

Pile of Bones

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

November 2008

President's Message

by Ted Cooke

Our November meeting is fast approaching and Greg has arranged for a presentation on Geothermal Opportunities in Saskatchewan. Norm Grusnick, the Regional Vice Chair for Research is also visiting the Chapter this month and will be present at our Dinner Meeting.

I would like to thank Doug Daverne for his informative presentation on SaskPowers Clean Coal Project last month. It was very interesting to learn about the Clean Coal Process and the economics behind the project in comparison to other options explored by SaskPower.

As noted during the October Meeting, our chapter won the following Awards at the 2008 CRC:

- PAOE Special Citation
- PAOE Ribbon
- Research – Full Circle
- Research – Goal Buster
- Research – Top Five
- Research – Wendel Wolfe Top Dog
- CTTC – TEGA
- History – Gold Ribbon

Since we are so close on the heels of Beijing, in Olympic terms, our 8 awards put us in a tie for Third with BC behind Alaska (10) and Oregon (10). A big thanks to everyone in the chapter for it is your efforts and support that make this Chapter one of the best in the Region.

Trevor Hobman has volunteered to step up and fill the vacant Ways and Means position. With the help of Neil Paskewitz, Trevor will be putting together the Christmas Social so if you have any suggestions, concerns, questions or comments, please feel free to contact Trevor. I hope to see you all at the meeting.

ASHRAE Calendar of Events



For more information on the ASHRAE Conference, please visit: www.ashrae.org/chicago

Meeting Notice!

Wednesday
November 12, 2008

Hotel Saskatchewan
Radisson Plaza
2125 Victoria Ave
Regina

5:00 – Social / Cocktails

5:30 – Brian Brunskill &
Laurence Vigrass
Saskatchewan's Deep
Geothermal Energy
Potential

6:30 – Dinner

7:15 – Chapter Meeting

Please note: Thanks for the quick response on invoice payments to all that have paid. It is greatly appreciated that your dues be paid so that the chapter can run smoothly. Please remit any unpaid or new dues promptly.

Please note: anyone not having received their invoice please contact via email: ashraeregina@accesscomm.ca

See you all at the meeting.

Technical Program for November

This month we are please to have with us Brian Brunskill & Laurence Vigrass to give a presentation on Saskatchewan's Deep Geothermal Energy Potential. The following is a brief synopsis of their presentation:

As we all look for ways to develop new energy sources *and* reduce our environmental footprint, using deep geothermal energy will contribute significantly to both these goals, and there are clear security-of-supply advantages to incorporating geothermal heating into Saskatchewan's energy-supply mix.

Today, with less certainty about future natural gas prices and increased awareness around CO₂ emissions, using deep geothermal energy for district heating provides a new source of non-combustion-based energy that has a very small environmental footprint. NRCan reports that Canada's domestic natural gas supply will peak in 2011 and that several locations are now being planned to import LNG. Once Canada begins importing natural gas the price we pay will reflect global gas markets.

Deep geothermal energy from a single project is available for the long-term – up to 35 years or longer. The supply is sustainable (not subject to seasonal variations or weather conditions), is reliable (constant temperature over the life of the project), is not subject to significant price volatility and is environmentally friendly (non-combustion-based so the direct production of carbon dioxide is avoided).

Deep geothermal can be used to heat buildings in new industrial park developments, when retrofitting commercial/ industrial buildings and for pre-heating ventilation air and industrial boiler or process water. It can also be used for heating homes in new residential subdivisions. In France it is being used to heat over 150,000 residential units.

For more information on the presenters refer to the Chapter Technology Chair Report.

We are also pleased to welcome back Norm Grusnick, RV Chair for Research Promotion, who will be attending our Chapter meeting this month.

See you on Wednesday.

2008/2009 Meetings and Events Schedule

November 12, 2008: Brian Brunskill – Saskatchewan's Deep Geothermal Energy Potential

December 10, 2008: Christmas Social – To be determined

January 14, 2009: Duane Rothstein – McQuay International – ASHRAE Standard 62.1-2007 Ventilation for Acceptable Indoor Air Quality

February 11, 2009: Saskatchewan Research Council Update

March 11, 2009: ASHRAE Distinguished Lecturer – Will Stoecker – The World of Industrial Refrigeration

April 15, 2009: Student night

May 13, 2009: To be Determined

June, 2009: ASHRAE Research golf tournament

Committee Chair Reports

President Elect and Chapter Technology Transfer Chair

by Greg Fluter

I would like to thank Doug Daverne from SaskPower for his presentation last month on SaskPower's Clean Coal Project at Boundary Dam. It was interesting to hear how SaskPower is trying to meet Saskatchewan's future electrical needs all while trying to meet the Federal Government's proposed regulations. It will be interesting to see

how this project moves forward in the coming months & years.

Brian Brunskill, P.Geo. - Bio

Brian Brunskill has been working as a consulting geologist in the petroleum industry in Saskatchewan since 1985 and is experienced in evaluating hydrocarbon resources in Canada and the U.S. Now that many large, industrial emitters of carbon dioxide and other Greenhouse gasses are considering the implementation of Carbon Capture and Storage technologies to reduce their emissions, Brian has been investigating areas in the deep subsurface of southern Saskatchewan where these emissions can be safely and permanently stored. Brian is a promoter of the use of deep geothermal energy as a heating source in Saskatchewan as a means to reduce our dependence on hydrocarbon-based fuel and the associated reduction in CO₂ emissions.

Laurence Vigrass P.Eng. P.Geo. - Bio

Laurence Vigrass is Professor Emeritus of Geology at the University of Regina. He served two terms as head of the geology department and, from 1976 to 1987, was director of the Energy Research Unit at the university. During this period he was chief investigator of the Regina Geothermal Project which resulted in a 2200m research well on the University of Regina campus. His academic background is as a geological engineer at the University of Saskatchewan and he has a Ph.D. in geology from Stanford University. In 1991, Laurence taught part of a course on geothermal energy at the University of Teheran and he has written numerous papers on the subject. Laurence has had extensive experience as a petroleum geologist. He has worked for Chevron, Imperial Oil and Saskoil as well as working for several years as a consultant to the petroleum industry.

Greg Fluter
President Elect and Chapter Technology Transfer
Chair

Membership Promotion Chair

by Rob Craddock

LOOKING TO STAY CURRENT WITH THE LATEST NEWS FROM ASHRAE? WANT TO MAKE YOUR FRIENDS AND NEIGHBORS AWARE OF THE OUTSTANDING WORK DONE BY OUR SOCIETY?

ASHRAE PROVIDES TWO ONLINE RESOURCES TO HELP YOU WITH BOTH. THE LATEST SOCIETY NEWS CAN BE FOUND AT WWW.ASHRAE.ORG/NEWS, WHERE YOU CAN SIGN UP TO RECEIVE RELEASES VIA

RSS FEEDS. THE PAGE ALSO OFFERS OTHER RESOURCES FOR MEDIA LOOKING FOR INFORMATION RELATED TO ENERGY, INDOOR AIR QUALITY AND OTHER TECHNICAL AREAS OF INTEREST COVERED BY ASHRAE.

THE SOCIETY ALSO HAS AN ONLINE CONSUMER CENTER THAT OFFERS A VARIETY OF GUIDANCE TO HOMEOWNERS. THIS INCLUDES WINTER HEATING AND SUMMER COOLING TIPS, AS WELL AS HINTS ON IMPROVING INDOOR AIR QUALITY. THE PAGE IS LOCATED AT WWW.ASHRAE.ORG/CONSUMER

ASHRAE ENCOURAGES MEMBERS TO USE THESE PAGES AS RESOURCES TO UPDATE THEMSELVES ON SOCIETY ACTIVITIES AND TO REFER FAMILY, FRIENDS AND CLIENTS SEEKING CONSUMER-ORIENTED GUIDANCE.

With the ASHRAE year well on its way I have started to contact the chapter members that have not renewed their memberships as well as giving assistance to the people that have contacted me or I have been to contact about joining our chapter. To date we have 1 member advancement and 4 potential new members.

Please Visit the attached link if you want to renew your Society Membership online
<http://www.ashrae.org/members/page/589>

See you on Wednesday November 12

Rob Craddock
Membership Promotion Chair

Research Promotion Chair

by Ray Sieber

Our chapter will be holding its first of two Research Promotion meetings next Wednesday, November 12th. In addition to the excellent program Greg Fluter has assembled, we are fortunate to have Norm Grusnick, RV Chair for Research Promotion, join us. Norm will provide a brief update on Society's 2008/09 Research Campaign.

Our Research Promotion night is intended to draw awareness to the importance of ASHRAE research and to recognize past donors. The 2007/08 donors are:

All-Rite Plumbing and Heating
Christie Mechanical Ltd
City Of Regina
Conbrio Consulting Services Incorporated
Crane Supply
DMA Controls
DYN Air
Ecco Heating Products
EDCO Plumbing and Heating
Electronic Environments Ltd
Engineered Air
Harvard Property Management Inc.
Hooker Dawson & Associates Limited
HVAC Sales Limited - Regina
Inland Metal Mfg Ltd
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Mr. Trevor D Harle
Saskatchewan Insulation Contractors
SaskEnergy
Selkirk Canada
StanTec Consulting Ltd.
Uponor
Walter's Industrial Mechanical Ltd

I am hoping that each you are able to attend so that our ASHRAE Chapter can thank you in person for your generous support.

Once again, the Regina Chapter will achieve Full Circle. Achieving Full Circle is an important first step in reaching our Chapter's overall Goal. It demonstrates that the Chapter Officers support of ASHRAE Research.

One last item, there are a few members who are missing coins for recognition of past year's donations. If you are one of them, please contact me a.s.a.p. at sieber@src.sk.ca, let me know for which year(s) you are missing coins and I will coordinate with Society to have them delivered.

Ray Sieber
Research Promotion Chair

Vice president – Newsletter

by Dean Nagel

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

Regina Chapter Website Address:
Currently Under Construction

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](#).

To change your e-mail address for all eNewsletters, [click here](#). This will not change your official e-mail address in ASHRAE's member database. This will only change the e-mail address to which your ASHRAE eNewsletters are sent.

If someone passed along this eNewsletter to you, and you want to have your own subscription, [click here](#).

To read ASHRAE's media kit to learn about advertising opportunities, [click here](#).

ASHRAE HVAC&R Industry eNewsletter
If you wish to subscribe to the ASHRAE HVAC&R Industry eNewsletter, e-mail subscribe-eneews@ashrae.org with "Subscribe this address to The HVAC Industry eNewsletter" in the e-mail subject line. After Nov. 19, access to the article from this eNewsletter will no longer be available. It will remain available for free download by Members [here](#) and for purchase by nonmembers in the [ashrae.org bookstore](#).

ASHRAE Learning Insitute

The ASHRAE Learning Institute is offering on-line courses. [Online Courses Registration Form](#) Please see attached information.

Interested in more information about Clean Coal Website follow the link below:

<http://www.saskpower.com/cleancoal/project.html>

New Standard Provides Guidance on Testing Seismic Restraints for HVAC&R Equipment *ASHRAE Standard 171-2008 Published*

ATLANTA – Forget what Jerry Lee Lewis said; there's *not* going to be a whole lotta shakin' going on with a new standard from the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). ANSI/ASHRAE Standard 171-2008, Method of Testing Seismic Restraint Devices for HVAC&R Equipment, provides manufacturers a standard way of testing such devices to prequalify products for earthquake-prone areas.

"This standard is a breakthrough for ASHRAE," says James Tauby, chair of the

committee that wrote the standard. "This new national standard moves testing from the West Coast to the entire United States.

It is the first national standard for seismic restraint testing of non-structural components that does not require shaker table testing, which is the required testing form in many California projects. Standard 171 provides provide static-test procedures for determining the capacity of seismic restraints for HVAC&R equipment. These test procedures determine the maximum force a restraint can withstand without breakage or permanent deformation.

Manufacturers of vibration isolators, seismic restraint vendors and strut channels can use the standard to test their products' suitability for standing up to earthquake conditions, and consulting engineers can use the standard as a reference in specifications.

The cost of Standard 171-2008 is \$39 (\$31, ASHRAE members).

To order, contact ASHRAE Customer Service at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), by mail at 1791 Tullie Circle NE, Atlanta, GA 30329, or visit the ASHRAE.org Bookstore at www.ashrae.org.

Instructional Courses on Energy, IAQ Offered at ASHRAE '09 Conference

ATLANTA – A full slate of ASHRAE instructional courses are available for attendees at the ASHRAE 2009 Winter Conference and the AHR Expo in January.

Eleven three-hour courses, along with four six-hour courses, offered by the ASHRAE Learning Institute, Jan. 24-28, Chicago. For complete course and meeting registration, visit www.ashrae.org/chicago.

Professional Development courses taking place Saturday, Jan. 24, at the Palmer House Hilton are *Complying with Requirements of ASHRAE Standard 62.1-2007, Exceeding Standard 90.1-2007, Testing, Adjusting, & Balancing* and *The Commissioning Process in New & Existing Buildings*.

Short Courses taking place Sunday-Tuesday, Jan. 25-27, at McCormick Place in conjunction with the AHR Expo, are *Humidity Control: Basic Principles, Loads, & Equipment*; *The Basics of a*

Proposed Standard on High Performance Green Buildings (Standard 189.1P); ; Introduction to Green Buildings & Sustainable Construction; Energy Management in New & Existing Buildings; Chilled Beam Technology; Low-Temperature Radiant Heating & High Temperature Radiant Cooling Systems; Installation of Residential Ventilation Systems (Standard 62.2); Healthcare Facilities: Best Practice HVAC Design Considerations & Criteria; Humidity Control: Applications, Control Levels, & Mold Avoidance; Healthcare Facilities: Best Practice Applications of HVAC Systems; and Introduction to Thermal Energy Storage Systems for A/C.

Congress Extends Energy Tax Incentives through Economic Recovery Package

ATLANTA – With the passage of the economic recovery package by Congress last week, banks aren't the only ones relieved; proponents of energy efficiency efforts are as well.

The American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) commends Congress on including in the package provisions for the extension of expired and expiring tax incentives for renewable energy, energy-efficient building upgrades, and appliance and equipment purchases.

“These energy provisions are essential to realizing ASHRAE’s goal of reaching net-zero-energy buildings,” says Bill Harrison, ASHRAE president. “But more importantly, they are essential for the energy independence of our nation. While the banking industry may be visibly suffering now due to these economic times, we will all suffer if we don’t find ways to take advantage of alternative energy sources and make our buildings more efficient.”

Though several attempts were made during the 110th Congress to extend these credits and incentives, those attempts failed due to disagreement over funding issues.

One key provision in the legislation is the extension of the Commercial Building Tax Deduction (CBTD) through 2013. This allows building owners to claim a deduction of up to \$1.80 per square foot for HVAC, lighting or envelope upgrades resulting in 50% savings over ANSI/ASHRAE/IESNA Standard 90.1-2001. This

five-year extension allows for the planning schedules often needed in design and construction, whereas the provision previously was only certain for shorter periods, affecting its usefulness.

The legislation additionally creates new credits for combined heat and power system property, small wind energy property, and geothermal heat pump systems through 2016.

Other energy provisions in the legislation include:

- Extending the Renewable Energy Production Credit for wind to 2010, biomass, geothermal, solar and hydro to 2011, and adds a marine/tidal credit through 2012.
- Extending credits for solar energy property, fuel cell property and microturbines through 2016.
- Establishing provisions for Energy Conservation Bonds issued by states or localities to conduct energy conservation projects
- Extending residential tax credits for energy saving appliances, energy efficient homes, and on-site renewables.
- Adding accelerated depreciation period for smart meters and smart grid systems, encouraging investment in these systems.
- Extending a program providing tax-exempt bond designation to designated green building and sustainable design projects on brownfields.
- Extending the expired business research credit through 2009.

ASHRAE Hosts Industry Partners at Headquarters Renewal Event

ATLANTA – The ribbon is cut, the donors have been honored, and ASHRAE’s newly renovated sustainability showcase is officially open for business.

Some 200 people gathered Thursday, Oct. 23, for the Headquarter dedication ceremony in Atlanta. The guests included industry partners who donated nearly \$1.65 million in equipment and services for the \$7.65 million renovation.

“None of this would have been possible without the hard work and commitment from many volunteers and staff involved in the renewal for the last three years,” Bill Harrison, ASHRAE president, said. “More importantly, generous donations by companies and firms have ensured that not only our building will be here for a long time to come but that ASHRAE can continue to provide the sustainable building technology guidance that we are known for.”

“Not only is the renovation a technology and productivity showcase, it also exemplifies the incredible potential of determined ASHRAE members and the greater ASHRAE community working toward a common goal,” Jeff Littleton, ASHRAE executive vice president said. “This renovation represents the largest capital investment in ASHRAE history at \$7.65 million.”

Major contributors to the Headquarters project include the ASHRAE Foundation, Carrier Corp., Automated Logic Corp. /Automated Logic Georgia, ClimateMaster Inc., Daikin Industries Ltd., Southern Company/Georgia Power Company, and Trane. Partners also include Aircuity Inc. and Interface FLOR. Also donating are Allsteel® /Ivan Allen; Mark H. Brandli/design principal for Richard Wittschiede Hand; CxGBS; Dynamic Air Quality Solutions; EBTRON Inc.; GE Power; Bill and Margaret Harrison; Bruce Hunn, ASHRAE's director of strategic technical programs; ITT/Bell & Gossett/James M. Pleasants Co.; NorthWrite Inc.; PolyCon Manufacturing; Thermal Gas Systems Inc.; U.S. Green Building Council; and VFA Inc.

ASHRAE/USGBC Names Washington, D.C. Fellow

ATLANTA – A Florida mechanical engineer has been named as a Washington Congressional Fellow hosted by ASHRAE and the U.S. Green Building Council (USGBC).

Michael Erbesfeld, TLC Engineering for Architecture – Deerfield Beach Division, will serve a one-year fellowship in Washington, D.C., which allows him to work on Capitol Hill in a technical advisory role. He has been assigned to the office of Sen. Dianne Feinstein (D-Calif.). Erbesfeld recently completed the annual fellows orientation sponsored by the American Association for the Advancement of Science.

“What’s so exciting about this fellowship is that it offers an opportunity to help policymakers shape the future of our built environment by making responsible design the standard as opposed to the exception,” Erbesfeld said.

Doug Read, ASHRAE program director of government affairs, noted that Erbesfeld’s assignment would be beneficial to both groups given Feinstein’s service on the Appropriations Committee, including chairing the Interior, Environment and related agencies subcommittees.

“Michael’s assignment to Sen. Feinstein’s office is critical for ASHRAE and USGBC because of her service on the Appropriations Committee, which has jurisdiction over the funding for federal agencies that impact future research and development in building sciences and regulation of buildings related issues,” he said.

The fellowship runs from September 2008 through August 2009.

Eco-Roof Game Developed Through ASHRAE Grant

ATLANTA – University of Oregon students, come on down. You’re the next contestants on the Eco-Roof Game.

Under a teaching project funded through a grant from ASHRAE, students at the University of Oregon will be challenged to develop, construct and determine the R-value of a green roof through a hands-on experience, known as the Eco-Roof Game. The project was one of 10 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.

As part of the Eco-Roof Game, students will use actual building materials, a heat flux transducer, dataloggers and moisture meters to learn about heat loss and gain, insulation value, material properties, water conservation, evapotranspiration and to consider strategies for conserving energy.

“Targeting both architecture and engineering students about energy and the

environment is particularly important because, whether aware of it or not, they play a central role in shaping the world in these areas,” said Alison Kwok, a professor at the university who submitted the grant application. “A thoughtless decision about building orientation may create a cooling load that lasts as much as a century. Instilling an experience about envelope materials can influence decisions about building design that will impact power use for thousands of business days.”

Other ASHRAE grant recipients are:

- American University of Beirut, experimental investigation for performance and optimized design of radiant heating panels for rooms constructed according to Lebanese building thermal guidelines
- Cairo University, *Water Cooling Tower Educational Stand: Design and Fabrication*
- Purdue University – Fort Wayne, *Design and Development of Solar Cooling Demonstration Unit*
- Mapua Institute of Technology, *Development of an Indoor Environment Quality Measurement Laboratory and Laboratory Set-up of Thermal Ice Storage for Air Conditioning Systems*
- Purdue University – Calumet, *Cooling Systems for Data Centers*
- Texas A&M University, *Design and Construction of Solar Powered Refrigeration System Using Carbon Nanotubes and Methanol*
- Universidad Pontificia Bolivariana, *Solar Absorption Refrigeration Module for the Chiller Type HVAC Lab*
- Western Kentucky University, *Passive Residential Cooling System*

ASHRAE Names 14 New Distinguished Lecturers

ATLANTA – ASHRAE has named 14 new Distinguished Lecturers who provide Society chapters with noted authorities who speak on relevant topics that impact the HVAC&R industry.

This marks the 12th year of the Distinguished Lecturer Program. The new lecturers and their areas of expertise are:

- Essam Omar Asem, AFESD, Mishref, Kuwait – *Practical Use of Advanced Building Simulation Programs.*
- Giovanni Barletta, Emerson Climate Technologies, Barranquilla, Columbia – *Good Practices in Start up and Installation of HVAC Systems, Failure Compressor Analysis and Global Tendencies in Energy Efficiency.*
- Oswaldo D.S. Bueno, Oswaldo Bueno Engineering and Training, Sao Paulo, Brazil – *Cool Green Buildings Introduction, VRF – Variable Refrigerant Flow: Something Old Something New, and Psychrometrics and Low Temperature Storage.*
- Jean Bundock, Roche Consulting Group, Quebec, Canada – *Commissioning, Re-Commissioning and Retro-Commissioning*
- S.K. Chou, PhD., National University of Singapore, Singapore – *Developing Building Envelope Thermal Performance Standards for Commercial and Residential Buildings in Tropical Climates, Achieving Energy-Efficient Performance of Non-Residential Buildings and Development of a Micro Portable Power Generator.*
- Fabio Clavijo, Tecnaire, Bogota, Columbia – *Dehumidification – Basic Concepts, Applied Psychrometrics to Dehumidification Processes, Moisture Loads in Dehumidification Applications, Indoor Air Quality and UVC Technology and Energy in Buildings – an HVAC Perspective for the 21st Century.*
- Gary B. Hayden, P.E., gbH Engineering, Norfolk, Va. – *LowEx, and Radiant Heating and Cooling.*
- Hank Jackson, P.E., ETech Solutions, Weaverville, N.C. – *Green Buildings: Help or Hype?, Just Do It! How to Get Started with an Energy Efficiency Survey, Beam Me Up Scottie! Transport Energy: Motors, Fans and Pumps, Introduction to Geothermal Heat Pump Systems and Overcoming Objections to Energy Efficiency Investments.*
- Jose Luis Frias Lavalle, DHIMEX, Mexico City, Mexico – *Expansion, Pressurization and Control of the Air in Hydronic Systems, Hydraulic Principles, Hydronic Systems, Installation, Operation and Maintenance of Centrifugal Pumps, Potable Hot Water Supply Systems, Selection of Centrifugal Pumps, Thermodynamic Principles of Heat Exchange and Variable Speed Pumping Systems.*
- Vasile Minea, Ph.D., Shawinigan, Quebec, Canada – *Large Commercial and Institutional Ground-Source Heat Pump Systems, Advanced Supermarket*

Refrigeration/Heat Recovery Systems, Performance Comparisons of Residential Ground-Source Heat Pump Systems and High Performance Air-Conditioning Water Chillers.

- Michael E. Myers, P.E., TLC Engineering for Architecture, Cape Coral, Fla. – *Smoke Management Systems – The Basics and Smoke Management Systems – Advanced*
- Richard J. Pearson, P.E., Pearson Engineering, Madison, Wis. – *Energy Management in New and Existing Buildings: a Sustainable Activity.*
- Paul L. Pieper, Venmar CES, St. Leonard D' Aston, Quebec, Canada – *Characteristics of High-Performance Schools: Energy and Indoor Environmental Quality, Meeting and Exceeding High- Performance Standards, Codes and Guidelines with Air-to-Air Energy Recovery Systems and Equipment, and Understanding and Evaluating Air-to-Air Energy Recovery Technologies.*
- Patrick J. Reynolds, Poolpak, York, Pa. – *Natatorium Environmental Control.*

The new lecturers will serve a two-year. There are 75 Distinguished Lecturers representing 15 countries for 2008-09. These lecturers are available to present on 326 topics.

For a complete listing of Distinguished Lecturers and detailed procedures on how to arrange a lecturer presentation, visit <http://www.ashrae.org/distinguishedlecturers>.

For additional information, contact Rosy Douglas, manager of chapter programs, at rdouglas@ashrae.org or 678-539-1128.

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

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