

AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR CONDITIONING ENGINEERS INC.

LONDON CANADA CHAPTER #116

http://LondonCanada.AshraeChapters.org

Mon Mar 30/2009

Board of Governors

President Eric Shaw ph: 519-964-0022 eshaw@baymarsupply.com

Vice President & Program Jason Vanderberghe ph: 519-670-8066 jasonv@aquatech.ws

Treasurer Jack Maynard ph: 519-681-1221 jack.c.maynard@jci.com

Secratary Jamie Kruspel ph: 519-667-3445 jamie.kruspel@td.com

Committee Chairs

Research Scott Edmunds ph: 519-667-4108 sedmunds@uniongas.com

Membership Karl Gilroy ph: 519-451-5100 kgilroy@price-hvac.com

Student Activities Ibrahim Simhat ph: 519-681-1221 ibrahim.semhat@jci.com

Historian Scott Turner ph: 519-681-1977 scott@somersep.com

Golf Tournament Hugh Palser ph: 519-471-9382 hpalser@palserent.com

Newsletter Tom Pollard ph: 519-685-2570 tpollard@execulink.com TOPIC:

Selling Green 101; The HVAC Engineer as a Salesman

JOEL PRIMEAU Director of Sustainable Design GENIVAR

Meeting - Mon MARCH 30/2009

THE WAVE

UNIVERSITY COMMUNITY CENTRE - Upper Floor

UNIVERSITY OF WESTERN ONTARIO

parking has been arrange in the Weldon Lot see the attached map

5:15-Social

6:00-Dinner

7:15-Program



ASHRAE LONDON CANADA CHAPTER #116



http://LondonCanada.AshraeChapters.org Mon Mar 30/2009 Page 2

President's Message

Warmer weather and sunshine has finally started to replace the bitter cold and darkness; the large piles of snow have almost disappeared, and the Robins have returned; another indication that spring has finally arrived. It will not be long before we are dealing with the heat and humidity of summer. I am sure that you are all looking forward to those conditions...

I suppose that it will not be long until we start thinking of those "warmer weather activities" that we will be longing to get back to - Such as golfing.

The London ASHRAE Golf Tournament is scheduled for June 1st this year; there will be a few changes to the sponsorship arrangement, and also a lower limit (36 foursomes) maximum attendance – make sure to get your foursomes registered and paid for as soon as the opportunity permits.

This month's (March) Meeting Speaker is from our own ASHRAE Region II – Joel Primeau from Ottawa is the ASHRAE Region II Student Activities RVC.

Joel will present "Selling Green 101; The HVAC Engineer as a Salesman", and the benefits of Integrated Building Design to owners and operators.

We will be having the meeting at the University of Western Ontario – at The Wave Restaurant and Bar (on the UWO campus), in order to provide a change of venue, and also to accommodate easier access to the meeting for our student membership.

We were successful this month in finalizing and electing a Student Board of Governors for the London ASHRAE Student Chapter at Western – something that we have been working towards for a number of years now.

I would like to commend the hard work of all the people involved who were instrumental in seeing this process through to completion. We look forward to seeing an increased participation, and visibility by the UWO student membership.

Don't forget the ASHRAE Satellite broadcast on April 22nd – we still need to finalize our local chapter plans if we are to host a local group function here in London. We will discuss this at the meeting on the 30th of March.

In April, we will be taking a Technical Tour the CASCO – London Facility – they have an interesting plant operation that includes a Co-Gen facility in-house with 3 gas turbines that produce 13 MW of electricity, as well as steam that is used in the production of corn syrup and other products.

We look forward to seeing everyone at the meeting this month – March 30th at the Wave Restaurant at the University of Western Ontario.

Eric Shaw

ASHRAE London Canada Chapter President

Upcoming Meetings & Events

Wed Apr 22/2009 IAQ Satellite Broadcast/Webcast Clean, Lean and Green, IAQ for Sustainable Buildings

Mon Apr 27/2009 Membership Night

Tour - CASCO INC, Green Valley Rd London with dinner at Four Points Sheraton Hotel (more details to follow)

Mon June 1/2009 Annual Golf Tournament





SIEMENS

 S14 Newbold Street

 London, Ontario

 N65 1K6 / Canada

 Cancount Executive

 Building Automation, Security,

 Integrated Building Technologies

Siemens Building Technologies, Ltd.



IRONROSS INC. (est. 1986) Manufacturers Agents for Industrial & Commercial Air Handling Products

FANS •COILS • AIR HANDLING UNITS • SILENCERS • ISOLATION • FILTERS • DAMPERS





E-MAIL: info@efi-ironross.com





http://LondonCanada.AshraeChapters.org Mon Mar 30/2009 Page 3

Mar 30/2009 Meeting Topic

Truly sustainable buildings can only be achieved when all disciplines are coordinated and pointed in the same direction. Validating the benefits of solutions against the impact on the total performance of the building is necessary throughout the entire design phase. Integrated Building Design or IBD is growing in popularity as builders and designers recognize that working in isolation has limited benefits, and true synergy is the only way to achieve affordable sustainability.

Mr. Primeau's presentation covers the basics of IBD as well as a description of the roles of the HVAC engineer, the HVAC supplier and mechanical trades in IBD. He'll also present concrete examples of successful integrated solutions

Speakers Bio

Joel Primeau is Director of Sustainable Design for GENIVAR. Based in Ottawa, he leads the efforts of his firm in the design of high performance, sustainable buildings. He graduated in mechanical engineering from the Royal Military College in Kingston, and after a brief career as an army engineer (in Winnipeg and Quebec City), he worked for over 15 years in the HVAC industry in consulting, facilities management and technical sales. He's a Past-President of the Ottawa Valley Chapter and he now holds the position of Regional Vice-Chair for Student Activities for Region II.

Joel's technical expertise has centered on energy efficiency and indoor air quality. Recently, he gravitated to the world of sustainability, LEED and Integrated Building Design. Joel was among the very first engineers to obtain ASHRAE's new High-performance Building Design Professional (HBDP) designation. He's currently developing an ASHRAE short course on IBD

Feb 23/2009 Meeting Summary

Joseph Kots, Project Manager from Johnson Controls discuss building controls and the newer wireless features that can be used. Joseph reviewed how the devices communicate and when they can be used to reduce wiring difficulties. There was also some discussion regarding the limitations and associated problems that could be encountered.



96 Meg Drive Tel: (519) 681-1977 London, Ontario Fax: (519)686-9324 N6E 3T7 Mobile: (519) 670-7720 email: daryl@somersep.com







Jim Bender, P.Eng. Contracting Sales #6 - 320 Neptune Cres. London, ON N6M 1A1 Tel: (519) 457-6700 Fax: (519) 457-8900

bender@htseng.com

Toll Free: (800) 341-3110









IAQ Satellite Broadcast/Webcast April 22, 2009, 1pm – 4pm EDT

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

Online registration for site coordinators and webcast viewers begins March 2nd at www.ashrae.org/iaqbroadcast. Registration for satellite viewers begins March 16th. Information about the program and speakers is available at www.ashrae.org/iaqbroadcast.

Three PDH credits may be granted to those who view the program and then complete the Participant Reaction Form on our webpage following the broadcast.

Please watch for updates via ASHRAE Insights and www.ashrae.org.

ASHRAE '09: Engineering Tomorrow....Today

ATLANTA – ASHRAE is moving right along in engineering tomorrow today through a proposed building energy labeling program and a proposed high-performance building standard, according to leaders at the Society's 2009 Winter Conference.

More than 2,800 people attended the conference, held Jan. 24-28, Chicago. Also taking place in conjunction with the meeting was the Air-Conditioning, Heating, Refrigerating Exposition, which attracted 54,000 registered visitors and exhibitor personnel. The Show ranks as the second largest AHR Expo, just behind the 2006 Show in Chicago, in terms of number of exhibiting companies (1,911).

Centered on the theme Sustainable Urban Design: Engineering Tomorrow...Today, the ASHRAE conference offered a technical program with more than 100 sessions, 15 educational courses and social events. The meeting also featured more than 600 meetings of technical, standards and standing committees, developing guidance for the future of the industry and ASHRAE. "Through activities such as building energy labeling, the Advanced Energy Design Guide series and our net-zero-energy conference, ASHRAE members really are engineering tomorrow...today," ASHRAE President Bill Harrison said. "Chicago and its sustainable skyline offered a great opportunity to witness application of the technology shared at ASHRAE's technical program, educational sessions and committee meetings."

A major announcement was ASHRAE's proposed building energy labeling program, which the Society expects to launch at the 2009 Annual Conference in Louisville, Ky. Uniform metrics are vital to making buildings more energy efficient, according to Ron Jarnagin, chair of the committee overseeing the program, who updated attendees.

The ASHRAE program will include a method for rating the energy performance of buildings covered by Standard 90.1; qualification criteria for raters and assessors; provision of both Asset and Operational ratings to cover both design and operations; and a process for approving alternative methods. For more information on the proposal, visit www.ashrae.org/energylabeling.

In addition, the newly expanded committee responsible for Standard 189.1P, Design of High-Performance Green Buildings Except Low-Rise Residential Buildings, held its first meeting in Chicago. The committee approved an aggressive work plan with a goal to release a public review draft this spring.

The committee has been expanded to 39 members after a recent call for members to broaden the variety of industries, designers and code officials participating.

It also was announced that more than 154,000 copies of the four Advanced Energy Design Guides are in circulation in 180 countries. These guides show how to reduce the energy consumption of buildings 30 percent beyond Standard 90.1.

Also at the conference, President Harrison presented his State-of-the-Society address, updating attendees on his theme, Maintain to Sustain. The speech can be read at www.ashrae.org/harrison.

"There is an elephant in the room but it seems that hardly anyone knows it's there," he said. "Those in the building industry see and recognize it for the monstrosity it is, but most people don't know that they're essentially avoiding a huge energy issue. Everywhere you look, there's talk of increased fuel efficiency for vehicles, alternative fuels and compact fluorescent light bulbs. These are admirable efforts, and I would never want to detract from those. But the elephant in the corner – our world's existing building stock – constitutes roughly 30 to 40 percent of our primary energy use, easily larger than either transportation or industry. It's time we all started focusing on it. "

Meeting highlights include the technical program, with its theme of Sustainable Urban Design, featuring more than 105 sessions. The most well-attended sessions dealt with Standard 189.1P, CO2 sensors and demand-controlled ventilation, building energy labeling, innovations in mechanical systems for high-rise buildings, commercial building re-tuning, lessons learned from solar technologies in recent times, air filtration for sustainable buildings, variable speed pump applications for energy savings, and building information modeling and performance analysis.

Also offered were the ASHRAE Learning Institute's four Professional Development Seminars and 11 short courses. The most popular courses dealt with exceeding Standard 90.1, chilled beams and proposed Standard 189.1P on high performance buildings. Top selling publications included Procedures for Commercial Building Energy Audits, ASHRAE GreenGuide: The Design, Construction and Operation of Sustainable Buildings, the Load Calculation Applications Manual and Standard 170-2008, Ventilation of Healthcare Facilities.

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.



ASHRAE LONDON CANADA CHAPTER #116

http://LondonCanada.AshraeChapters.org Mon Mar 30/2009 Page 5

ASHRAE Technology Awards Highlight Outstanding Building Projects

CHICAGO – Designers of systems for a community center, a school, an office building and a governmental building are recognized by ASHRAE for incorporating elements of innovative building design. Recipients of the ASHRAE Technology Awards were recognized at the Society's 2009 Winter Conference being held this week in Chicago. The recipients have applied ASHRAE standards for effective energy management and indoor air quality. "ASHRAE Technology Awards are awarded for innovative HVAC&R designs that provide superior energy, economic, air quality and environmental performance through application of new technologies, new design concepts or by applying existing technologies in unusual ways," Bert Phillips, chair of the judging panel, said. "Innovation involves risk for owners and designers, requiring designers to work outside their comfort zone. Through the Technology Awards, ASHRAE recognizes innovation that works, honors the innovators and shares their design concepts with the broader HVAC&R community." Following are summaries of the winning projects.

4200 St. Laurent Office Tower

Kenneth Sonmor, Ecovision Consulting, Montreal, Quebec, Canada, receives first place in the existing commercial buildings category for his retrofit of a 13-floor office tower, 4200 St. Laurent Office Tower, Montreal.

Sonmor made several energy-saving proposals related to energy measurement systems/direct digital controls, mechanical systems and electrical measures as part of a detailed energy audit. Among the most innovative measures was a heat recovery apparatus that preheats entering fresh air. The system is made up of two different heat recovery units – a patent-pending thermosiphon heat exchanger that uses an environmentally friendly refrigerant to transfer heat from the exhaust air into the fresh air supplied by the fresh air unit. The second unit transfers the heat of the warm water from the fan-coil condensers into the fresh air supplied by fresh air unit. The natural gas savings are estimated at 62 percent, with electrical savings estimated at 16 percent of original electrical consumption and a reduction of 700 tons of CO2. With estimated annual savings of around \$158,000, the project will pay itself back in a little over two years.

Centre Communautaire de Mistissini

Laurier Nichols, P.E., Dessau, Montreal, Quebec, Canada, receives first place in the new public assembly category for Centre Communautaire de Mistissini, Mistissini, Quebec, Canada.

The objective in building the community center was to design a building that would comply with sustainable development principles while providing high energy efficiency. The center houses an ice arena, which traditionally has high energy bills due to simultaneous heating and cooling load and high refrigeration needs. To reduce energy costs, Nichols selected an HVAC system comprised of heat pumps connected to a geothermal loop. Most arenas use chillers with standard condensers to produce and maintain the ice with extracted heat rejected through air condensers. In this project, rejected heat is reused as much as possible to meet the arena's heating load. The building reports an energy reduction of 62 percent using geothermal energy, heat recovery and other energy efficient equipment and strategies. The cost savings are some \$154,000 a year. Through use of a life-cycle cost approach, greenhouse gas emissions were reduced by 350 tons a year compared to an equivalent community center built to minimum requirements.

HVAC Renovations – George Washington Carver Elementary School

Thomas H. Durkin, P.E., Durkin and Villalta Partners Engineering, Indianapolis, Indiana, receives first place in the existing institutional buildings category for HVAC renovations at George Washington Carver Elementary School, Indianapolis. When the school was first built in 1935, an underground stream was inadvertently intercepted. The ground water was seen as a liability due to power outages that disabled sump pumps and flooded the boiler room. In 2005, the school system added cooling to the building and the ground water became an asset, used as a geothermal heating-source and cooling sink. The ground water serves as condenser cooling water for a central chiller when air conditioning operates. When heat is needed, water flow through the same central chiller is switched with the ground water going to the evaporator and the building loop on the condenser side. The system uses technologies proven to be very effective – the heat recovery chiller and the geothermal heating and cooling. The new system is cooling for less than half the cost of conventional equipment, with heating about one quarter of the cost of the cold system. Utility bills for 2007-08 with air conditioning were 16 percent less than utility bills for 2005-06 without air conditioning. When corrected for the cost of energy from 2005 to 2008, the savings are 33 percent.

Normand-Maurice Building

Jacques De Grace, Pageau Morel and Associates, Montreal, Quebec Canada, receives first place in the new institutional buildings category for the Normand-Maurice Building, Montreal.

In 2002, Public Works and Government Services Canada ordered construction of a federal multi-occupant building offering offices, classrooms, warehouses, and an indoor firing range for the Royal Canadian Mounted Police, the Canadian Navy and two federal departments. The intent was to create a green building prototype that would be at least 40 percent more efficient than building meeting the country's minimum energy code. To achieve these goals, the building features several innovative measures, including underfloor displacement ventilation for improved ventilation effectiveness, a cascade ventilation principle supplying outside air to occupied spaces before transferring to secondary spaces, radiant slabs for improved thermal comfort and energy efficiency, a geothermal heat exchanger to reduce energy consumption, and an innovative solid thermal energy storage system to reduce first costs of the geothermal heat exchanger. The results show 40 percent more outside air supplied to occupied spaces as compared to ASHRAE Standard 62.1-2004; 51 percent regulated energy cost reduction compared to the 1997 national building code; 600 metric tons in avoided CO2 emissions each year, and 31 percent reduction in potable water use. Renewable Energy Laboratory Science and Technology Facility, Golden, Colorado.

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.



UWO Engineering Students establish an ASHRAE Student Chapter

After two years of planning and preparation, an ASHRAE Chapter has been established at the University of Western Ontario. Under the supervision of Walid Altahan, Laboratory Manager and Professor of the HVAC courses, the new Chapter will strive to explore sustainable design and promote ASHRAE at the University.

Preliminary discussion about the Chapter began in the fall of 2007. In the spring of 2008, Walid and former Student Activities Director Jamie Kruspel attended a conference at the home of ASHRAE in Atlanta, Georgia. Through different activities run by the Young Engineers in ASHRAE (YEA), the conference helped inspire and develop the plans for the UWO Student Chapter. Initial presentations to engineering students by current Student Activities Director Ibrahim Semhat began in the fall of 2008 and the formal petition, signed by fourteen students and Chapter 116 President Eric Shaw, was completed and submitted in early march 2009.

The Student members have elected their Board.

Nour Ali, President Douglas Farough , President-Elect Jordan Foster, Vice-President A.T, Treasurer & Secretary

The goal of the chapter for the remainder of the current season will be to implement the bylaws provided by Society and to recruit new members at the University. This enthusiastic group will ensure the success of the Chapter in the new school year. Plans include the election of the new Board, recruitment of new members from incoming students and participation in the ASHRAE Student Design Project.

The creation of this chapter is a result of the hard of work of Walid, Ibrahim, Jamie, and of course the students. As part of the monthly meeting program, Chapter 116 will host a Student Night March 30, 2009 at the Wave at UWO. Please join us as we celebrate and recognize our new Student Members. Free parking is available in the Weldon Lot.

EMPLOYERS: POST INTERNSHIPS FOR FREE!

ASHRAE offers an internship program for ASHRAE student members and employers (seeking student interns from engineering, architectural, or construction management programs).

The purpose of the program is to place ASHRAE student members in industry internships. Employers can post their available internships, and student members can research and apply to the companies directly for positions meeting their search criteria.

Why wait? Post your available internships now and be a part of developing the future leaders of the HVAC&R industry!

You can make a difference in the future of an ASHRAE student member.

More information can be found on the ASHRAE Society web ite - Student Zone http://www.ashrae.org/students/page/955

Questions?

Call Tarra Holman, Assistant Manager of Student Activities at 678-539-1212.

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 www.ashrae.org/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



ASHRAE LONDON CANADA CHAPTER #116

http://LondonCanada.AshraeChapters.org Mon Feb Mar 30/2009 Page 7



Meeting - Mon MARCH 30/2009

THE WAVE UNIVERSITY COMMUNITY CENTRE - Upper Floor

UNIVERSITY OF WESTERN ONTARIO

parking has been arrange in the Weldon Lot see the attached map

5:15-Social 6:00-Dinner 7:15-Program