

The

# Pile of Bones

Published by the Regina Chapter of the American Society of Heating, Refrigerating and Air Conditioning Engineers

**April 2009**

**President's Message**

by Ted Cooke

This month's meeting is our Student Night where three University of Regina student design projects will be presented to the Chapter.

Please refer to Jason Danyliw's Student Activities report for further detail. Hope to see you all at the meeting to see the fruits of the students Herculean efforts.

I would like to thank Will Stoecker, for visiting our frigidly wonderful (or wonderfully frigid) city on one of the coldest March evenings. Will enlightened the attendees on Industrial Refrigeration systems. Given some of the proposed facilities associated with the Inter-modal Project there is a good chance we will see some new large industrial refrigeration systems in operation in Regina.

As winter loosens its icy grip on our land and our hearts and we look forward to the lazy sunny days of golf and barbecues, I am always reminded of Robin Williams words, "Spring is nature's way of saying, "Let's Party!" See you at the meeting.

**President**

by Ted Cooke

On Wednesday, April 22, 2009, ASHRAE's (CTTC) will present a satellite broadcast and simultaneous webcast "**Clean, Lean and Green – IAQ for Sustainable Buildings.**"

Online registration for site coordinators and webcast viewers begins **March 2<sup>nd</sup>** at [www.ashrae.org/iaqbroadcast](http://www.ashrae.org/iaqbroadcast). Registration for satellite viewers begins **March 16<sup>th</sup>**. Information about the program and speakers is available at [www.ashrae.org/iaqbroadcast](http://www.ashrae.org/iaqbroadcast).

Three (3) PDH credits may be granted to those who view the program and then complete the Participant Reaction Form online by **April 30, 2009**.

An electronic flyer for download is available at [http://www.ashrae.org/docLib/20090204\\_IAQFlyer.pdf](http://www.ashrae.org/docLib/20090204_IAQFlyer.pdf) Please watch for updates via *ASHRAE Insights* and [www.ashrae.org](http://www.ashrae.org).

If you have questions, call (678) 539-1206 or email [ashrae-SatelliteBroadcast@ashrae.org](mailto:ashrae-SatelliteBroadcast@ashrae.org)

**Meeting Notice!**

**Wednesday  
April 8<sup>th</sup>, 2009**

**Hotel Saskatchewan  
Radisson Plaza  
2125 Victoria Avenue  
Regina SK**

**5:00 – Social / Cocktails**

**5:30 – Student  
Presentation Night**

**6:30 – Dinner**

**7:30 Chapter Meeting**



**ASHRAE REGION XI  
SPRING 2009 CRC**

**Chapter Regional  
Conference**

**Davenport Hotel  
May 7-9, 2009**

**Spokane, Washington**  
Hosted by *Inland Empire*  
Chapter

<http://www.ie-ashrae.org/2009CRC>

## **Technical Program for March**

This month's Chapter meeting is our annual University of Regina Student Presentation Night. Two current U of R 4<sup>th</sup> year engineering student groups will present their ASHRAE related projects, with the projects being judged on predetermined criteria and prizes awarded.

We have chosen the following two presentations from the University of Regina Engineering students:

1. Restaurant Greywater Reclamation and Reuse: Beer Bros Restaurant Case Study -  
By: Ben Peng
2. Trenchless Sewer Pipe Replacement - By  
Kayne Ulmer & Shane Kleisinger

Presentations over the past years have been well done and quite interesting, so please come out to the meeting to support the students. We hope to see you all there.

## **2008/2009 Meetings and Events**

### **Schedule**

**April 8, 2009: Student night**

May 13, 2009: Condensing & Cast Iron Boiler Technologies & Applications - Louis Garas and Keith Farrell

June, 2009: ASHRAE Research golf tournament

### **President Elect and Chapter Technology Transfer Chair**

by Greg Fluter

## **Committee Chair Reports**

### **President Elect and Chapter Technology Transfer Chair**

by Greg Fluter

I'd like to thank all those who braved the record breaking cold temperatures to attend our March meeting (It sure felt good to be in sunny & warm Mexico that week!). I'd like to thank Will

Stoecker, ASHRAE Distinguished Lecturer, for his presentation last month on Industrial Refrigeration. From what I heard from those who attended it was an interesting presentation and included some good stories.

In regard to the Satellite Broadcast on April 22, 2009 at 11:00am – 2:00pm, I have not yet received any emails from members interested in attending a group webcast. As mentioned last month, Odhner Ong, from Sasktel, has graciously offered their boardroom at Head Office to host the webcast. The topic is "Clean, Lean, and Green: IAQ for Sustainable Buildings". If anyone is interested in attending please email me at [g.fluter@mac-eng.ca](mailto:g.fluter@mac-eng.ca) as soon as possible. For more information please go to the following link:  
<http://www.ashrae.org/education/page/557>

Next month, we have with us Louis Garas and Keith Farrell from De Dietrich Boilers to give a presentation on condensing & cast iron boiler technologies & their applications. I'm sure it will be an enlightening presentation so please plan to attend.

Greg Fluter

President Elect and Chapter Technology Transfer Chair

### **Research Promotion Chair**

by Ray Sieber

"Once the snow melts, grass turns green, birds are singing - yes, it's that time of season again – time to bring out the golf clubs. Once again, we will be holding a Regina Chapter golf tournament to raise money for ASHRAE Research. The venue is not confirmed, but we are looking at three possibilities – Royal Regina, Fort Qu'Appelle or Ketepwa. The date for the annual event is Thursday, June 4<sup>th</sup>. We are looking for feedback and for volunteers to assist in co-ordinating the event. Please contact myself if you are interested.

Spring is also the time that the Research Promotion Committee gets in high gear. Our first calling campaign will commence this month. Expect a phone call from one of the committee members. Last year's mark is hard to beat, but our Chapter has

a long history of high performance, particularly when it comes to Research Promotion.

See you at the meeting,

Ray Sieber  
Research Promotion Chair

### **Student Activities**

by Jason Danyliw

As noted above, this month's Chapter meeting is the annual University of Regina Student Presentation Night.

The ASHRAE Regina Chapter will give out the following awards to the students:

- 1<sup>st</sup> Place - \$500.00
- 2<sup>nd</sup> Place - \$300.00

On Saturday April 4, 2009, everyone is welcome to attend the 2009 Faculty of Engineering and Regina Engineering Society's Project Day. Those attending can listen to all of the engineering student final year design project presentations. The event takes place on the 6<sup>th</sup> floor of the Education Building, University of Regina campus, from 8:30 a.m. to 4:00 p.m., and is free of charge. A detailed schedule and complete list of project abstracts can be found at:

[http://enggdynamic.uregina.ca/index.php?option=com\\_content&task=view&id=202&Itemid=408](http://enggdynamic.uregina.ca/index.php?option=com_content&task=view&id=202&Itemid=408)

The Regina ASHRAE Chapter website design is complete, and the website is available for viewing at: <http://regina.ashraechapters.org/>

Please browse the site for valuable ASHRAE information for both society and chapter (membership, meetings, research promotion, awards, newsletters, CRC and history). Please feel free to contact me at <mailto:jason@skhvac.com> with any suggestions on information to be included in the website.

The University of Regina Engineering faculty is in need of any ASHRAE Fundamental handbooks for use with class studies. Please feel free to contact me at <mailto:jason@skhvac.com> if you have any spare

or old handbooks (hardcopy or CD's) that you would like to donate to the University, and I will make arrangements to get the handbooks to Marie Iwaniw at the University of Regina.

Jason Danyliw  
Student Activities

### **Vice president – Newsletter**

by Dean Nagel

**Regina Chapter Email Address:**  
<mailto:ashraeregina@accesscomm.ca>

**Regina Chapter Website Address:**  
<http://regina.ashraechapters.org/>

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) is an international membership organization founded to advance the arts and sciences of heating, ventilation, air conditioning, refrigeration and related issues.

Need assistance? Please use the links below or contact us by [e-mail](#).

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## **BOMA Education Day**

“The Building Owners and Managers Association (BOMA) Regina is proud to present their 6th Annual Education Day, April 28, 2009. The morning session will focus on the labour market, beginning with best-selling author and strategist in workplace diversity, Jeanne Martinson. Jeanne's goal is to assist leaders in understanding diversity issues so they may attract, retain and engage their ideal workforce. Participants will receive a CD copy of "War and Peace in the Workplace". A panel discussion, featuring representatives from SIAST and BOMI, will follow. The afternoon session will focus on code changes that managers and operators need to be aware of. Larry Postnikoff and Jozef Chmielewski will address Boiler Pressure Vessel Regulation Amendments including the new maintenance clause, the different licenses required and consequences of not complying. Percy Crossman, President, Roof Management & Inspection Services Ltd. will address fall protection Regulations and Amendments. Please refer to the attached Registration for more information.”

## **Stimulus Funding for Schools Provides Energy Efficiency Opportunities**

*ASHRAE Advanced Energy Design Guide Provides Simple Tool*

ATLANTA – As school boards and superintendents develop programs to utilize recent U.S. economic recovery stimulus funds, projects focused on improving energy efficiency can result in long-term savings for school districts.

Guidance from The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) can help schools earn an A+ in achieving that efficiency.

The American Recovery and Reinvestment Act (ARRA) signed by President Obama on February 17, 2009, provides significant funding and financing opportunities to modernize, renovate and repair public schools. Under the “State Fiscal Stabilization Fund” up to \$48.3 billion can be allocated to schools. An additional \$25 billion in eligible bonds also have been authorized.

ASHRAE and other leading building industry organizations have developed the *Advanced Energy Design Guide for K-12 School*

*Buildings*. The guide provides recommendations for achieving 30 percent energy savings over the minimum code requirements of ANSI/ASHRAE/IESNA Standard 90.1-1999. Estimates show that a full 16 percent of schools districts’ controllable costs is spent on energy.

“Beyond energy savings, by implementing the recommendations, schools may benefit from an improved learning environment, reduced operating costs, reduced environmental and climate impacts, and enhanced teaching opportunities on the environment,” ASHRAE President Bill Harrison said.

The recommendations in the guide allow those involved in designing or constructing school buildings to easily achieve advanced levels of energy savings without having to resort to detailed calculations or analysis. All of the energy-saving recommendations for each of the eight U.S. climate zones are summarized in a single table. Additional recommendations point to other opportunities to incorporate greater savings into the design of the building.

More than 14,000 free copies of the *Advanced Energy Design Guide for K-12 School Buildings* were sent to school systems in the United States last spring.

Details on the stimulus funding for educational facilities can be found on the Department of Education’s Recovery page (<http://www.ed.gov/policy/gen/leg/recovery>).

Copies of the *Advanced Energy Design Guide for K-12 School Buildings* are available for free download at <http://www.ashrae.org/freeaedg> or print copies may be ordered from the ASHRAE Bookstore at [www.ashrae.org](http://www.ashrae.org).

## **ASHRAE Position Document Outlines Commitment to Natural Refrigerants**

ATLANTA – In a new position document, ASHRAE outlines its support for research, assessment and strategic growth in the use of natural refrigerants such as ammonia, carbon dioxide, hydrocarbons, air and water in refrigeration systems and technologies.

ASHRAE’s Position Document on Natural Refrigerants can be read at [positiondocuments](#).

As the industry searches for alternatives that have low global-warming potential, natural refrigerants are gaining increased interest. These refrigerants offer the potential to improve the environmental performance of refrigeration systems, according to ASHRAE.

“In light of the current global scenario, ASHRAE’s response to the demand for environmental sustainability is to promote the development of systems that use natural refrigerants, safely, economically and efficiently,” Bill Harrison, ASHRAE president, said.

With this position document, ASHRAE demonstrates its commitment to:

- the application of natural refrigerants
- the development of strategic relationships to advance natural refrigerants
- the consideration of natural refrigerants in existing and new guidelines, codes and standards
- the provision of guidance and education to policy makers and the public
- the creation and dissemination of methods and tools for environmental assessment of refrigeration systems
- the publication of technical information highlighting best practices from a safety, reliability and efficiency standpoint
- the promotion of authoritative information on natural refrigerants through seminars and publications

### **Plugged In! Experience Seeks to Raise Awareness on Plug Loads**

ATLANTA – From computers to popcorn poppers to hair dryers, energy use in dormitories often runs rampant due an overload of appliances.

To help students gain a better understanding of how being plugged in impacts building energy use, ASHRAE is funding a teaching project for students at the University of Oregon.

The students will be challenged to develop a better understanding of personal and broad-scale energy consumption and how appliance selection and behavior modification can impact energy use through a hands-on experience, known as Plugged In!. The project was one of 13 grants funded by ASHRAE through its senior undergraduate project grant program.

The grants, totaling some \$65,000, are 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. For more information, visit [ASHRAE.org/studentzone](http://ASHRAE.org/studentzone).

As part of Plugged In!, students will “shop” for electrical appliances, determine the plug loads of each appliance and calculate their short-term and long-term energy implications. They also will develop a real-time monitoring and feedback loop of a dormitory, as part of their goal of modifying occupant behavior. The students will develop a Web interface using energy use animations to reflect the amount of actual energy use of the dorm.

“Students living in dorms across campus will see first-hand how their behavior impacts building energy use and how energy use impacts the environment,” said professor Alison Kwok.

“Estimates show that plug loads can range from 10 to 25 percent of total building energy use. We want to show our students how energy use can influence decisions about building design and how their use of appliances can impact power use for the entire campus.”

Other ASHRAE grant recipients are:

- **University of Colorado at Boulder**, *Developing a Low-Cost Modular Building Integrated Photovoltaic-Thermal Collector for Electricity, Hot Water and Pre-heated Ventilation Air*
- **Purdue University (team 1)**, *Heat Recovery Demonstrators*
- **University of Central Florida**, *Design Optimization of a Solar Thermal System with Integrated storage*
- **Lawrence Technological University**, *Monitor and Simulate Two Existing, High Performance Buildings to Achieve and Maintain Sustainable Operation*
- **Boise State University**, *Solar Collector Panel Test Stand Senior Design Team*
- **The University of Kansas**, *Working Model of a Tall Building’s HVAC&R Systems*
- **Florida International University**, *GSHP-Solar*
- **University of Alabama at Birmingham**, *Variable Speed Pumping System*
- **Cairo University**, *Solar Hydrogen Fuel Cell Water Heater Educational Stand – Design and Fabrication*

- **University of Washington – Seattle**, *Assessing the Natural Ventilation in Classrooms and Laboratories—Implementing Class Projects*
- **San Francisco State University (SFSU)**, *Air Conditioning Laboratory Unit for Undergraduate Engineering Education*
- **University of Illinois at Urbana-Champaign**, *Design and Construction of a Solar PV Demonstration System for Laboratory Use and Public Education*

## **ASHRAE Rolls into Louisville for 2009 Annual Conference**

ATLANTA – The pounding hoof beats into the final turn. Ice tinkles in the glass of a frosted mint julep. The plaintive echoes of rivercraft are heard as they signal the drawbridge. These are the sights and sounds of Louisville....the home of ASHRAE's 2009 Annual Conference.

“*Rolling on the River* serves as the conference theme and echoes ASHRAE’s mission,” Bill Harrison, ASHRAE president, said. “A steady flow of rapidly advancing standards and research, both complimented by our technical and educational program, will enhance ASHRAE’s ability to drive the ongoing transformation to a more sustainable built environment.”

The ASHRAE Annual Conference takes place June 20-24. To register or for more information, visit <http://www.ashrae.org/louisville>. Most events take place at the waterfront Galt House Hotel.

The ASHRAE technical program, with nearly 100 sessions, focuses on optimal indoor air quality. It begins Sunday, June 21, and ends Wednesday, June 24, with all sessions at the Galt House. Complete program details will soon be available at <http://www.ashrae.org/louisville>. The technical program features a large building systems track that begins with an introduction to large buildings and addresses sustainable large building design, energy modeling, smoke control and specifically indoor sports facilities, entertainment venues, and museums and libraries. Other tracks with multiple programs include systems and equipment, indoor air quality, energy and sustainability.

The conference keynote speaker is Susan Roaf, professor of architectural engineering at

Heriot Watt University, Edinburgh. Roaf’s thought-provoking comments include a range of building- and climate-related risks that individuals will face in the future along with a range of actions that homeowners and legislators can take to future-proof lifestyles against the growing challenges of the 21<sup>st</sup> century. She speaks at the Plenary Session on Saturday and the technical plenary on Sunday.

The ASHRAE Learning Institute offers two full-day professional development seminars and four half-day short courses, focusing on a range of HVAC&R related topics. New sessions include *Data Center Energy Efficiency* and *Air-to-Air Energy Recovery Systems*. ASHRAE’s Standard 90.1 course has been revamped to focus on using the standard to meet LEED and federal tax credit requirements.

ASHRAE also launches its newest certification program – Commissioning Process Management Professional. The certification recognizes that those who manage the commissioning process need to have people- and project-management skills in addition to knowledge of building design, construction, operations and maintenance. For more information, visit [www.ashrae.org/cpmp](http://www.ashrae.org/cpmp).

ASHRAE technical tours offer an inside view of how technology developed by members is practically applied in building environments. Tours include the central steam and chilled water plant at Louisville Medical Center, an HVAC system for a Class 100/1000 cleanroom at the University of Louisville, the CMTA Corporate Headquarters Building, and the Scribner Place YMCA and Aquatic Center.

In addition, ASHRAE President-Elect Gordon Holness, P.E., Fellow ASHRAE, Life Member, a consulting engineer and chairman emeritus, Albert Kahn Associates Inc., Detroit, Mich., takes office as 2008-09 president. Holness presents his inaugural address at the president’s luncheon on Monday, June 22, focused on energy efficiency in existing buildings.

## **ASHRAE Launches Commissioning Certification Program**

ATLANTA – Just as the commissioning process helps buildings and their systems operate optimally, ASHRAE’s newest certification recognizes those

with optimal knowledge of the entire building commissioning process. The program is ideal for individuals given a commissioning role who may not have a building HVAC&R background.

ASHRAE's Commissioning Process Management Professional launches in June at the Society's 2009 Annual Conference in Louisville, Ky. The program helps building owners, developers, operators and others recognize individuals capable of assuring that building systems and equipment are designed, installed, tested, operated and maintained according to their operational needs.

"As the standard setter for sustainable building performance, ASHRAE's certification program recognizes that people who manage the commissioning process need to have people- and project-management skills in addition to a level of understanding of building design, construction, operations and maintenance," Bill Harrison, ASHRAE president, said. "This is what distinguishes the commissioning program from other HVAC commissioning certifications."

Developed with input from APPA, BCA, IESNA, NEBB, SMACNA, TABB and the University of Wisconsin-Madison, the program is the fourth in ASHRAE's suite of certification offerings. The others focus on healthcare design, high-performance building design, and operation and maintenance.

Individuals must meet certain eligibility qualifications to take the exam. For more information, an exam content outline and available resources for exam preparation, please visit <http://www.ashrae.org/certification>. The fee for the exam is \$207.50 before June 5 (\$147, ASHRAE members).

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.

Dean Nagel  
Vice President – Newsletter

## **Board of Governors for the Regina Chapter**

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