



ASHRAE LOUISVILLE CHAPTER NEWS

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

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HUMIDITY CONTROL

Air Equipment Company & Neptonic (National Environmental Product Ltd.)

Monday, April 10, 2006
Lunch Meeting

ABSTRACT:

In the selection and application of humidifiers, the designer must consider the environmental conditions of the occupancy or process, as well as the characteristics of the building enclosure. These factors make it critical to understand the technologies and features offered when selecting a humidifier.

Please join us as we take a look at these considerations, as well as humidification quality and control.

SPEAKER:

Mr. Luc Briere is a Product Manager for National Environmental Products Ltd (NEP). NEP designs, manufactures and distributes electric and gas steam humidifiers, electric heaters as well as electronic damper actuators, actuated valves and controls. Mr. Briere has a Bachelors Degree in Applied Science (Mechanical Engineering) from the Royal Military College, located in Kingston, Ontario. He has co-authored several publications on HVAC topics and is the owner/co-owner of three patents, including the modulating gas fired humidifier.

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, April 5th** 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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VISIT THE LOUISVILLE CHAPTER ON THE WEB!

<http://www.ashraeregion7.org/louisville/index.html>

UPCOMING EVENTS/PROGRAMS:

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

April 19 – CTTC Broadcast

May 15 – Golf Outing

MESSAGE FROM THE CHAPTER PRESIDENT

By Ray Beaufait

The 2005-2006 year is almost complete! April is our last business meeting with our golf outing in May. I would like to thank each of you for making this a successful year. Without you, our members, we couldn't thrive as a Chapter. Meeting attendance has been great, averaging around 42 per meeting. Each Chapter is measured by Society based on a point system, and as of now, we have exceeded previous year averages by over 10%. Furthermore, we are expecting to meet most of our established goals.

As most of you should be aware, ASHRAE has been promoting membership growth and requested that each chapter increase membership by 10%. As of February, the Louisville Chapter has grown 3%. While we may not make our goal, we should be thankful for having positive growth. The theme of the April meeting is Membership. If you know someone who would like to be involved, please invite him or her to a meeting.

As we complete the year, remember that Society has tasked us with meeting our Research Goal. In the October newsletter, I challenged our membership to increase contributions to \$60 per member. As the Research Calling Committee contacts you, please remember where the research dollars go. Region VII (which includes Louisville/Lexington chapters) has several research projects totaling almost \$500,000; a \$100,000 project is currently at the University of Kentucky. Also know that Western Kentucky University has been receiving money for an airflow testing station. If for some reason the Research Committee doesn't contact you, please contact Ed Dusch to contribute.

The 2006 Chapter Regional Conference (CRC) is in Birmingham, AL from August 10-12. Click here for more details! [2006 Region VII CRC](#)

Harshaw Trane will be posting the Sustainability and the Building Environment satellite broadcast in the Louisville, Lexington and Evansville offices on April 19, 2006 from 1-4 pm EDT. Please RSVP to Laura Whitus at (502) 499-7000 no later than April 12.



Congratulations to Angela Knight at the University of Louisville, Speed on her scholarship award from the Louisville ASHRAE Chapter for her presentation on Head Injury Risk Associated with Feet-First Falls in Children. She will receive her award at the April 10 Louisville ASHRAE meeting.

The Louisville ASHRAE and ASME Chapters plan to present \$500 each in scholarships next year for the best student presentations.

ATTENTION:

ASHRAE is seeking candidates to serve on a technical advisory ad hoc committee that will review and offer initial design suggestions, review detailed plans at various stages, and monitor construction progress on the proposed ASHRAE Headquarters Building Renovation Project.

Ad Hoc Structure:

Volunteers are needed for the technical advisory ad hoc with expertise in sustainable building principles, energy conservation, and/or indoor environmental quality. Specifically, the ad hoc will consist of 10 members. The chair will be Ron Jarnagin, chair of Technology Council and a member of the Board level Ad Hoc Committee on ASHRAE Building Renovation. The other nine members will serve as one of the following subject matter leads:

1. Architectural Features: Building envelope, interior design & finishes
2. Mechanical Systems: HVAC systems, plumbing, fire suppression, & rainwater collection
3. Lighting/Day lighting: Lighting devices and systems for both natural & artificial light
4. Controls: Smart building controls, & occupant controls/sensors
5. LEED or Equivalent Building Rating Systems: LEED GOLD rating or equivalent is project goal.
6. Indoor Environmental Quality (IEQ): Ventilation, filtration, acoustics, thermal comfort, & contaminant control
7. Energy: Conservation, load shifting, 30% design guide, & alternate energy sources
8. O&M / Commissioning: fault detection, best practices for O&M, & continuous commissioning
9. Living Laboratory: Sensor arrays, data collection, web monitoring interface, in-situ equipment performance, & occupant surveys.

Recognizing that each subject matter lead's area of responsibility encompasses the scopes of multiple ASHRAE TCs, it is expected that each subject matter lead will form a subcommittee with additional technical experts from within the Society and outside as required for support through at least the early design stages of the project.

Level of Effort:

The total duration of the ad hoc is expected to be about 18 months with Phases 2 & 3 requiring the majority of time from volunteers. All meetings of the ad hoc are expected to be conducted through conference calls. Detailed information on the headquarters building renovation project will be made available and updated regularly through a dedicated website for the project. We strongly encourage all subject matter leads to form support subcommittees early and to delegate tasks to subcommittee members.

Recognition:

Volunteers that support this project will be recognized at the 2008 Society Winter meeting and in a plaque mounted in the headquarters building, which bears the names of all volunteers that participated in the ad hoc effort.

How to Volunteer:

Send a nominating e-mail to Mike Vaughn, Manager Research and Technical Services, at MORTS@ashrae.net before April 7, 2006. Title your e-mail as follows: "(Your Name) - Volunteers for ASHRAE HQ Project." Indicate in the e-mail which subject matter expert position(s) above you wish to be considered. Add a short write-up (1/2 page or less) indicating why you think you have the interest, general expertise, subcommittee support, and time to adequately serve on this ad hoc. Lastly, indicate if you are able to serve on a support subcommittee if not selected as a subject matter lead.

Thank you for your time and consideration of this important effort for the Society.

Project Schedule & Expected Ad Hoc Duties:

Phase	Description	Start Date	End Date	Ad Hoc Duties
1	Select Contracted Design Professionals (A&E) & Ad Hoc Volunteers	3/15/06	4/16/06	<ul style="list-style-type: none"> • Select subject matter leads for ad hoc. • Begin forming subcommittees for support. • Review initial suggestions from general membership resulting from input solicitation in Insights. • Develop suggestions within subcommittee. • * Kick-off conference call meeting (4/17/06).
2	Develop Design Schematics & Renderings	4/17/06	6/15/06	<ul style="list-style-type: none"> * Sort, review & prioritize 1-page design suggestions developed by subcommittee & others. * Meet by conference call with ad hoc to develop final set of design suggestions for A&E schematic design (early May deadline). * Meet with A&E by conference call to discuss suggestions & questions as required. * Review schematic design developed by A&E
3	Develop Detailed Design Drawings	7/1/06	10/15/06	<ul style="list-style-type: none"> * Same activity as Phase 2 except suggestions based on schematic designs & renderings and early drafts of detailed design drawings. * Possibly analyze suggestions or design options in greater detail through modeling
4	Finalize Contract Documents	10/16/06	12/30/06	<ul style="list-style-type: none"> * Same activity as Phase 2 except that design suggestions are small refinements or corrections in nature.
5	Solicit Construction Bids	1/2/07	3/27/07	<ul style="list-style-type: none"> * Review construction bids & offer opinion & questions if requested.
6	Construction	4/1/07	12/1/07	<ul style="list-style-type: none"> * Monitor progress of project through progress photos, & reports from site. * Provide input and questions as required.

ASHRAE STUDIES IMPACT OF VENTILATION ON HEALTH

ATLANTA – The impact of ventilation rates on occupant health is being studied through ASHRAE research.

“ASHRAE’s guidance is widely referenced in the HVAC&R industry because it stays on top of new developments,” said lead researcher, Jan Sundell, Danish Technical University, Copenhagen, Denmark. “

The study will lead to an improved understanding of what science can tell us about the relationship between ventilation and health, which in turn will lead to more reliable information on the benefits of building ventilation. It also will give information about where there is a lack of knowledge, providing the basis for new research.” He noted that ASHRAE’s ventilation standards primarily focus on occupant perception of indoor air quality, not health.

A panel of leading authorities on indoor air pollution and health within medicine and engineering will review existing research and literature on the effect of ventilation on health in schools, offices, residences, etc. While the focus will be on ventilation rates, they also will look at pollutant sources, source strength and pollutant concentrations.

Results may be used to update ASHRAE Standard 62.1, *Ventilation for Acceptable Indoor Air Quality*, and Standard 62.2-2004, *Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings*.

The project, ***Scientific Review of Existing Information Related to the Impact of Ventilation Related to Health, 1443-RP***, was approved at ASHRAE’s 2006 Winter Meeting. It is expected to take 18 months to complete at a cost of \$50,000 with funding coming from ASHRAE and the National Center for Energy Management and Building Technologies. The project is sponsored by the Environmental Health Committee. Researchers are Sundell and Hal Levin, Indoor Air Institute, Santa Cruz, Calif.

ASHRAE FOCUSES ON FUTURE GROWTH WITH NEW STRATEGIC PLAN

ATLANTA – A new strategic plan adopted by ASHRAE will help move the Society toward fulfilling its vision of a better future.

“The new plan charts an exciting course for ASHRAE,” Lee Burgett, ASHRAE president, said. “It calls for an ASHRAE that addresses new global initiatives, provides better tools to its members and that is more well-known to the groups and individuals who depend on us for technical guidance.”

Changing technologies, rising energy prices and increased focus on sustainability have challenged ASHRAE to stay at the cutting edge of the field, according to Burgett. At the same time, competition has increased and ASHRAE must focus its efforts to ensure that its products and services are timely, relevant and appropriately positioned to serve the changing marketplace. The strategic plan will help the Society achieve this, he noted.

“The Board of Directors has planned a course for ASHRAE’s future,” Kent Peterson, chair of the Planning Committee, which lead development of the process. “Our goal is to make the strategic directions and strategies included in the plan business-as-usual for our volunteers and staff. We are excited about the opportunities to continue to improve ASHRAE’s value to our membership and the HVAC&R industry.”

The plan can be found at www.ashrae.org/strategicplan. It contains four strategic directions where ASHRAE will focus its efforts over the next several years. They are:

- ASHRAE will lead the advancement of sustainable building design and operations.
- ASHRAE will be a world-class provider of education and certification programs.
- ASHRAE will position itself as premier provider of HVAC&R expertise.
- ASHRAE will be a global leader in the HVAC&R community.

To accomplish these strategic directions, several strategies are identified, including:

- Leading the drive toward the design, construction and operation of net-zero-energy buildings through research, publications and education.
- Developing the performance metrics and rating systems to certify operational performance of buildings for energy efficiency and indoor environmental quality.
- Collaborating with other organizations to integrate HVAC&R systems with other building systems to enhance the effectiveness of total building design and integrated practice.
- Providing accessible on-demand education and distance learning to members and other customers.

- Developing and promoting certification programs for the HVAC&R industry.

In addition, the plan contains an updated mission statement and vision for the Society.

“I am particularly pleased with the Society’s mission statement ‘to advance the arts and sciences of HVAC&R to serve humanity and promote a sustainable world, Burgett said. “When we get embroiled in details about our technology, this statement is a useful reminder that ASHRAE’s cumulative work product improves the quality of life for people around the world.”

ASHRAE NAMES THREE NEW DISTINGUISHED LECTURERS

ATLANTA – Three new distinguished lecturers have been named by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

The Distinguished Lecturers Program provides ASHRAE chapters with noted authorities who provide insight and speak on relevant topics that impact the HVAC&R industry.

The new lecturers and their areas of expertise are:

- Chandra Sekhar, Ph.D., associate professor and director of external relations, Department of Building, National University of Singapore – Ventilation, Indoor Air Quality (IAQ) and Energy Issues in Hot, Humid Climates – Past, Present and Future; Integrated IAQ and Energy Case Studies in the Tropics; and Decoupled Ventilation Strategies for Enhanced IAQ – Demand Cooling and Demand Ventilation.
- TL Chen, CEng, CEO, Primetech Engineers, Malaysia – A Selection of Common HVAC Design Problems for Hot and Humid Climate Application; Tracking the Progress of Designing for Energy Efficient and Sustainable Office Buildings in Hot and Humid Climates; Critical Review of the Objectives of Fire Engineering; and Fire and Life Safety Audit for the Building Industry.
- Charles Gullledge III, P.E., senior mechanical engineer, AC Corp., Greensboro, N.C. – MasterFormat 2004; and Integrated Building Design.

The new lecturers will serve a two-year term. There are 44 Distinguished Lecturers for 2006-07. ASHRAE has had a total of 72 lecturers since the program started in 1996-97.

To arrange for a lecturer visit, contact Rosy Douglas, manager of chapter support, at rdouglas@ashrae.org or 404-636-8400.

PAPERS SOUGHT FOR CLIMA 2007

ATLANTA – Papers are being sought for CLIMA 2007, which will focus on creating wellbeing in indoor environments in an environmentally sustainable manner.

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.

Conference themes are healthy and productive indoor climates, safe water supply and conservation, and sustainable energy use of buildings.

Two types of papers are being sought – those reporting original scientific work and those reporting recent innovations, results of research and development or case studies.

Abstracts are due Oct. 15, 2006. For more information, visit www.ashrae.org/clima2007, or contact info@clima2007.org.

26 PROJECTS FUNDED: ENERGY RECOVERY METHODS STUDIED WITH ASHRAE UNDERGRADUATE GRANTS

ATLANTA – While most residential air conditioners work on 100 percent return air to reduce energy costs, this creates a problem in lack of sufficient fresh air.

This is particularly true in hot humid climates like Miami or in northern regions with long winters.

Through a grant from ASHRAE, students at Florida International University in Miami are designing a new type of residential ventilator with enthalpy wheel heat recovery, which will minimize additional energy use while improving indoor air quality.

Twenty-six grants, totaling some \$120,000, have been awarded by ASHRAE to colleges and universities worldwide to promote the study and teaching of HVAC&R, encouraging undergraduate students to pursue related careers. The grants are used to design and construct projects.

The residential ventilator project will provide an opportunity for students to develop their problem solving skills but also to practice energy conservation design.

Other ASHRAE grant recipients are:

- All India Shri Shivaji Memorial Society's College of Engineering, Pune, India, build an experimental setup to understand the enhancement of condensation heat transfer using micro-fin tubes;
- Bradley University, Peoria, Ill., design an apparatus to test fans and diffusers;
- Cairo University, Cairo, heat exchanger performance educational test stand and heat exchanger design software;
- Georgia Institute of Technology, Atlanta, automated camera positioner for particle image velocimetry used in HVAC air distribution studies;
- Hofstra University, Hempstead, N.Y., design and build a multi-purpose heat exchanger apparatus;
- Illinois Institute of Technology, Chicago, pressurization and depressurization impact on stack effect – experimental study;
- London South Bank University, London, low energy pumpless refrigeration absorption cycle;
- Mapua Institute of Technology, Manila, basic refrigeration and air-conditioning system used for laboratory experiments and simple sensitivity analysis;
- National Chin-Yi Institute of Technology, Taiping, Taichung, Taiwan, design and construction of an HFC-407C machine cooler demonstrator in refrigeration lab;
- Purdue University, West Lafayette, Ind., heat transfer measurements in mini-channel cold plate evaporators;
- Purdue University Calumet, Hammond, Ind., thermoelectric refrigeration using nanofluid circulation heat exchangers;
- Rochester Institute of Technology, Rochester, N.Y., duct and fan design project;
- Southern Illinois University, Carbondale, development of a system for testing the performance of nanofluid flow and heat transfer in a heat exchanger;
- Tanta University, Tanta, Egypt, construction of an integrated hybrid vapor-compression desiccant dehumidification system;
- Texas A&M University, College Station, design and construction of bench-scale ground source heat pump testing laboratory unit;
- University of Georgia, Athens, energy audit of a university classroom/laboratory building and evaluation of energy conservation measures;
- University of Hong Kong, multi-function testing unit for thermal comfort assessment;

- Tri-State University, Angola, Ind., design and construction of a fan-duct system for use in the mechanical engineering laboratory;
- University of Calgary, design of a “biofouling-free” heat exchanger;
- University of Illinois at Urbana-Champaign, development of an HVAC system simulator for laboratory use;
- University of Kragujevac, Serbia and Montenegro, demonstrator of floor, radiator and domestic water heating from solar heated water by using heat pump;
- University of Portland, design and construction of a heat pump trainer for thermodynamics lab;
- University of Windsor, HVAC metered elbows: reducing losses and noise through the use of turning vanes;
- Western Kentucky University, Bowling Green, Ky., centrifugal pump test bed;
- Widener University, Chester, Pa., modification and improvement of a thermodynamic system for cooling and revised cycle air conditioning.

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.