Mississippi Valley Chapter Newsletter

May 2007 | http://www.mississippivalleyashrae.org | Monthly Newsletter

Event Schedule

- **September 20, 2007**
  Hydraulics – Back to Basics
- **October 18, 2007**
  To be determined.
- **November 15, 2006**
  To be determined.
- **December 20, 2006**
  Social Night – Dinner at Comedy Sportz
- **January 17, 2008**
  To be determined
- **February 21, 2008**
  To be determined.
- **March 20, 2008**
  To be determined.
- **April 17, 2008**
  To be determined.
- **May 15, 2008**
  To be determined.
- **June 2008**
  Golf Outing

Hydraulics – Back to Basics

This month's speaker is Steve Kiefer. Please visit the chapter webpage for Steve's bio.

September 20th Program

Location:	*The SteepleGate Inn* *100 W 76th St* *Davenport, IA*
Program:	*Hydraulics – Back to Basics*
Agenda:	*4:30-5:30 Program* *5:30-5:45 Meeting* *5:45-6:45 Dinner*
Menu:	*Stuffed Iowa Pork Chop* *Tossed Salad* *Seasonal Vegetable* *Dessert Special*
Cost:	*Members: Free* *Others: $15*
RSVP:	*Online or call Simon Possin at 309-793-3568 by Monday, September 17th.*

River Serves as Inspiration in Student Design Competition

Student designers turned to the Hudson River as an energy source in transforming a New York City distribution center into a biotech research laboratory as part of ASHRAE's 2007 Student Design Competition.

This year's competition featured architectural design as well as selection and design of HVAC&R systems. The goal was to turn an existing building in a biotech research facility complete with labs, office space, equipment, mechanical penthouse space, and a vivarium (an enclosure for keeping plants and animals alive in their natural habitat for observation purposes). First place in the HVAC system selection category is awarded to Kevin Chow, Brandon Damas, Jeremy Fowler, Brandon Frey, Brendan Gleason and Ben Willey from Kansas State University, Manhattan, Kansas. Their advisors are Julia Keen, P.E., and Fred Hasler, P.E.

The students selected open-loop geothermal heat pumps, extracting water from the Hudson River as a heat source, with heat pipe heat exchange units recovering sensible heat only to avoid cross contamination between the outside air and lab exhaust airstreams. The students note that this system eliminates the need for a boiler, cooling tower, and chiller.

"Overall, the greatest benefit realized by the owner will be due to the efficient nature of the geothermal heat pumps and the heat pipe heat recovery unit,"

the students said. “Geothermal heat pumps utilize natural heating and cooling energy from the river, reducing the amount of natural resources consumed for operation. This minimizes the impact on the environment when compared to other systems by reducing the carbon dioxide gas associated with burning fossil fuels.”

First place in the HVAC system design category goes to Gary Schrader, Jeremy Saddison, Ryan Larson and Chad Gydesen of Ferris State University, Big Rapids, Mich. Their faculty advisor is Douglas Zentz.
Their design features a geothermal heat pump plant, using the Hudson River as the heat sink, considered a water-to-water heat pump system. Both the lab and office systems will use total enthalpy wheels to recover sensible and latent heat from the exhaust air streams to pre-condition the outside air needed for ventilation.

“Using a water source heat pump plant along with variable air volume air handlers with total energy recovery wheels proves to be the most energy efficient when looking at total energy consumption,” the students noted. “The system also was the best in terms of sustainability and green design.”
First place in the architectural design category is awarded to Stuart Johnson and Grant Helmkamp of Lawrence Technological University, Southfield, Mich. Their advisor is Daniel Faoro.

The students selected a cellular approach to their design, due to the nano-technology and biology research uses. The design allows mechanical systems to be grouped together to minimize unused space between walls and provide efficient systems, according to the students.

Awards will be presented at ASHRAE’s 2008 Winter Meeting Jan. 19–23 in New York City. Winning student groups will each have a poster presentation to display their projects at the meeting.

The competition recognizes outstanding student design projects, encourages undergraduate students to become involved in the profession, promotes teamwork and allows students to apply their knowledge of practical design.

ASHRAE Publishes Energy Performance Comparison Standard

A common basis for reporting building energy use and comparison of energy performance is available in a new standard from ASHRAE.

ANSI/ASHRAE Standard 105-2007, *Standard Methods of Measuring, Expressing and Comparing Building Energy Performance*, provides a method of energy performance comparison that can be used for any building, proposed or existing, and that allows different methods of energy analysis to be compared.

This will help facilitate comparison, design and operation improvements and development of building energy performance standards, according to J. Michael MacDonald, chair of the committee that wrote the standard.

“ASHRAE is working to advance the development and understanding of these

advanced building performance comparison methods," he said. "This standard provides a framework for assuring access by all interested parties to performance comparison or rating methods that are developed."

The biggest change to the standard, last published in 1999, is inclusion of building energy performance comparison, which is vital for energy efficiency efforts worldwide, he said. Past versions of the standard provided a basis for reporting energy use but had limited ability to express or compare performance.

MacDonald notes that existing standards and building rating systems include requirements related to energy performance comparison.

MacDonald said the guidance in the standard progresses from energy use index (total annual energy use per square foot) to other indexes, such as energy use per hospital bed, and then to performance comparison frameworks.

The standard also identifies key characteristics that users should consider reporting when performance comparisons are of interest, such as the number of workers, weekly hours of operation, and annual cooling and heating degree days.

The cost of ANSI/ASHRAE Standard 105-2007, *Standard Methods of Measuring, Expressing and Comparing Building Energy Performance*, is $36 ($30 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 at www.ashrae.org/bookstore.

Chapter Technology Award

It is time once again to think about potential projects for the Chapter Technology Awards. . These awards are a chance for chapter members to show off their best work and to be recognized by the chapter. Entries may be forwarded to Region for further consideration.

Last year we had only one entry, however that entry will most likely be submitted to region this year. I hope to have several entries to look at this year.

The awards are accepted in the following categories: (Note at the Chapter level all entries will be judged in a single category.)

I. Commercial Buildings (New and Existing)
II. Institutional Buildings (New and Existing)
III. Health Care Facilities (New and Existing)
IV. Industrial Facilities or Processes (New and Existing)
V. Public Assembly Facilities (New and Existing)
VI. Residential Buildings (New and Existing)
    Single Family
    Multi-Family (Low and High Rise)
VII. Alternative or Renewable Energy Use

Requirements:

1. Entries are to be submitted in the following format with no more than twelve (12) letter size (81/2 x 11 inches or S-I equivalent) pages, typed on one side only (font 12 characters per inch or equivalent), 1-inch margins, to include:
    a. The Application Form.(Short or Long form is acceptable for Chapter Award, Long Form is required for Society award)
    b. A maximum of ten (10) double-spaced, typewritten sheets to address items IV—VIII on page two of the long Application Form. (Charts, schematics, graphics are included in the 10-page limit. *All pages should be numbered*).
2. The entrant (1) must be a member (any grade) of ASHRAE or of an Associate Society, (2) must have a significant role in the project, and (3) must be willing to supply any additional information if requested by the judging panel.
3. The entrant, property owner and engineer of record must sign the entry Application Form where indicated. (Only required if submission for Region and society awards is desired)
4. The entrant must submit one (1) *completed entry form with original signatures* and (1) *additional copy of the complete entry.*
5. The project must have been in successful operation for at least one year at the time of entry. (Only required if submission for Region and society awards is desired)
6. In order for an entry to be judged at the Society level, it must have received a first-place award at the regional level.

General Instructions/Guidelines

1. A system schematic is strongly recommended (color-coded schematics may not duplicate well for the judges' black-and-white copies).
2. If a "judging criterion" is not applicable to the entry, a brief explanation should be provided.
3. Claims that are not sufficiently supported with verifiable technical evidence may receive little or no credit.
4. Information should be clear and concise.
5. If the project involves technology which is new and innovative, this feature should be clearly identified.
6. Commercialized items and notations are to be avoided. *Brand names of equipment or processes should not appear in the entry.*
7. Information may be submitted in I-P or S-I units or a combination of both.
8. All text must be in English.
9. Entries should be legible, uncluttered and attractive. The competition does not require nor encourage the entry be professionally produced.
10. Photographs are neither necessary nor encouraged (because judges use black-and-white duplicated copies).

Judging Criteria

Energy Efficiency (15 points)

Indoor Air Quality (IAQ) and Thermal Comfort (15 Points)

Innovation (15 Points)

Operation and Maintenance (15 Points)

Cost Effectiveness (15 Points)

Environmental Impact (15 Points)

Quality of Presentation (5 Points)

Judges' Prerogative (5 Points)

The applications for the technology awards may use either the short or long form as found on ASHRAE's Website. To find the forms go to the ASHRAE CTTC web site (www.ashrae.org/publications/detail/14692). This page will have links to PDF files for both the short and long entry forms. The use of the long form is encouraged if the applicant would like to submit their project to the regional level.

Applications are due by March 3rd. Awards will be judged using the same criteria used for regional and society technology awards. Awards are given at the discretion of the judges. Award Winners will be announced at the April meeting. Chapter awards will be as follows:

1st Place: $100 Cash Prize

Entry: Each entrant will receive a $50 gift card to the restaurant of their choice just for submitting an entry.

2007/2008 Research & Promotion:

I would like to ask all of our members to invest in ASHRAE Research. Everyone on the Board donates a $100.00 so we can make Full Circle. For all Trane Employee's - are you aware that Corporate will match every dollar you donate? A fifty dollar donation by you would get you on the $100.00 honor roll with the corporate match. Lets all work hard to meet our chapter goals this year!

Thank you - Bruce Britson RP Chair

2006-2007 Officers/Board of Governors

President:	*Jim Nonnenmann*
Vice President:	*Andrew Price*
Treasurer:	*Pat Igou*
Secretary:	*Simon Possin*
Past President	*Bruce Britson*
Member at Large:	*Eric Granzow*
Member at Large:	*Brian Hodgin*

2006-2007 Committee Chairs

CRC Delegate:	*Andrew Price*
CRC Alternate:	*Patrick Igou*
Historian:	*Sherm Sweeney*
Membership:	*Tracy Van Damme*
Programs:	*Patrick Igou*
Resource Promotion:	*Bruce Britson*
Seminar:	*Bruce Davis*
Student Activities:	*Matt Schneider*
CTTC:	*Jon Bovenkamp*
Webmaster:	*John Schaub*

Monthly Meetings

The regular monthly meetings for the Mississippi Valley Chapter of ASHRAE are held on the 3rd Thursday of each month from September to May unless otherwise noted. Meetings are located at the Steeplegate Best Western in Davenport Iowa unless noted otherwise.

Only You Can Help!!!

In order for our chapter to grow and maintain the great membership we have enjoyed, we need volunteers to help with the running of the chapter. Volunteers are needed for the following committees:

Membership	**CTTC**
Student Activities	**History**
Resource Promotion	

Contact any officer or committee chair to Volunteer!

Check-out the Updated Chapter Website at:

www.mississippivalleyashrae.org

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ASHRAE
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