

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

London, Canada Chapter No.116 (web site: LondonCanada.AshraeChapters.org)

SEPTEMBER 2003

Board of Governors & Committee Chairs

President
Tom Pollard
Ph (519) 685-2570
tpollard@exculink.com

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Ph (519) 879-8660
derek.vakaras@chorley.com

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scott@somersep.com

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Joe@smylecrow.com

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Scott Edmunds
Ph (519) 667-4108
sedmunds@uniongas.com

Membership
Jason Vandenbergh
Ph (905) 545-5479
Jasonv@aquatech.ws

TEGA
Eric Shaw
Ph (519) 984-0022
eshaw@attcanada.ca

Research
Daryl Somers
Ph (519) 652-1977
daryl@somersep.com

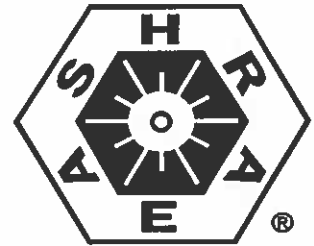
Historian
John Kelly
Ph (519) 453-3010
jkelly2@trane.com

Newsletter
Scott Turner
Ph (519) 652-1977
scott@somersep.com

Golf Tournament
Hugh Palsler
Ph (519) 471-9382
palslerent@primus.ca

Topic: Optimizing Laboratory Ventilation Using Computational Fluid Dynamics

Speaker: Dr. Duncan Phillips,
Rowan Williams Davies & Irwin Inc.
Consulting Engineers



The design of safe and cost effective laboratory facilities frequently relies on a best practices approach. However, in some circumstances, complications arise for which additional analyses are required. In addition, with an increasing concern about the impact of the building and the activities within it on the health of the occupants and environment, understanding the performance of the mechanical systems within the occupied space is becoming more important.

Computational fluid dynamics (CFD) is one approach to assessing the performance of a laboratory space. CFD is the numerical solution of the standard equations of fluid flow. Typical results of a CFD analysis include air speeds and temperatures in the simulated space. These results can be used to assess and optimize ventilation efficiency, human thermal comfort, the effects of reduced energy consumption and challenges to fume hood containment.

Tonight's presentation will provide a brief overview of the CFD process as it applies to Lab design. A number of case studies will be presented which highlight how CFD analyses generated information that was used to assess and improve the design within the laboratory.

Duncan Phillips is a CFD and Industrial Ventilation Specialist with RWDI. As part of RWDI's Computational Fluid Dynamics (CFD) team, he is responsible for solving industrial process and indoor environmental problems by analyzing fluid flow, and heat and mass transfer characteristics. Dr. Phillips joined RWDI in 2000 after completing his Ph.D. in Mechanical Engineering in 1998. He is a member of a number of Technical Committees at ASHRAE, and an Associate of RWDI since 2001.

**Location: The Lamplighter Inn
591 Wellington Rd., S.**

BUFFET MENU

Meal Cost \$35.00, Or Meal Plan \$160.00

Students \$15.00

Monday SEPTEMBER-29-2003

Social—5:15 pm

Dinner—6:00

Program—7:15 (Approx.)

President's Message

It's the start of another season for ASHRAE London with plans underway for the upcoming year. Ideas that we are working on include another social event at the John Labatt Centre for a London Knights hockey game.

Over the summer, 7 members of the ASHRAE Board of Governors attended the Chapter Regional Conference (CRC) in Quebec. The ASHRAE La Ville de Quebec Chapter hosted representatives from each of the 9 Region II Chapters, as well as Mr Richard Rooley - Society President, Mr Darryl Boyce Society Vice President, and Mr Jean Bundock - Region II Director And Regional Chair. President Rooley discussed how ASHRAE is changing. He commented that our work in HVAC & R rates in the top 10 of importance on this planet. Our standards are used worldwide. Our membership is 85% North American with the majority of members in the age group of 40 to 55. We need to grow in the 20 to 40 group. The new Affiliate grade of membership is designed to help get younger members into the Society. He then elaborated about the "Boston Box". He went on to stress the importance of HVAC maintenance, an area very poorly addressed at this time. He talked about the evolution in technology - in 1975, slide rules, today, computers, 2020 - what will it be?

At the CRC, the London Chapter was recognized for significant improvement in membership, attendance, research promotion, education, chapter programs, and technology during the previous year. In particular, members of the London Chapter contributed \$8,126.00 to ASHRAE Research. It should be noted that all money collected in Canada is used within HVAC Research topics in Canada. Currently, there are projects at Natural Research Council of Canada, Vibro-Acoustics, Stantech Consulting, Ecotope, and Univ of Alberta.

ASHRAE Society has also been updating the web site at WWW.ASHRAE.ORG. More and more communications from ASHRAE will be posted on the web site before being within the ASHRAE Journal and Insights publications. You can subscribe to receive a weekly E-Newsletter under Membership Resources on the WWW.ASHRAE.ORG web site.

I would also like to thank the contributors to our newsletter who purchase ads last year. These funds help in chapter operations:

- Erie Sheet Metal Inc
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See you at the meeting.

Tom Pollard, P.Eng
Chapter President
ASHRAE London Canada (Chapter #116)

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District Manager

Trane Canada
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London, Ont N5Y 4L2
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Tech Notes

Air-intake contamination
ASHRAE is proposing to set new minimum separation distance requirements to ensure that outdoor air on buildings intakes are not close to areas such as loading docks and combustion vents. When there is not enough distance between intakes and exhausts, the air entering a building can become contaminated. Addendum "aa" to ANSI/ASHRAE Standard 62-2001 has been issued for review and public comment. For more details, visit www.ashrae.org

October 27th, 2003 Meeting Preview

Speaker: Stephen Carpenter, P.Eng., Enermodal Engineering
Topic: Sustainable Building Design and the LEED Green Building Rating System

The traditional mechanical engineer's role in building design is to ensure that the systems meet the basic requirements for heating, cooling and ventilation. Increasing concern about environmental issues is now requiring that buildings be more sustainable including high levels of energy efficiency, superior indoor environment and minimum environmental impact. The advent of the LEED green building rating system means that designers can now quantify the sustainability of their designs. LEED is becoming widely used across North America and is a requirement for many federal government buildings. Mr. Carpenter will provide an overview of the LEED rating system and examples of sustainable building designs.

Stephen Carpenter is president of Enermodal Engineering of Kitchener, ON and an active ASHRAE member. Enermodal specializes in energy efficient and sustainable building design and has won two ASHRAE Technology Awards for their buildings. Mr. Carpenter was the first LEED Accredited Professional in Ontario and is providing sustainability consulting services on over \$1 Billion in building projects. He is also a contributing author to the recently approved ASHRAE Green Guide to Buildings.

November 24th, 2003 Meeting Preview


Speaker: Bill McCartney, Isotherm Engineering Ltd.
Topic: The Commissioning Process

The commissioning process was first developed at an ASHRAE forum over 20 years ago and was outlined in ASHRAE Guideline-1 1989. The guideline was revised and published again in 1996. We are now going through the revision process again and working with ASHRAE to create Guideline-0 Total Building Commissioning, of which HVAC commissioning is a subsection. This discussion will focus on Guideline-1 1996 and the commissioning process as it pertains to the HVAC construction industry. We will follow through the three basic sections – Documentation, Verification, and Technology Transfer.

Bill McCartney is a Partner at Isotherm Engineering in Mississauga. A former London ASHRAE chapter member, Bill has been a member of ASHRAE Technical Committee TC7.9 Building Commissioning and chaired TC7.3 Operating and Maintenance Management. Isotherm Engineering offers consulting services in investigation, reporting, design, commissioning and service of HVAC systems.

Membership:

This month is Student Night, the chapter would like to encourage all students who are interested to come out to the meeting September the 29th @ 6:00 pm at The Lamplighter Inn on Wellington St., the chapter would like to see all members who attend the meeting make the students feel welcome by introducing themselves sometime through out the night or invite some of the students to have dinner at your table. For those students who plan on joining ASHRAE there is only a \$8.00 fee per year as a student, which also ables you to buy ASHRAE handbooks for only \$39.00 any time during their student membership. The following is list of all chapters in region two and the numbers of current members




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Membership Cont'd

The following is list of all chapters in region two and the numbers of current members.

Quebec 150 members & 62 students
 Montreal 354 members & 118 students
 Ottawa Valley 314 members & 11 students
 Toronto 819 members & 49 students
 Hamilton 154 members & 5 students

Halifax 108 members & 6 students
 London 90 members & 32 students
 NB / PEI 87 members & 11 students
 Windsor 60 members & 15 students

October Meeting - " Membership Night" the chapter would like to see members who plan on attending bring a guest with them, so they can see what potential ASHARE may have for them to become a member.

ASHRAE London Chapter Program 2003/2004

Date	Topic	Speaker	Organization	Tech Session	Table Top
Monday Sept. 29, 2003	Optimizing Lab Ventilation Using CFD	Dr. Duncan Phillips	Rowan, Williams, Davies & Irwin Inc. Consulting Engineers	-	-
Monday Oct. 27, 2003	Sustainable Bldg. Design and the LEED Green Bldg. Rating System	Stephen Carpenter, P.Eng.	Enermodal Engineering	-	-
Monday Nov. 24, 2003	The Commissioning Process	Bill McCartney	Isotherm Engineering Ltd	-	-
Dec - No Meeting					
Monday Jan. 19, 2004					
Monday Feb. 23, 2004					
Monday Mar. 29, 2004					
Monday Apr. 26, 2004					
				-	-
June 7, 2004	Golf Tournament / Membership Promotion				





ASHRAE ° London Chapter

2003-2004

London Chapter Rates

Chapter Meal Plan (must be a society member)	\$160.00
(after October 31/2003 = \$175.00)	
Guest (non-Society member)	\$35.00/meal
Student	\$15.00/meal
Table Top Display	\$100.00
Name Tags	\$7.00
Corporate Ad in Newsletter	\$100.00/year
(Please attach business card sample)	

Please **Print** clearly

- this is new/corrected information
- this is the same as last year

Member's name _____

Business/Organization Name _____

Street _____

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Phone _____ Fax _____

E-Mail (newsletter and meeting notices will be sent by email) _____

Please bring form to a meeting or mail to:

Smylie & Crow Associates Inc.
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Please return this completed form with your registration.
Receipts will be issued at each monthly meeting.

