



# Airways

**Hamilton Chapter No. 037**

<http://www.vaxxine.com/ashrae/>

American Society of Heating, Refrigeration and Air Conditioning Engineers

Volume 50, No. 3

**Our 50th Year**

November 2008

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Tuesday, November 11, 2008

## **Hydrolyser™ Hybrid Energy Storage System**

Jim Fonger, President and CEO of H2Green Energy Corporation and Dr. Jim Cotton, Associate Professor- Department of Mechanical Engineering at McMaster University, will introduce the Hydrolyser™, a Megawatt scale hybrid energy storage system now under development at the University of Toronto and McMaster University.

Research is now being conducted at McMaster University to identify and quantify the opportunities of utilizing Thermal Capture and Storage to increase the overall efficiencies of the system. The implications of integrating the Hydrolyser™ into existing and future ICI HVAC systems will also be reviewed. H2Green and McMaster will be applying for an unsolicited ASHRAE Research grant this Fall to assist in next phase Thermal system R& D.

This is a great opportunity to see where our Research dollars go . . . especially considering it is within our local ASHRAE Hamilton Chapter.

### Feature Speakers

**Jim Fonger, President & CEO**  
H2Green Energy Corporation

**Dr. Jim Cotton, Ph.D, P.Eng., Associate Professor**  
Department of Mechanical Engineering,  
McMaster University

**Royal Hamilton Yacht Club**  
**North End of McNab, On Hamilton Harbour**

**5:00 pm – Social Hour**

**6:00 pm – Dinner**

**7:00 pm – Feature Speaker**

**Dinner/Feature Speaker**

Chapter Members - \$30.00 • Guests - \$40.00 • Students - \$15.00 • Meal Plan - \$150.00

## Feature Speaker Bios



**Jim Fonger** is co-founder, President and CEO of H2Green Energy Corporation. H2Green, in conjunction with the University of Toronto and McMaster University, is developing the Hydrolyser™ a novel mega-watt scale electrical energy storage and mediation system that uses a hybrid mix of energy storage

and heat recovery technologies.

Prior to re-focusing his career and investment initiatives into the sustainable energy sector in the fall of 2006, Jim invested in and operated businesses in the high-tech and telecommunications fields and was co-founder of Telmetrics Inc.

With a degree in Economics from York University, Jim is also a director of Windy Hills Caledon Renewable Energy, a community based 10 megawatt wind farm project located in north-west Caledon and also plays an active role in the Caledon Chamber of Commerce on the policy committee, focusing on policy development that will foster economic growth of green energy technologies and projects within Caledon.



**Dr. Jim Cotton, Ph.D, P. Eng.** is an Associate Professor in the Department of Mechanical Engineering at McMaster University. Jim's research interests centre around the thermo-fluid sciences directly related to Thermal Energy Conversion and Management. He is currently developing a research program around Conservation and

Demand/Supply Management and Integration of Sustainable Energy Sources to determine a "Best Mix Approach" to energy generation. His research programs include both experimental and computational investigations of heat transfer, thermodynamics and fluid dynamics and topics address fundamental issues in the thermal sciences as well as integrated technologies for real life thermal management problems.

During his time in industry (Dana Corp. - until, June 2007), the main focus of Jim's research activities

included automotive power plant and fuel cell thermal system management system design and emission control. His current interests leverage his industry experience however the focus has shifted towards the broader focus of technologies for efficient energy conversion and utilization which aim to meet the urgent challenge of a sustainable energy supply.

Jim's research activities focus on strategic technologies involving both innovations in emerging technologies and improvements to existing ones. Technical areas spanned by his research include: thermo-hydraulics of power systems; energy efficiency in a wide range of systems, including HVAC, refrigeration and waste heat recovery systems; microelectronics thermal management; energy mediation and storage thermal management and system design, modeling and optimization; the development of a 'smart' electrohydrodynamic heat exchanger.

## Upcoming Chapter Meetings

**Tuesday, Nov. 18/08 (All Day/Special Seminar)**  
**Theme: Commissioning**

The ASHRAE Hamilton Chapter is holding an all day seminar on **The Commissioning Process for New and Existing Buildings**. The seminar will be lead by Bill McCartney, ASHRAE Hamilton Chapter member.

Additional details and a registration form are attached.

**Monday, Dec. 1/08 (Not 2nd Tuesday)**  
**Theme: Historical**

**Suzy Podrebarac**, Multi-Store Manager of Colio Estate Wines will join us for an exclusive informational food and wine pairing dinner/tasting event for members and spouses to learn about wine selections for various food combinations. More information is included in this month's *Airways*.

## Upcoming Events of Interest

### **PM Expo**

December 3 – 5, 2008  
Metro Toronto Convention Centre  
[www.pmexpo.com](http://www.pmexpo.com)

### **ASHRAE Winter Meeting** **(including AHR Expo)**

January 24 – 28, 2009  
Chicago, IL  
[www.ashrae.org](http://www.ashrae.org)  
(Click on Meetings & Events)  
or [www.ahrexpo.com](http://www.ahrexpo.com)

## Special Event Food & Wine Pairing

Please join us for a food and wine pairing event to be held at 7:30 p.m. on **Monday, December 1, 2008** at the **Purple Pear** on Barton Street in Hamilton – a fine dining establishment familiar to many local ASHRAE members.

Wines from Colio Estate Winery, one of the largest wine makers in Ontario, will be featured. **Suzu Podrebarac**, Multi-Store Manager for Colio will be the guest speaker.

The Purple Pear's culinary team will prepare a special menu to compliment the wines from the Lake Erie North Shore's award winning winery.

Come share in a fabulous evening dedicated to the enjoyment of great wine, wonderful food and an enlightened discussion on the many aspects of food and wine pairing.

The cost will be **\$50.00 per person**. Advance reservations will be required. Note that other ASHRAE Chapters holding similar events have had to limit attendance – so reserve early to ensure your spot because we also have a limit of 70 people.

Please e-mail George Menzies at [gmenzies@allstream.net](mailto:gmenzies@allstream.net) to reserve your spot.

*Submitted by George Menzies, P. Eng., Historian 08/09*

## "Gold Cards"

### Want to invite someone to an ASHRAE Hamilton Chapter meeting?

"Gold Cards" are available at a cost of \$150.00 for a package of four (4) cards. These cards can be handed out to customers or associates and are the equivalent of a "guest" registration for a Chapter meeting.

If interested, please speak to an executive member.

*Allan Antcliffe, P. Eng.,  
Homepage and Airways Editor 08/09*

## ASHRAE RESEARCH

October is Research Promotion Donor Appreciation Month!

Following is a list of ASHRAE Hamilton Chapter donors that have already received their 2007–2008 commemorative coins, plaques and certificates as "\$500 and less" donors:

### Donor / Contact Name

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"\$500 plus" donors that will receive their appreciation awards include Philip Doyle Manufacturing, Neeland's Refrigeration and National/KeepRite Refrigeration.

*Submitted by David Hills, A.Sc.T.,  
Research Chair 08/09*



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## ASHRAE Returns to Chicago for Winter Conference and AHR EXPO



Chicago, with one of the most recognizable skylines in the United States, has long-standing status as a livable urban center. That the city has stood the test of time makes it the perfect backdrop for this year's ASHRAE Winter Conference theme: *Sustainable Urban Design: Engineering Tomorrow...Today.*

The Palmer House Hilton will once again host ASHRAE January 24 – 28, with the ASHRAE co-sponsored AHR Expo taking place Jan. 26-28 at

McCormick Place. The conference promises to be a great way to kick off the new year, with opportunities to interact with colleagues, learn technical information, and hear Keynote Speaker Chris Luebke of Arup speak on sustainability and thoughtful design and Technical Plenary speaker Adrian Bejan, Ph.D., explain technical evolution through “constructal theory” which he says can predict how everything flows through time and space.

The technical program highlights the conference theme and will feature presentations on energy conservation, indoor environmental quality, sustainability efforts and more that will help you earn your PDHs. Seeking to create additional value for Expo and Conference attendees, ASHRAE is launching “Wednesday Welcome,” at which all ASHRAE technical program sessions on Jan. 28 take place at McCormick Place. The “Wednesday Welcome” includes 18 hands-on, applications-type programs, held from 9 a.m. to 1:30 p.m., leaving the afternoon open to tour the Expo with more than 1,850 exhibits covering a world of equipment, systems, components and technology for the building industry. Admission to the “Wednesday Welcome” is

included with your full ASHRAE Winter Conference registration or you can purchase a ticket for the full day for \$99.

You can also earn PDHs and CEUs at Professional Development Seminars and Short Courses brought to you by the ASHRAE Learning Institute.

Networking opportunities and chances to see Chicago are plentiful at the ASHRAE Winter Conference. Meet with old friends at the Welcome Party, Presidents Luncheon and Member's Night Out. Technical tours of the city take you to the Intercontinental Hotel and The Art Institute of Chicago and you can see mansions and temples of the city, or take a cooking class on one of the general tours.

For complete, updated information and to register for the ASHRAE Winter Conference, go online to [www.ashrae.org/chicago](http://www.ashrae.org/chicago). Visit [www.ahrexpo.com](http://www.ahrexpo.com) to learn more about the AHR EXPO.

### ASHRAE News Releases

#### 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.

#### 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.

#### AFMA, ASHRAE Collaborate on Energy Efficiency Issues

ATLANTA – With buildings accounting for 40 percent of primary energy use in developed nations, it is becoming increasingly important to find ways to build and operate them in an energy efficient manner. In recognition of this, ASHRAE and AFMA are entering into an agreement that increases cooperation between the two groups.

#### ASHRAE Publishes Residential IAQ Guideline

ATLANTA – A new residential ventilation and indoor air quality (IAQ) guideline is now available from ASHRAE.

**Click anywhere to go to the  
ASHRAE Press Release web page**

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Wm. J. McCartney

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## 2008 – 2009 Meeting Schedule

This year's meeting schedule is summarized below. Except for some special events, all meetings will be held at the Royal Hamilton Yacht Club, at the north end of McNab St., on the Hamilton Harbour (If you need a map, visit our web site). New products and/or services may be presented informally via a "technical session" or a "table top demonstration" prior to dinner. After dinner, the main topic of the evening is presented by the "feature speaker". If you are interested in presenting a technical session, booking table top space to promote your product and/or service or, if you have a suggestion for a feature subject and/or speaker, please contact Terry Fowler (Programs Chair). There is a charge of \$75.00 for "table top demonstration" space and this includes a business card ad for two months.

<b>ASHRAE Hamilton Chapter Program Activity</b>			
Date	Theme	Technical Session Table Top Demonstration	Feature Speaker
November 11, 2008	Research Promotion		Jim Fonger <a href="#">H2Green Energy Corporation</a> Dr. Jim Cotton, Ph.D, P. Eng. <a href="#">Department of Mechanical Engineering, McMaster University</a> <b>Hydrolyser™ Hybrid Energy Storage System</b>
November 18, 2008 (All Day Event)	Special Seminar Event		Bill McCartney <b>The Commissioning Process for New and Existing Buildings</b> The Travelodge – Burlington
December 1, 2008 (Not 2nd Tuesday)	Historical		<b>Chapter Fun Night — Dinner &amp; Wine Tasting</b> Purple Pear – Barton Street, Hamilton
January 13, 2009	Student Membership	none	<a href="#">University of Waterloo</a> <b>Career Night</b>
February 10, 2009		none	<a href="#">Brock University – St. Catharines</a> <b>Brock University Tour -- LEED AP</b>
March 3, 2009 (Not 2nd Tuesday)	Integrated Building Design	none	Thomas Lawrence, Ph.D., P.E., LEED-AP <a href="#">ASHRAE Distinguished Lecturer</a> <b>Integrated Building Design</b>
April 14, 2009	Refrigeration	none	Speaker to be determined <a href="#">Sleeman / Lakeport Tour</a>
May 12, 2009	C.T.T.C.	President's Message <b>SP180 - Maintain to Sustain</b>	Bill Harrison <a href="#">Company?</a> <b>Topic to be determined</b>
June 10, 2009 (Not 2nd Tuesday)	Social/ Research		Peninsula Lakes (near Fonthill, ON) <b>Annual Golf Tournament</b>

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### ASHRAE Hamilton Chapter

<http://www.vaxxine.com/ashrae/>



# American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)

## Hamilton Chapter

[www.vaxxine.com/ashrae/](http://www.vaxxine.com/ashrae/)

# The Commissioning Process for New and Existing Buildings

DATE: Tuesday, November 18<sup>th</sup>, 2008

TIME: 8:30 am to 3:30 pm

LOCATION: Travelodge Hotel, Burlington on the Lake  
2020 Lakeshore Road, Burlington, ON L7R 4G8

### Course Outline:

- I. Introduction
- II. Benefits of Commissioning in New and Existing Buildings
- III. The Commissioning Process in New Buildings
- IV. The Commissioning Process in Existing Buildings
- V. Documentation Requirements
- VI. Specifying Commissioning
- VII. Economics of Commissioning

### Course Description:

Attend this course and learn how the building commissioning process can be applied cost-effectively to new construction and to existing facilities, with a strong emphasis on existing facilities applications. In this introductory course, you will learn the fundamentals of the commissioning process through each step of a new construction project from pre-design to occupancy and operations. You will also learn how the application of the commissioning process in existing facilities differs from new construction. Learn about the benefits of commissioning and gain an appreciation for how the process can improve the built environment, reduce environmental impacts through responsible resource utilization, improve the quality of design and construction, and raise the professional reputation of the entire commissioning team. We will discuss commissioning documentation, including an overview of commissioning specifications for new construction. You will take away compelling information and case studies that demonstrate the value of investing in the commissioning process.

### Documentation:

Each attendee receives a copy of ASHRAE Guideline 0-2005, *The Commissioning Process*.

Speaker Bio:



Bill McCartney is the president of HVAC Commissioners Inc. which was founded in 1989. He is also vice-president and partner of Isotherm Engineering Ltd. which was founded in 1975. He provides new building commissioning services from planning through occupancy, re-commissioning for existing commissioned buildings, and retro-commissioning services for existing systems. He has commissioned hospitals, long term healthcare facilities, water treatment plant, office buildings, high rise residential, library, corrections facilities, performing arts centers, casino, hockey rinks, church, university, colleges, and schools. Previously, he was a partner in Trisar Limited from 1978 – 93, a company specializing in HVACR design-build and maintenance serving the petro-chemical industries in the Sarnia area. He started out in Toronto in 1966 with Beaver Engineering Ltd. in the construction division and was eventually moved to London as branch manager on 1974.

Bill has been a member of ASHRAE since 1974, has belonged to the London, Toronto, and most recently the Hamilton chapter, where he served as president from 2004 through to 2006. He is a member of ASHRAE Technical Committee 7.9 “Building Commissioning;” a past-chair and still member of TC 7.3 “Operation and Maintenance Management” and a member of GPC 4 which recently published Guideline 4 – 2008, “Preparation of operating and Maintenance Documentation for Building Systems“. He has been on the Handbook Committee since 1998 and is the chair for the 2010 Refrigeration Volume. He received the Distinguished Service Award on 2007.

Bill is past president of the ORAC (Ontario Refrigeration Air Conditioning Contractors), past-president of the CRACCA (Canadian Refrigeration Air Conditioning Contractors Association), past chairman of HRAI (Heating Refrigeration Air conditioning Institute), and a current member of BCA (Building Commissioning Association).

**For immediate inquiries or to be added to the distribution list for this event,  
please contact Bill McCartney:**

**E-mail – [w.mccartney@isothermengineering.com](mailto:w.mccartney@isothermengineering.com)**

**Telephone – 905-822-2430**

**Fax – 905-822-5182**



## The Commissioning Process for New and Existing Buildings Registration Form

**FEES:**

**Until October 22<sup>nd</sup>, 2008:**

ASHRAE Hamilton Chapter Members — \$300.00  
Non-Members — \$375.00

**After October 22<sup>nd</sup>, 2008:**

ASHRAE Hamilton Chapter Members — \$350.00  
Non-Members — \$450.00

Fees include documentation, a light lunch and mid-session refreshments.

Deadline for registration and payment is November 10<sup>th</sup>, 2008.

**Note: Payment must be received in advance of the registration deadline.**

**Please e-mail or fax your completed registration form to:**

ASHRAE Commissioning Seminar – Attention: Bill McCartney

E-mail: [w.mccartney@isothermengineering.com](mailto:w.mccartney@isothermengineering.com)

Fax: 905-822-5182

**Then forward your cheque to:**

Isotherm Engineering Limited

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**Attendee Information:**

Name(s): \_\_\_\_\_

ASHRAE Membership No: \_\_\_\_\_

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Please make cheque payable to: **ASHRAE Hamilton Chapter**