

### 2005 -2006

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# Capital Communiqué

# ASHRAE - AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS

http:/www.ashrae.ottawa.on.ca

OTTAWA VALLEY CHAPTER

e-mail:contact@ashrae.ottawa.on.ca

November 2005

### **EVENING PROGRAM**

DATE: Tuesday November 15th, 2005. Social: 18:00 Dinner: 18:30 Program: 20:00

at La Contessa Banquet Hall, 156 Cleopatra Drive, Nepean, K2G 5X2

THEME: Research Promotion

PROGRAM: Fuel Cell Technology -Recent Progress and Future Implications

Note - no Tech/Tour this month

SPEAKER:



**Dr. Mike Hamilton, Ph.D.**NRC Fuel Cell and Hydrogen
Program Director

OVERVIEW: The audio/visua

The audio/visual presentation will cover the basics of a fuel cell and its function. It will explore current research and advances made by Canadians in the global industry of green power. Fuel cells have long been marked as the next revolution in mobile power generation. The future applications of fuel cell technology will be discussed, including the residential and industrial application. The presentation will be focused on implications to the HVAC & construction industry and not the automotive industry.

SPEAKER BIO:

Dr. Mike Hamilton is the Director of the National Research Council's **Fuel Cell and Hydrogen Program**. The program taps the expertise of NRC researchers across the country to provide research and innovation support for the Canadian Fuel Cell and Hydrogen industry. Dr. Hamilton has a diverse background in IP protection, technology commercialization and research. Before joining the NRC in 1998, Dr. Hamilton was in research and development in the private sector. He received his Ph.D. in Chemical Engineering from the University Of Newcastle Upon Tyne, England.

### Menu

Mixed Green Salad Prime Rib of Beef au Jus Roasted Potatoes, Seasonal Vegetables Tiramisu, Coffee or Tea









# President's Message

by Jay Doshi

Your Board of Governors and Committee Chairs have worked hard to put together a great start to the Chapter year. Our thanks to all involved. October's Chapter meeting was a great success with over 90 people in attendance. As we are approaching the last meeting for 2005, we would like to remind you that the best is yet to come. Stay tuned for the events of 2006, starting in January with a Boiler Room Design Seminar and an interesting program on Heating Systems for Kyoto

November's meeting theme is **Research**. ASHRAE has developed a new research strategic plan which will guide ASHRAE research for the next five years. It centers on sustainability, which is defined as "the concept of maximizing the effectiveness of resource use while minimizing the impact of that use on the environment."

Why should you the members invest in ASHRAE Research Canada? ASHRAE has been conducting research since 1919 and is now supporting HVAC&R research worldwide. ASHRAE Research has an annual budget of \$3 million, which supports over 70 active projects at any given time. Not only is every dollar invested in ASHRAE Research Canada being re-invested in Canadian projects, but ASHRAE Research is also investing an additional \$3 million dollars in Canadian research projects.

We are excited to announce that our Regional Vice Chairmen for Research Jeff Clarke, and RVC for Student Activities Nicolas Lemire will be present at our November meeting. Please join me in welcoming them to our chapter.

Students are the future of our chapter and society, so November's meeting will partially focus on student activities and the role of students in our chapter. The Ottawa Valley Chapter is strong in the Student Activities area as we currently have student branches at Algonquin College, Queen's University and University of Ottawa. Let us take the opportunity to renew our efforts in encouraging student involvement by sponsoring a student to the chapter programs and advising them to join our society.

November's meeting focuses on new technologies to address our world energy needs. The Fuel Cell technology is the evolution of the future energy technology. Please join us in these exciting programs and grow professionally with ASHRAE. I look forward to seeing at the November meeting.

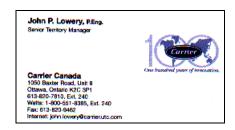
Thank you for your participation and support

In your service, Jay Doshi President 2005/2006 Ottawa Valley Chapter ASHRAE Tel: (613) 733-9781 ext 241

Fax: (613) 737-4985

e-mail: jay.doshi@siemens.com

TYPEWRITER is the longest word that can be made using the letters only on one row of the keyboard.









## **Theme - Research Promotion**

By Cathy Godin Research Promotion Committee Chair Past-President 2004-2005

It was a marketing nightmare – who was in that focus group anyway that decided that the handle "Resource Promotion" instead of "Research Promotion" was friendlier? I felt like I was in a new-Coke vs. Coca-Cola-Classic rerun. In any case, I am happy to report that we have returned the committee name to Research Promotion, and my mission this year is to fundraise within the Ottawa Valley Chapter membership and other interested parties to raise \$16,000 for the purpose of funding research projects.

This is an excellent investment for Region II and in particular the Ottawa Valley Chapter. As of September there are more than a half-million dollars in ASHRAE Research funded projects ongoing in eastern Canada and more than 50% of these are concentrated in our own chapter area. The details of these may be further investigated on the ASHRAE website <a href="https://www.ashrae.org">www.ashrae.org</a>, but I have also attached a recap of the current projects at the end of my message. This is 15X return on investment – not too shabby, almost as good as my GIC!

Your chapter executive has a long history of receiving the Full Circle award, which is granted to all chapters whose executive make personal Research contributions of \$100 or more. Check out the banners at the next meeting to see just how many we've received. I expect that we will once again see this type of leadership from the top-five. I will also have centre-pieces at each meeting recognizing the local investors – last month's centerpieces reflected 2004-2005 contributors – thank you all.

November's theme is Research Promotion; we will be honoured by the presence of Jeff Clarke, Regional Vice-Chair for Research Promotion. As our guest, Jeff will be assisting with awards to those 2004-2005 donors present. We hope to recognize at least half of the 2004-2005 donors, and this should be achievable due to the active participation of our membership.

Here are the research project recaps as promised:

### 1108-RP CABLE FIRE IN PLENUMS

April 1999 – August 2003 National Research Council Canada Principal Investigator, G.D. Lougheed TC 5.6, Control of Fire and Smoke

There is no question that the proliferation of computers and communication systems has resulted in significant increases in exposed cable in HVAC plenums. These exposed cables must result in some increased hazard to human life, but the extent is unknown. The public and ASHRAE members need to know the extent that this increased cable usage results in hazard to human life. This project will provide information that can be used as input for standards and codes to determine maximum quantities of exposed cable that can be safely allowed in plenums.

The objective of this research project is to evaluate the hazard to human life of computer and communication cable fires in return air plenums above ceilings and develop information that can be input to performance test standards and codes.

(cont...)

(...cont.)

### 1247-RP Balcony Spill Plumes

September 2002 – November 2004 National Research Council Canada Principal Investigator, G. Lougheed TC 5.6, Fire and Smoke Control

Atrium smoke management system designs increasingly call for consideration of balcony spill plumes. Because atria in North America can be much larger than those in the United Kingdom, there is no reason to believe that the balcony spill plume equation is applicable to such larger projects. This could lead to smoke control fans being undersized or oversized. While over-sizing the fans results in wasted money, under-sizing the fans results in system failure. As stated above, full-scale fire data is needed to evaluate Law's equation and to be a foundation for development of another equation for fires beneath the balcony.

The objective of this research project is to conduct full scale experiments of fires located in rooms opening onto balconies (Figure 1) and of fires beneath balconies (Figure 2) to determine the extent of applicability of the balcony spill plume equation and to provide data for the development of new correlations.

### 1289-RP

### DEVELOP AND VERIFY METHODS FOR DETERMINING ICE SHEET COOLING LOADS

April 2004 – April 2006 CANMET Principal Investigator, Roberto Sunye TC 10.2, Automatic Icemaking Plants and Skating Rinks

The information available on ice sheet refrigeration loads and operational costs in the 2002 ASHRAE Refrigeration Handbook is based on data from the 1970s/80s and rule-of-thumb approaches that need to be verified and upgraded. A verified numerical model is needed to update the existing data, tables and charts in the ASHRAE Refrigeration Handbook. The upgraded data is needed by HVAC&R engineers, designers and contractors for designing, specifying and installing ice sheets, comfort and ventilation systems and facility operational guidelines. Furthermore, the model could be used to perform sensitivity analyses of various design and operating strategies, which would further enhance the Refrigeration Handbook and provide additional information for arena owner/operators. The objective of this project is to develop and validate a two-dimensional transient numerical model capable of simulating ice sheet heat transfer with transient operating conditions, for several typical floor and cooling system designs, and with the capability to predict average daily ice sheet cooling loads.

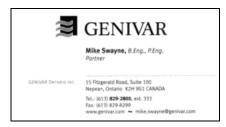
### 1300-RP

### Maximum Velocity of Make-up Air for Smoke Management Systems in Atria and Other Large Spaces

April 2004 – April 2006 Carleton University Principal Investigator, George Hadjisphocleous TC 5.6, Control of Fire and Smoke

Conduct CFD modeling to evaluate the existing criterion of make-up air velocity and to gain an understanding of the mechanisms of smoke flow in atria when an air jet impacts a smoke plume to determine if the 200 fpm (1 m/s) make-up air velocity limit is valid, or whether other values or methods are appropriate. This information will be used to revise Chapter 52 of the ASHRAE Handbook.

There are only four words in the English language which end in "dous": tremendous, horrendous, stupendous, and hazardous









What You Missed October 2005 Chapter Meeting by Glenn MacLean President-Elect

The theme of the October meeting was TEGA/Student Activities and was preceded by a tour of the newly completed Bell Sensplex. This facility is situated in Kanata just down the road from the Corel Centre. Members and students were treated to a tour of the 4 icepad, and one soccer field facility. With state of the art design and energy recovery systems this truly will be a community showpiece for some time to come. Stephen Coghlan of Algonquin College summarized the tour for those of us who could not attend.

Several other students from Algonquin, Carleton and University of Ottawa were able to join us for the meeting back at La Contessa. Chris Fudge updated the chapter on student activities to date, and challenged the students to think about planning to attend the Chicago ASHRAE meeting in January. The chapter and society are willing to contribute to helping the students with costs, but the desire and the planning will have to come from the students.

Tim Mah also gave us an update on TEGA's activities and their plans to increase interaction between PWGSC and ASHRAE, expand our local library, and submit several reviews of the various chapters in the ASHRAE Handbooks. Niraj requested greater participation from the chapter members to help TEGA achieve their goals.

The evening program was centered around the mechanical systems used at the Bell Sensplex. In particular, the harvesting of waste energy from the ice plant and reutilization of this energy in the various other systems in the building - from snow melting to pre-heating of domestic hot water and pre-heating air in the three rooftop make up air systems. Hugo Barabe of CIMCO and Marc Chiasson of Genivar described the various systems, how they interacted and some of philosophy that led to the largest installation of pre-engineered systems of this type.



The Bell Sensplex



Chapter members about to steal a rooftop unit



One of Four Ice Pads



Marc Chiasson makes a point









Table-Top Display

by Gary Hartmann Table-Top Committee Chair Governor and all-round Mover and Shaker



**Trane,** a leading global provider of environmentally-responsible and energy-efficient HVAC systems, sophisticated building controls, services, parts, and financial solutions, will be displaying their indoor and outdoor custom air handling product line manufactured by **Ingenia**.

Trane continues to partner with some of the most technologically advanced manufacturers on the market.

Key features of Ingenia Custom Air Handlers include:

- Automated sheet metal process
- Environmentally friendly electrostatic powder painting system
- Two or four inch thick wall cabinets maximizing service life
- Ultra air-tight cabinet technology
- Sturdy panel assembly

Please note that we have openings for Table-Top Displays at the February through May meetings next year.



**Business Card Ads** 

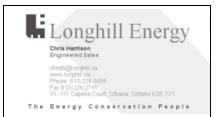
by Rod Lancefield

You can support your chapter and promote your business by placing your business card in the Capital Communiqué. It will appear in the electronic and printed version as well as on the Chapter website.

Cost is \$225.00 for the year; contact Rod Lancefield, rodl@htseng.com, 728-7400



(your card here!)





P.A.O.E. by Glenn MacLean President-Elect P.A.O.E. Committee Chair

Presidential Award Of Excellence is the point system devised by ASHRAE Society to foster stronger involvement of its members at the chapter levels. There are points awarded for planning programs for the year, having measurable goals set for each of the categories, member and student participation in programs and events, and numerous other areas. The overall goal, however, is to increase awareness and involvement in ASHRAE. Starting in January I will be giving updates on our chapter's progress and highlighting some of the activities and programs members can get involved with - why they're important to ASHRAE and how they help our chapter earn PAOE points. Below is a table listing the points accumulated in Region II to date. Several of our categories have not been updated yet (activities not reported) - something we shall have to remedy prior to the January Communiqué.

REGION II 2005-2006 Presidential Award of Excellence										
Chapter #	Chapter Name	Chapter Members	Membership Promotion Points	Student Activities Points	Research Promotion Points	History Points	Chapter Operations Points	Chapter Technology Transfer Points	Chapter PAOE Point Totals	
13	Quebec	195	0	0	0	0	125	65	190	
14	Montreal	402	445	750	0	275	602	450	2522	
15	Ottawa Valley	328	0	0	0	0	200	350	550	
16	Toronto	866	0	1475	0	0	75	150	1700	
37	Hamilton	176	0	0	0	0	0	395	395	
100	Halifax	123	0	0	0	0	0	0	0	
116	London	96	0	230	0	0	160	150	540	
117	NB/PEI	104	0	0	0	0	125	320	445	
141	Windsor	55	0	530	0	0	0	100	630	

The words 'racecar,' 'kayak' and 'level' are the same whether they are read left to right or right to left (palindromes).









# Student Committee Update

By Chris Fudge Student Activities Committee Chair

We have an active committee this year. Imtee Baksh, Aaron Dobson, and Helena Jonas are currently leading in activities at Carleton University, Algonquin College and Ottawa University. In addition to our committee we have seen several members of the chapter engaging various institutions in our region. Glenn MacLean, Patrick St. Onge, Jason Alexander and Jay Doshi have all been directly involved in making sure that student activities is a great committee to be involved with.

In our region we are working with three of the major educational institutions:

Algonquin College has been an active chapter in the past. This year Algonquin has made a commitment to getting involved in ASHRAE. Franklin Snyder is our student advisor for Algonquin and has been generously donating personal and class time to our committee. We are planning a technical tour as well as one to two lectures with Algonquin this semester. We are also planning on taking some students from Algonquin to the ASHRAE winter meeting in Chicago and have the full support of Franklin Snyder in this endeavour. The student activities committee has made its first presentation to the students on what ASHRAE is and how students are key to its success. This presentation was done by Imtee Baksh; in attendance from our chapter were Aaron Dobson, Glenn MacLean, Jay Doshi and Patrick St.Onge.

Carleton University has been very active over the past few years and Imtee Baksh has continued to develop this relationship. Dr. Junjie Gu, our student advisor for Carleton University, has been a catalyst for getting students involved in ASHRAE. Dr. Gu has invested large amounts of personal and lecture time to our committee. The student committee has presented to two groups of students so far this year with plans for an additional guest lecture before the end of this semester. In the second semester Carleton University is planning on sending students to the ASHRAE winter meeting in Chicago with the help of our local chapter. In addition Carleton University, through student activities, is working on incorporating into their program the ASHRAE design competition. With the normal schedule of guest lectures and our local chapter meeting *student night*, this is a very ambitious level of involvement. We are sure we will find success with the continued support of our chapter president, executive and board of governors. And, let's not forget our regular members who are constantly pitching in.

**Ottawa University** has been a very involved chapter in the past, but have recently been inactive. Dr. Bertrand Jodoin has taken on the challenge of student advisor this year for Ottawa University. We are planning on presenting to the students before our next chapter meeting in November. In the upcoming semester our goal is to have Ottawa University participating in chapter activities and host one to two guest lectures from our chapter members.

Thanks again to the chapter for your support, and please continue to make our students feel welcome.

Cheers!

<sup>&</sup>quot;Stewardesses" is the longest word typed with only the left hand, and "lollipop" with your right.



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**History**By Joel Primeau
Chapter Historian
Past-President 1999-2000

Hear ye! Hear ye! Hear ye!

My name is Joel Primeau and I'm history (as far as ASHRAE Ottawa is concerned)...

In an effort to promote our chapter's rich past (and obtain PAOE points), I will be writing the biography of a few outstanding corporations and a few remarkable individuals.

The Ottawa Valley chapter of ASHRAE is a beacon, a monument, a lightning rod and the envy of Region II for its vitality, its leadership and its history. This recurring dream that we enjoy every 3<sup>rd</sup> Tuesday evening is not the result of hard-to-digest food and a bad mattress! NO! It is the result of years of dedicated service from some of the best people in our industry. Leaders all! With Olympian endurance, the Ottawa ASHRAE pioneers soldiered through adversity and made our chapter what it is today. "To you from flailing hands we pass the torch. Be yours to hold it high." Our founders toiled diligently to start up this chapter, and even though we may now question their motives to get together with a bunch of buddies and drink and play cards... we cannot ignore their tenacity and dedication towards the advancement of HVAC science.

I want to honour our leaders past and present with a fitting biography and I will be tapping some of you on the shoulder for suggestions and information. I already have a list of individuals and corporations that deserve recognition through primo prose.

Write me with your ideas and suggestions... I will gladly accept the help of anyone wishing to contribute to this enterprise.

Joel Primeau, P.Eng. ASHRAE Ottawa Historian joelp@arborus.ca



The AHR Expo takes place in Chicago, January 23-25, 2006. It promises to be a very successful and entertaining event, and our Chapter plans to sponsor Student participation.

You can link to further details at this URL:

http://www.ahrexpo.com/









**New Members** by Christine Kemp Membership Committee Chair

ASHRAE Ottawa Valley Chapter is pleased to welcome **Kevin Korecki** as a new member.

Also, please welcome **Chrystelle Thibault Boyer** as a new student member and we are happy to have **Helena Jonas** transfer into our chapter.

Speaking of New Members, we are pleased to announce that Robert Lefebvre has a new baby boy: Cameron Albert Lefebvre was born on Sunday, October 16th at 8:05 AM. Cameron has all ten fingers and ten toes and is doing well. Mom and Dad are somewhat sleep deprived, but otherwise fine.

Also, our congratulations go out to our esteemed President Jay and his wife, new parents of a baby boy Neel Doshi.

Well done!



**Browsing the Safer Way** by Rod Potter Editor, Governor, Gopher and Webmaster

The first thing I will do here is to list this URL, which you should visit and study with relish:

http://www.techsupportalert.com/best 46 free utilities.htm

This URL was sent to me in March of this year and a visit to this site has made a significant difference to my PC experience. Let's face it, we do tend to sit in front of the screen for most of our waking hours. On this site you will see listed a whole whack of FREE utilities that will make your PC life safer and more productive.

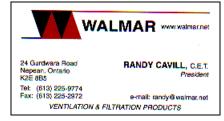
The first thing I installed was **Explorer 2**, listed as the *best free file manager*. Excellent, it blows away the standard Microsoft Windows Explorer, with multiple panes for file management, and lots of other goodies.

Recently I installed **Mozilla Firefox**, listed as the *best free web browser*. It is a vast improvement over the standard Microsoft Internet Explorer, because it is not nearly as vulnerable to Spy Ware and Virus attacks, it is a multiple-pane browser, and as stated on the above site, it is simply much faster to surf with. I love it.

(cont...)







(...cont.)

For Anti-Virus Protection, look no further than **AVG Anti-Virus**, listed as the *best free anti-virus software*. I in fact have the full Norton Suite installed on my PC, mainly because I am so used to it, but most of us know full well that the Norton Suite is a PIG on resources. Three of our other Computers are running AVG Anti-Virus and it is superb, complete with automatic updates, the works.

The best free Adware/Spyware/Scumware Remover is listed as Microsoft's Antispyware Program, which I have had running for about six months. This program does a fine job and greets me each morning with a "no threats found" message, which either means it is doing its job, or it's not. I still occasionally run SpyBot Search & Destroy, just to be on the safe side.

For some time I have wanted to change my Email Client, mainly because Outlook Express, much like other Microsoft products, is so vulnerable to attack. I did install **Mozilla Thunderbird** a while back, but the import process for my existing mail appeared to be a bit buggy, so in the end I removed the application. There is no doubt that this would be the way to go if you were able to start anew with your Email accounts.

A final word on security: make sure you set your browser to reject cookies – unless you specifically allow a site to use them. There is really no good reason why a website would want to write something to YOUR hard-drive – *be diligent*.



"Oh no. An abacus virus!"

No word in the English language rhymes with month, orange, silver, or purple.







### **Solution to October's Crossword**

1p A	T	5T H N M E N T J O H N B U C K K H R C O O P H E D R A L R G U N T T E R
22		N
Created with EclipseCrossword — v		H E R

There are two words in the English language that have all five vowels in order: "abstemious" and "facetious."

\*\*\* end of Communiqué \*\*\*



(your card here!)

