211  
[cgarofoli@victaulic.com](mailto:cgarofoli@victaulic.com)



# ASHRAE RESEARCH

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*Don't Wait, Please Donate for the 2010-2011 Calendar Year*

Mail Check To:  
**ASHRAE RESEARCH**  
c/o Adam Bishop, CFM Company  
1440 S Lipan St  
Denver, CO 80223

**Your contribution puts us closer to achieving**  
our goal. Please send what you can today!

\* Individual contributions of \$100 or more and  
corporate contributions of \$150 or more will  
receive this year's Commemorative Coin  
and Honor Roll Contribution status.

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

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

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

Telephone: \_\_\_\_\_

INDIVIDUAL	\$25.00	\$50.00	\$75.00	\$100.00
CORPORATE	\$75.00	\$100.00	\$175.00	\$250.00

Other: \_\_\_\_\_

Other: \_\_\_\_\_

*Or Contact Adam Bishop at: 303.607.4438*



## ***ROCKY MOUNTAIN CHAPTER***

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# CHAPTER TECHNOLOGY TRANSFER COMMITTEE

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If you have any suggestions for meeting topics for the 2010/2011 ASHRAE year, please send your ideas to Michelle Swanson at [mswanson@rmhgroup.com](mailto:mswanson@rmhgroup.com).

## Chapter Technology Awards

We are currently seeking entries for our Chapter Technology Award. All current members of ASHRAE may apply. Technology Award applications are accepted in the categories of commercial buildings, institutional buildings, health care, industrial & public facilities, residential buildings, and renewable energy use. Please submit these projects so you can receive your proper recognition.

On the next page you will find a copy of the short form. This is all you need to fill out for both the chapter and regional levels.

Contact Michelle Swanson at [mswanson@rmhgroup.com](mailto:mswanson@rmhgroup.com) with entries.



ASHRAE

## CHAPTER/REGIONAL TECHNOLOGY AWARD APPLICATION

### SHORT FORM

(7/29/08)

#### **INTRODUCTION:**

*This Short Form has been developed to stimulate more participation in chapter and regional competition. **This form is not intended to replace the full Society Technology Award Application form.** Regional winners using the short form will be required to complete the full Technology Award Application form before their applications can be forwarded for Society Competition. (This form does not require extensive narrative, plans or photographs.)*

#### **INSTRUCTIONS:**

- A. The individual submitting the Technology Award Application must be a current member of ASHRAE who had a significant role in the design or development of the project.
- B. Complete the "Short Form" and use it as the cover page.
- C. Provide a system schematic/diagram not larger than 11" x 17" in size. In addition, attach a brief narrative (maximum of 2 pages). The narrative should include the gross and net building areas applicable to the project, a description of the major building areas (i.e., operating rooms, laboratories, computer rooms, industrial processes, offices, warehouses) and a brief discussion regarding the following five criteria ( if a criterion is not applicable, state accordingly):
  - Energy Efficiency
  - Indoor Air Quality
  - Innovation
  - Operation & Maintenance
  - Cost Effectiveness
  - Environmental Impact
- D. Submit your schematic, brief narrative, and completed form to your Chapter Technology Committee Chapter (CTTC) Chair for judging at the chapter level in accordance with their instructions.
- E. Winners in each category from the chapter competition will be submitted by the CTTC Chapter Chair to the Regional CTTC RVC Chair. Submit the appropriate number of copies as requested by your Regional RVC.
- F. It is highly recommended that each entrant confirm by letter (and retain a copy for record) to the owner that the owner has granted permission to submit this project to competition.

NOTE: ASHRAE Technology Awards are the HVAC&R industry's most prestigious honor for efficient energy use in buildings and environmental system performance. While the awards do not certify responsible charge or professional license status, they do recognize outstanding design innovation and successful implementation.

# CHAPTER/REGIONAL TECHNOLOGY AWARD - SHORT FORM

**1. Category (Check one and indicate New or Existing, if applicable)**

- |  |   |
|--|---|
| <input type="checkbox"/> Commercial Buildings                    | <input type="checkbox"/> New or <input type="checkbox"/> Existing |
| <input type="checkbox"/> Institutional Buildings                 | <input type="checkbox"/> New or <input type="checkbox"/> Existing |
| <input type="checkbox"/> Health Care Facilities                  | <input type="checkbox"/> New or <input type="checkbox"/> Existing |
| <input type="checkbox"/> Industrial Facilities or Processes      | <input type="checkbox"/> New or <input type="checkbox"/> Existing |
| <input type="checkbox"/> Public Assembly                         |   |
| <input type="checkbox"/> Residential                             |   |
| <input type="checkbox"/> Alternative and/or Renewable Energy Use |   |

**2. Name of Building or Project:**

City/State:

**3. Project Description:**

**Project Study/Design Period:**

**Has the project been completed? Yes                  No**

**If YES, date completed:**

**If NO, scheduled date of completion (or other explanation):**

**4. Entrant (ASHRAE member with significant role in project) If multiple entrants, all must be listed.**

**a. Name:**

*Last*

*First*

*Middle*

Membership Number:

Chapter

Region:

**b. Address (including country):**

*City*

*State/Province*

*Zip/Country Code*

**c. Telephone: Office**

**d. E-mail address:**

**e. Company:**

**f. Member's Role in Project:**

**g. Member's Signature:**

**5. Engineer of Record:**

By affixing my signature above, I certify that the information contained in this application is accurate to the best of my knowledge. In addition, I certify that I have discussed this entry with the owner and have received permission from the owner to submit this project to the ASHRAE Technology Awards Competition.

# ASHRAE SOCIETY NEWS AND PRESS RELEASES

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For Release:  
Jan. 25, 2011

Contact Jodi Scott  
Public Relations  
678-539-1140  
[jscott@ashrae.org](mailto:jscott@ashrae.org)

## *Call for Papers*

### **ASHRAE's 2012 Winter Conference Seeks Papers on High Performance Buildings, Integrated Design, Energy Modeling and Specialized Applications**

ATLANTA– Papers addressing advances in high performance buildings, integrated design and numerous high-intensity HVAC applications are being sought for ASHRAE's 2012 Winter Conference in Chicago, Ill., Jan. 21-25.

The Specialized Applications track focuses on high-intensity HVAC applications, such as laboratories, hospitals and data centers, and seeks papers on design recommendations, regulations and lessons learned.

The Integrated Design track addresses how the integrated building design and integrated project delivery processes are being applied to build better buildings. Papers are being sought on case studies, lessons learned and ongoing research projects studying new project delivery methods.

The Energy Modeling Applications track seeks papers that address the range of different energy modeling and Building Information Modeling tools available, their use and specific applications, including systems, building and communities. Papers that address an integrated approach from modeling through end designs are requested.

In addition, papers are sought for tracks on Operations & Maintenance, HVAC Systems, HVAC Fundamentals and Applications, Professional Skills and Refrigeration.

The deadline for paper submissions is April 18, 2011. For complete information on tracks, contacts and submittal requirements, visit [www.ashrae.org/chicago](http://www.ashrae.org/chicago).

Full-length technical papers or conference paper abstracts (400 words or less) should be submitted by April 18.

For more information about the two types of papers and how to submit a full-length technical paper or conference paper abstract, go to the ASHRAE Chicago Conference webpage: [www.ashrae.org/chicago](http://www.ashrae.org/chicago). For accepted conference paper abstracts, the completed conference papers will be due July 8, 2011.

The Conference is expected to attract some 3,000 attendees from 60 countries. The technical program takes place Sunday, Jan. 22–Wednesday, Jan. 25, and includes paper presentations as well as non-paper presentations. Approved papers are published in ASHRAE Transactions. Held in conjunction with the ASHRAE conference is the ASHRAE-cosponsored AHR Expo, Jan. 23-25.

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.

###

For Release:  
Jan. 20, 2010

Contact Jodi Scott  
Public Relations  
678-539-1140  
[jscott@ashrae.org](mailto:jscott@ashrae.org)

### **Green Tips Provide Guidance for Greening Data Centers: New ASHRAE Book**

ATLANTA – More than 50 percent of the total energy consumption of data centers can be attributed to the power and cooling infrastructure that supports the IT equipment housed in them. Guidance in a new book from ASHRAE aims to help reduce that energy use through proven, easy-to-implement tips.

“Green Tips for Data Centers” identifies techniques for optimizing energy efficiency in existing datacom facilities. Many of the techniques can be implemented through simple operational changes, upgrades or modifications that require a relatively low investment and that cause little disruption to the existing operations of the IT equipment.

“The book has particular relevance right now since there is a significant focus on energy efficiency in data centers,” Don Beaty, co-founder of ASHRAE Technical Committee (TC) 9.9, Mission Critical Facilities, Technology Spaces and Electronic Equipment, said. “While it is fun and exciting to look at how we can design new data centers to be energy efficient, the fact is that there are many, many existing datacenters in operation.”

Among the 26 tips from the book are:

- Optimize supply air temperatures
- Install monitoring equipment
- Improve lighting efficiency
- Optimize data storage
- Improve transformer efficiencies

“The tips provide insight into practical techniques that have proven successful in other datacom facilities and give owners and operators the confidence to implement similar techniques in their own facilities,” Beaty said.

The book is part of the *ASHRAE Datacom Series*, developed to provide a more comprehensive treatment of datacom cooling and related subjects. Other books in the series are “Particulate and Gaseous Contamination in Datacom Environments,” “High Density Data Centers – Case Studies and Best Practices,” “Design Considerations for Datacom Equipment Centers,” “Best Practices for Datacom Facility Energy Efficiency,” “Thermal Guidelines for Data Processing Environments,” “Liquid Cooling Guidelines for Datacom Equipment Centers,” “Datacom Equipment Power Trends and Cooling Applications” and “Structural and Vibration Guidelines for Datacom Equipment Centers.”

The cost of *Green Tips for Data Centers* is \$54 (\$46, 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, or visit [www.ashrae.org/datacenterefficiency](http://www.ashrae.org/datacenterefficiency). Bulk discounts are available to individuals, companies and organizations who are interested in purchasing multiple copies.

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.

###



# EMPLOYMENT LISTINGS 2011

---

Position(s): Commissioning/Energy Audit Team Leader  
Company: Ambient Energy  
Location: Denver, Colorado  
Contact: [Jessica@ambient-e.com](mailto:Jessica@ambient-e.com)  
More Info:

Commissioning/Energy Audit Team Leader –  
<http://www.rockymtnashrae.com/wp-content/uploads/2010/06/Ambient-Energy.pdf>

---

Position(s): Outside Sales Engineer  
Company: Ace Mechanical Equipment, Inc.  
Location: Golden, Colorado  
Contact: [Careers@acemechanical.com](mailto:Careers@acemechanical.com)  
More Info:

Outside Sales Engineer –  
<http://www.rockymtnashrae.com/wp-content/uploads/2010/06/Outside-Salesman-ad2.pdf>

---

Position(s): CAD / Revit Designer  
Company: Shaffer Baucom Engineering and Consulting  
Location: Lakewood, Colorado  
Contact: [edugle@sbengr.com](mailto:edugle@sbengr.com)  
More Info:

CAD / Revit Designer –  
<http://www.rockymtnashrae.com/wp-content/uploads/2010/06/SBEC-Employee-Advertisement.pdf>

---

Position(s): Senior Commissioning Manager  
Company: Farnsworth Group  
Location: Denver, Colorado  
Contact: [acrandell@f-w.com](mailto:acrandell@f-w.com)  
More Info: [www.f-w.com](http://www.f-w.com)

Senior Commissioning Manager –  
<http://www.rockymtnashrae.com/wp-content/uploads/2010/06/Sr-Engineering-Manager-Denver-CO5.pdf>

---

Position(s): Application Engineer/Estimators and Account Managers  
Company: Setpoint Systems  
Location: Littleton, Colorado  
Contact: [info@setpointsystems.com](mailto:info@setpointsystems.com)  
More Info: [www.setpointsystems.com](http://www.setpointsystems.com)

Application Engineer/Estimators and Account Managers –  
<http://www.rockymtnashrae.com/wp-content/uploads/2010/06/ASHRAE-Acct-Mgr -Eng-Ad1.pdf>

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# ODDS AND ENDS

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**RSVP for DU HOCKEY by FRIDAY, February 18, 2011 to ensure your spot.**



## **ASHRAE HOCKEY NIGHT AT DU**

That's right! It's time once again for the Annual ASHRAE/DU Hockey Night. This year's event will have the Mighty DU Pioneers battling the Snapperheads from St. Cloud State University on Friday March 4, 2011 at 7:30 p.m. The game will be played at Magness Arena in the Ritchie Center at DU. Tickets for the game will cost \$23 (they stopped offering children's price tickets). As always, door prizes will be given out at the intermissions. So please come and join us for another fun filled night of DU Hockey.

---

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

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

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

Tickets: \_\_\_\_\_ X \$23 = \_\_\_\_\_

Total = \_\_\_\_\_

Pay On-line at <http://www.rockymtnashrae.com>

OR make checks payable to Rocky Mountain Chapter ASHRAE and send to:

Mike Day  
C/O M-E Engineers, Inc.  
10055 W. 43<sup>rd</sup> Ave  
Wheat Ridge, CO 80033  
Ph. 303-421-6655, Fx. 303-421-0331  
[mike.day@me-engineers.com](mailto:mike.day@me-engineers.com)



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## *High Performance Codes webinar LEED & AIA Approved Three upcoming workshops scheduled in February*

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### *High Performance Building Codes 201: Register now for Jan. 27th APPROVED FOR AIA LUs & LEED CEUs*

This webinar will introduce participants to a number of high performance commercial codes, starting with the latest version of the IECC and ASHRAE 90.1, moving to the IGCC and finally, ASHRAE 189.1. The current status of each code will be reviewed along with pertinent provisions and potential barriers to adoption. After the webinar, participants will be able to start to plan how their practices will interface with the upcoming code changes.

The GEO recommends this free webinar for architects, engineers, designers, developers, planners, contractors, code officials and facility managers.

**Date & Time:** Thursday, January 27, 2011; 11:30 a.m. - 1 p.m. MDT

For more information and registration, please visit our [registration page](#).

*This workshop has been approved by the GBCI Education Review Board for 1.5 LEED CEUs  
This workshop has been approved by the AIA for 1.5 LU|HSW|SD Credits*

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### *Envelopes and Energy Workshop slated for Feb 16, in Ft. Collins*

Exterior building envelopes provide visual identity, structural integrity, moisture/ weather protection, and durability. The building envelope is also a critical component of a building's energy system, significantly impacting thermal comfort and energy performance. Careful thermal envelope design can reduce mechanical conditioning needs, lower operations and maintenance costs, and enhance thermal comfort.

This workshop will discuss how to integrate envelope and mechanical system design and utilize energy modeling as a design tool. Learn when thermal mass is a good strategy and what innovative new technologies are appropriate choices for the Colorado climate zone. Discover how current building and energy codes may impact envelope design and construction.

The GEO recommends this free workshop for contractors, architects, engineers, community leaders, consultants and designers.

**DATE & TIME:** Wednesday, February 16, 2011; 10 - 11:30 a.m.

**LOCATION:** The Neenan Company, 2620 East Prospect Road, Suite 100, Ft. Collins, CO 80525

For more information and registration, please visit our [registration page](#).

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## *Workshop: Geoexchange for High Performance Buildings 201 scheduled in Ft. Collins*

This workshop will cover basic and advanced applications of Geoexchange Systems, along with planning and costing information that is critical in the early stages of development and design. This will be a 200 level presentation; some background of building design and construction is suggested, but there are no prerequisites for the course.

The GEO recommends this workshop to building owners and operators, architects, facility managers, designers, sustainability consultants, and engineers.

**DATE & TIME:** Wednesday, February 16, 2011; 1 - 2:30 p.m.

**LOCATION:** The Neenan Company, 2620 East Prospect Road, Suite 100, Ft. Collins, CO 80525

For more information and registration, please visit our [registration page](#).

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## *GEO & Alliance co-sponsor: The Path to Net Zero Energy Savings, Space is Limited*

This workshop will provide ways to define, design and attain realistic energy performance goals while still meeting the minimum energy performance requirements. Attendees will, explore the "Tipping Point," and be provided examples and ideas to achieve Net Zero Energy use cost-effectively. Please bring your specific questions.

Please bring your own lunch. We will provide drinks and dessert.

The GEO recommends this free workshop for building industry professionals, building owners & planners.

**DATE & TIME:** Thursday, February 17, 2011 11 a.m. - 1 p.m.

**LOCATION:** Alliance for Sustainable Colorado, 1536 Wynkoop Street, 4A, Denver, CO 80202

For more information and registration, please visit our [registration page](#).

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## **New Archives Now Available**

New presentations are available for the following webinars and workshops:

[Commissioning, Measurement and Verification](#)  
[GEO High Performance Building 101 and 201 Steamboat Springs - Workshop](#)  
[Building Performance Modeling 201](#)  
[Making the Grade: CO-CHPS and LEED for Schools](#)  
[Building Envelopes in Colorado](#)

For all High Performance Building presentation PDFs, visit the [Workshops & Webinar](#) page. To view the video archives please visit the [Video](#) page.

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## Consulting Services/Technical Assistance

For more information on participating in the High Performance Building Program including free project consulting services, [click here](#).

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