



ASHRAE LOUISVILLE CHAPTER NEWS

American Society of Heating, Refrigeration and Air Conditioning Engineers
Serving the commonwealth for 45 years.

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HOT GAS BYPASS VERSUS HOT GAS REHEAT – THE DIFFERENCE AND WHEN TO APPLY EACH

**Mr. Paul Mattingly II, Thermal Equipment Co-owner,
President and Louisville Sales Manager**

**Monday, February 6, 2006
Lunch Meeting**

ABSTRACT:

Earlier in the ASHRAE season a poll for topics was taken. You, the membership, desired learning sessions where practical knowledge was provided.

In the top five topics was "Hot gas bypass vs. hot gas reheat - What's the difference and how do I apply each?" Please join us for a practical presentation regarding these two control strategies.

SPEAKER:

Mr. Paul Mattingly II, is Co-owner, President and Louisville Sales Manager for Thermal Equipment Sales, Inc. in Louisville, Kentucky, with a home office in Lexington. He is a native of Louisville who grew up in the PRP and Shively areas. Mr. Mattingly graduated from St. X and went on to obtain his degree in Mechanical Engineering from U of L Speed Scientific School. He has worked for Willamette Industries and Walsh Engineering where he applied refrigeration design.

MEETING LOCATION:

The University of Louisville Alumni Club

The cost for attending is \$20.00, cash or check (made payable to ASHRAE). Students and university facility may attend for \$5.00. Due to our current arrangements with the University Club, reservations are not cancelable after 5:00 PM Thursday prior to the meeting date. We want to encourage attendance, but emphasize the importance of notifying the treasurer if plans to attend have changed. Your consideration will help avoid meeting fee increases to offset losses associated with extra meal preparation.

It is extremely important to make your reservation no later than **Wednesday, February 1st** with Julian Donahue by simply using one of the following three options: 1) Calling **502-584-0011** or **502-633-1506** 2) Forwarding the form shown below this paragraph, by fax to 502-584-2222 or 3) E-mail Donahue@bcclt.com.

Reservation form
Number of Attendees _____
Name(s)

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JANUARY MEETING REVIEW

We had a special guest speaker, Frank Weiss, who discussed the current energy crisis and the need for responsible, balanced solutions for overall building performance. He discussed current LEED initiatives in Government and Schools and spoke to the mission and history of the US Green Building Council (USGBC). He provided an update on the progress of the formation of the Kentucky USGBC Chapter and discussed upcoming plans for 2006 and beyond. The discussion was lively, informative and very relevant to the current energy situation.

UPCOMING EVENTS/PROGRAMS:

Below is a list of upcoming meetings and events for 2006. Please mark your calendars:

March 4 – Engineers' Day

March 6 – Student Presentations – Joint Meeting with ASME (Dinner at U of L Vogt Building)

April 3 – Humidity Control (Lunch at U of L Alumni Club)

April 19 – CTTC Broadcast

May 15 – Golf Outing

ASHRAE RECOGNIZES OUTSTANDING HVAC&R INDUSTRY ACHIEVEMENTS

CHICAGO - The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) recognized 38 people for their contributions to ASHRAE and the HVAC&R industry at the Society's 2006 Winter Meeting held here Jan. 21-25.

The ASHRAE Hall of Fame honors deceased members of the Society who have made milestone contributions to the growth of HVAC&R technology. The Society inducts Jasper Guy Woodroof, Ph.D., Fellow ASHRAE, into the ASHRAE Hall of Fame.

Woodroof died in 1998 at the age of 98. His contributions included development of freezing and canning processes for the preservation of fruits and vegetables as well as techniques for the long-term storage of military rations. Much of the technology of fruit, vegetable and nut handling and processing used today was developed by Woodroof.

The ASHRAE/ALCO Medal for Distinguished Public Service recognizes distinguished public service by an ASHRAE member. The recipient is Alfred Greenberg, ASHRAE Fellow, Life Member, who resides in Marlboro, N.J.

Fellow ASHRAE is a membership grade that recognizes distinction in the arts and sciences of environmental technology. The honor is earned through achievement as a researcher, designer, educator or engineering executive.

The Society elevated 18 members to the grade of Fellow ASHRAE:

- James E. Braun, Ph.D., P.E., professor, School of Mechanical Engineering, Purdue University, West Lafayette, Ind.
- Qingyan Chen, Ph.D., professor, Purdue University, West Lafayette, Ind.
- Piya Chongvatana, president, Patkol Public Co. Ltd., Bangkok, Thailand.
- S.K. Chou, Ph.D., professor and vice president, External and Industry Relations, Faculty of Engineering, National University of Singapore.
- Kenneth W. Cooper, Ph.D., P.E., director of engineering, Poolpak International, York, Pa.
- Charles H. Culp, Ph.D., P.E., associate professor, Department of Architecture, and associate director, Energy Systems Laboratory, Texas A&M University, College Station, Texas.
- William Fisk, P.E., senior staff scientist and department head, Indoor Environment Department, Lawrence Berkeley National Laboratory, Berkeley, Calif.

- Arthur P. Garbarino, president and CEO, Air Service Inc., West Palm Beach, Fla.
- David T. Grimsrud, Ph.D., principal, Grimsrud and Associates, Minneapolis, Minn., and professor emeritus, Department of Bio-Based Products, University of Minnesota.
- Carl C. Hiller, Ph.D., P.E., president, Applied Energy Technology Co., Davis, Calif.
- Vojislav Novakovic, Ph.D., a professor, Norwegian University of Science and Technology (NTNU), Department for Energy and Process Engineering, Trondheim, Norway.
- Deepak Pahwa, managing director, Bry-Air (Asia), Delhi, India.
- Srinivasan Sankaran, vice president, business development, Blue Star Ltd., Chennai, India.
- Avraham Shitzer, Ph.D., James H. Belfer professor of mechanical engineering, Technion, Israel Institute of Technology, Haifa, Israel.
- David R. Tree, professor, mechanical engineering, Purdue University, West Lafayette, Ind.
- George N. Walton, Building Physics Division, National Institute of Standards and Technology, Gaithersburg, Md.
- Chi-Chuan Wang, Ph.D., senior researcher, manager, Energy and Resources Lab, Industrial Technology Research Institute, Hsinchu, Taiwan.
- Gary L. Wingfield, P.E., mechanical project principal, The Haskell Co., Jacksonville, Fla.

The ASHRAE Technology Awards recognize outstanding achievements by members who have successfully applied innovative building designs, which incorporate ASHRAE standards for effective energy management and indoor air quality. Three projects received first-place ASHRAE Technology Awards:

- Lev H. Zvenyach, P.E., for Chicago Center for Green Technology, Chicago, in the existing commercial buildings category. He is vice president of IBC Engineering Services, Waukesha, Wis.
- Martin Roy for TOHU's Capiteua Des Arts, Montreal, in the public assembly category. Roy is president, Martin Roy and Associates, Deux-Montagnes, Quebec.
- Laurier Nichols for the Ecole Du Tournant, Saint-Constant, Quebec, in the alternative and/or renewable energy use category. Nichols is team leader, energy efficiency, Dessua-Soprin, Longueuil, Quebec. Projects receiving ASHRAE Technology Awards honorable mentions are:
- Dennis Sczmok and Thom Barry for Compuware World Headquarters, Detroit, in the new commercial buildings category. Sczmok is vice president, Peter Basso Associates, Troy, Mich. Barry is vice president, Mechanical Professional Services, Plymouth, Mich.
- Wing Hong Chan for Swire Properties Management, Hong Kong, in the existing commercial buildings category. Chan is head of technical services, Swire Properties Management.
- James Megerson, P.E., for Blue Valley North High School, Overland Park, Kans., in the existing institutional buildings category. Megerson is vice president Larson Binkley, Leawood, Kans.
- Peter Johnson for the Brunswick (Ohio) School Performing Arts Center in the new institutional buildings category. Johnson is service manager, Pier Associates, Akron, Ohio.
- Siang Hwa Lek for the National Institute of Education, Nanyang Technological University, Singapore. Lek is vice president, CPG Consultants, Singapore.
- Mehdi Jalayerian for the Exelon Elevator and Stair Pavilions North, Millennium Park, Chicago in the alternative and/or renewal energy use category. He is senior vice president, Environmental Systems Design, Chicago.

The ASHRAE Student Design Project Competition challenged teams of undergraduate students to focus on The Brewery Blocks, a mixed use retail, residential and office grouping of five buildings in Portland's Pearl District. First place in the HVAC system design category was awarded to Jesse Fisher and Amy Pastor of The Pennsylvania State University, University Park, Pa.

First place in the architectural design category was awarded to Scott Poloney and Dan Guith of Lawrence Technological University in Southfield, Mich.

First place in the refrigeration system design category was awarded to Thammarat Wittayakerkkrai, Chaiwat Puttanuntadech and Kittipong Sookochai of Chulalongkorn University in Bangkok, Thailand.

The E.K. Campbell Award honors outstanding achievements by engineering educators. The recipient is Arthur Hurlbut, Ph.D., dean, School of Engineering Technology, State University of New York College of Technology, Canton, N.Y.

ASHRAE, founded in 1894, is an international organization of 55,000 persons. Its sole objective is to advance through research, standards writing, publishing and continuing education the arts and sciences of heating, ventilation, air conditioning and refrigeration to serve the evolving needs of the public.

SUSTAINABLE DESIGN RECOGNIZED IN ASHRAE TECHNOLOGY AWARDS

ATLANTA – A circus big top, a school using 80 percent less energy than typical, and a Chicago sustainability education center are being recognized for innovative design by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

Three projects will receive first-place ASHRAE Technology Awards during ASHRAE's 2006 Winter Meeting, Jan. 21-25, Chicago.

The awards recognize outstanding achievements by members who have successfully applied innovative building design in the areas of occupant comfort, indoor air quality (IAQ) and energy conservation. Their designs incorporate ASHRAE standards for effective energy management and IAQ.

Receiving first place in the alternatives and/or renewable energy use category is Laurier Nichols for Ecole Du Tournant, Saint-Constant, Quebec. Nichols is team leader, energy efficiency, Dessau-Soprin, Longueuil, Quebec.

The alternative school has no greenhouse gas emissions and is the most energy efficient school in Quebec. It is 80 percent more efficient than a similar school built according to the energy code used in Canada. ASHRAE's energy conservation standard, 90.1, was the model used to develop the code.

Innovative design methods used include a high quality building envelope, a highly efficient lighting system, and a low energy HVAC&R system with intelligent control system.

Energy bills from the past two years show that the school saves \$34,4000 in energy per year, resulting in a payback period of 3.9 years.

Also receiving first place is Lev Zvenyach, P.E., vice president of IBC Engineering Services, Waukesha, Wis., for a City of Chicago building designed to serve as a national model of environmentally sensitive design. He is receiving the award in the existing commercial buildings category.

The Chicago Center for Green Technology functions as an office building, educational facility, a high-tech factory, interpretive center and a "garden in the city." The building houses tenants with a sustainable mission, such as a solar panel manufacturer, and its campus is open to visitors to help educate the public on how green buildings function and how they benefit the public and the environment.

The center incorporates a number of demand (lighting, cooling and heating) and energy consumption reduction measures. As a result, the building has a significant reduction in energy consumption: some 75 percent over typical office buildings in Chicago, 45 percent over ASHRAE Standard 90.1 compliant buildings without photovoltaic credit and 60 percent over buildings with the credit.

Receiving first place in the public assembly category is Martin Roy for TOHU's Capiteau Des Arts, Montreal, which is the first concert hall dedicated to the circus arts in North America. Martin is president, Martin Roy and Associates, Deux-Montagnes, Quebec.

The building features natural ventilation, passive solar heating, water conservation, use of wasted heat and energy efficiency.

Most the concepts and technologies used are new in local industries. District heating using waste heat, underground cuts, solar walls and natural/hybrid ventilation will help demonstrate the feasibility of such innovative designs.

Projects receiving ASHRAE Technology Awards honorable mentions are:

- Dennis Sczmok and Thom Barry for Compuware World Headquarters, Detroit, in the new commercial buildings category. Sczmok is vice president, Peter Basso Associates, Troy, Mich. Barry is vice president, Mechanical Professional Services, Plymouth, Mich.
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ASHRAE, founded in 1894, is an international organization of 55,000 persons. It is the world's foremost technical society in the fields of heating, ventilation, air conditioning and refrigeration. Through its meetings, research, standards writing, publishing and continuing education, the Society helps keep indoor environments comfortable and productive, deliver healthy food to consumers and preserve the outdoor environment.

DESIGN NEEDS OF DATACOM FACILITIES ADDRESSED BY ASHRAE

ATLANTA – An overview of the design needs for data centers and telecommunication facilities is available in a new publication from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). "The datacom industry is faced with tough technical challenges such as high density cooling and the lack of vendor neutral material," said Don Beaty, chair of ASHRAE's technical committee on mission control facilities, technology spaces and electronic equipment, which wrote the book.

Design Considerations for Datacom Equipment Centers provides an overview of the design needs, such as heat loads, of datacom facilities. The book is divided into two parts. **Datacom Facility Basics** includes chapters on datacom design criteria, HVAC load, computer room cooling, including both air and liquid cooling, and air distribution. **Other Considerations** includes chapters on ancillary spaces, contamination, acoustical noise emissions, structural and seismic design and testing, fire detection and suppression, commissioning, availability and redundancy, and energy efficiency.

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 ASHRAE's *Thermal Guidelines for Data Processing Environments* and *Datacom Equipment Power Trends and Cooling Applications*.

The cost of *Design Considerations for Datacom Equipment Centers* is \$54 (ASHRAE members, \$43). To order this or any of the books in the series, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, by mail at 1791 Tullie Circle NE, Atlanta, GA 30329, or visit the [ASHRAE.org Bookstore](http://ASHRAE.org/Bookstore).

CLIMA 2007 TO BE HELD IN HELSINKI, FINLAND

ATLANTA – Creating well-being in indoor environments in an environmentally sustainable manner is the theme of CLIMA 2007.

The conference, organized by the Federation of European Heating and Air-Conditioning Associations (REHVA) and endorsed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), will be held June 10-14, 2007, in Helsinki, Finland. A call for papers will be announced in February with abstracts due in October.

Main themes will be energy performance of buildings, energy efficient heating and cooling systems, ventilation, indoor environment, health and productivity, ecological domestic water and waste systems, building energy management systems, and intelligent buildings.

ASHRAE has been a cosponsor of CLIMA since 1985.

For more information, visit www.ashrae.org/clima2007, or contact info@clima2007.org.

ASHRAE'06 WINTER: TALL BUILDINGS FOCUS OF ASHRAE PUBLIC SESSION

ATLANTA - As skyscrapers have risen in height and sophistication since the first one was constructed in Chicago more than 100 years ago, so have concerns about their design and safety.

"Buildings taller than 300 feet pose unique design challenges for all involved," Peter Simmonds, Ph.D., IBE Consulting Engineers, Sherman Oaks, Calif., said. "To meet these challenges, a collaborative design approach that integrates architectural, mechanical and electrical design elements is needed to produce a fully functioning highly productive building."

That design approach will be highlighted in a free public session at ASHRAE's 2006 Winter Meeting, Jan. 21-25, Chicago. Integrated Building Design in Tall Buildings will be held from 3-5 p.m. Jan. 23, at McCormick Place. One area to be addressed is fire safety challenges based on lessons learned since Sept. 11, 2001. The need for exit plans, smoke control, fire suppression and emergency communications will be discussed, along with how building security impacts exit plans, according to Simmonds, who will chair the session.

Speakers are:

- Dan Jenkins, principal, The John Buck Co., Chicago, will present challenges in developing energy efficient and sustainable buildings.
- Peter Ruggiero, AIA, design partner, Skidmore, Owings and Merrill, Chicago, will discuss problems and solutions associated with integrating all disciplines into design.
- Ron Klemencic, president, Magnusson Klemencic Associates, Seattle, will discuss supporting buildings in non-seismic and seismic zones.
- Reg Monteyne, senior vice president, Flack + Kurtz Inc., San Francisco, will discuss the building services systems, including system choice, energy requirements and distribution systems.
- William A. Webb, project director, Schirmer Engineering Corp., Chicago, will discuss designing fire and life safety systems for tall buildings.

Held with the ASHRAE Winter Meeting is the ASHRAE co-sponsored International Air-Conditioning, Heating, Refrigerating Exposition, Jan. 23-25, at McCormick Place. For more information, contact International Exposition Company at 203-221-9232, info@ahrexpo.com, www.ahrexpo.com.

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ASHRAE '06 - From Processing to Pan: How a Chicken Gets to Market

CHICAGO – Getting chickens to supermarkets isn't as easy as having them cross the road. Instead a chain of steps must be followed from production to display to ensure a quality product, safe for consumers.

"Without refrigeration, you would not be able to enjoy the chicken sandwich you had for lunch," Todd Jekel, Ph.D., P.E., University of Wisconsin Madison, said. "Without refrigeration, a safe food supply is not possible." The use of refrigeration to bring a chicken from processing to pan will be highlighted in a seminar at ASHRAE's 2006 Winter Meeting, Jan. 21-25, Chicago. **Basics of the Cold Chain: Follow a Chicken from Slaughter to Grocery Cart** will be held from 8-10 a.m., Tuesday, Jan. 24.

The "cold chain" refers to the steps used to preserve food and other perishable products from the production stage to the consumption stage.

Speakers will illustrate the cold chain by following a chicken through the process of freezing and shipping to local grocery stores, according to Jekel, who will chair the seminar.

Among the speakers is John Gallaher, Hill Phoenix Inc., Conyers, Ga., who will discuss ensuring safety of chickens during shipping.

"The shipping process is one of the most important steps in the cold chain," he said. "Good design and application of the various equipment is required to keep poultry at safe temperatures to preserve product integrity and food safety until a customer removes the product from the food storage display fixture to take home." Other speakers are:

- *Packaging and Freezing Chickens*, Ajay Chatlani, Tyson Foods, Inc., Springdale, Ariz.;
- *Transport Refrigeration Risk Management*, David Tanner, Ph.D., P.E., Food Science, North Ryde, Sydney, Australia;
- *A Chicken's Experience in the Refrigerated Distribution Warehouse*, Don Cleland, Ph.D., Massey University, Palmerston North, New Zealand

Held with the ASHRAE Winter Meeting is the ASHRAE co-sponsored International Air-Conditioning, Heating, Refrigerating Exposition, Jan. 23-25, at McCormick Place. For more information, contact International Exposition Company at 203-221-9232, info@ahrexpo.com, www.ahrexpo.com.

Registration for the 2006 ASHRAE Winter Meeting will be available onsite at the Palmer House Hilton. The registration fee is \$750 (\$490, ASHRAE member). For more information, visit www.ashrae.org/chicago. Johnson Controls and Honeywell are platinum sponsors of the meeting.



Kentucky Office of Energy Policy

FOR IMMEDIATE RELEASE

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2006 High Performance Sustainable Schools Workshop to Showcase Kentucky Schools

Cincinnati Airport Marriott, Hebron, March 23 and 24

FRANKFORT, KY: Thursday and Friday, March 23 - 24 school superintendents, board members, facilities managers, architects and engineers are invited to attend the fourth annual Kentucky High Performance schools in the state to implement sustainable design using the High Performance School strategies identified in the U.S. Department of Energy's High Performance Design Guidelines.

Mark Ryles, Director of the Kentucky Department of Education's Division of Facilities Management, believes that sustainable design represents the future for Kentucky's schools. "These buildings provide daylighting for classrooms for better staff and student performance and lower energy costs, geothermal HVAC systems and environmentally sustainable design elements. The buildings can be designed to be a teaching tool with technology that makes staff and students aware of the impact of the facility on the natural environment."

"This is a milestone we've been waiting for," says John Davies of the Kentucky Office of Energy Policy. "In the past we had to take Kentucky school officials out of state to see High Performance design. Now they have a chance to see high performance schools here in Kentucky."

Participants will hear from the school officials and design teams of each of the Kenton County High Performance schools as well as from experts involved in High Performance sustainable school projects across the state. Workshop sessions will explain sustainability concepts, how they enhance the learning environment and the steps to achieving High Performance in new construction, renovation and operations.

School district personnel are being offered a reduced fee of \$50 a day or \$75 for two days. The business and industry fee is \$125 a day or \$200 for two days. Registration fee includes breakfast and lunch.

Continuing Education Credit

This workshop has been awarded EILA (Effective Instructional Leadership Act) credit, AIA continuing education unit credit and school board member in-service credit. Certificates will be provided for each educator and architect who attends.

Thursday, March 23 Agenda, 8:30 am – 5:00 pm:

- Sessions on Characteristics and Benefits of a High Performance School Building
- Lunch
- Site visit to High Performance Middle School
- Reception at Marriott

Friday, March 24 Agenda, 8:00 am – 3:15 pm:

- Site visit to High Performance Elementary School
- Lunch
- Afternoon interactive sessions on How to Procure a High Performance Building

Registration Form

To register, go to <http://www.energy.ky.gov> and download and complete the online registration form or contact: Pam Proctor, The Kentucky NEED Project, 859-547-2802 or E-mail: pproctor@need.org.