



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

- 2011 - 2012**
- President**
Stephen Lynch
- President Elect**
Donald Weekes
- Treasurer**
Roderic Potter
- Secretary**
Steve Moons
- Past President**
Christine Kemp
- Governors**
Georges Maamari
Paul Baker
Chris Fudge
Abbey Saunders
Peter Paciorek
- COMMITTEES**
- Audit**
Karen Peck
- Research Prom.**
Christine Kemp
- Membership**
Adam Moons
- Program**
Aaron Dobson
- Student Activities**
Matthew Edmonds
- TEGA**
Chris Fudge
- Chapter Historian**
Vacant
- Special Events**
Chris Healey
Steve Moons
Georges Maamari
- Communiqué**
Derek Atkins
- Publicity**
Christine Kemp
Don Weekes
Rod Lancefield
- Table Top**
Abbey Saunders
- Attendance**
Cathy Godin
- Greeter**
Mike Swayne
- Roster**
Georges Maamari
- Webmaster**
Roderic Potter
- PAOE**
Donald Weekes
- Business Cards**
Rod Lancefield
- Nominations**
Robert Kilpatrick
- CRC Action**
Donald Weekes
Roderic Potter

DATE: **Tuesday, February 21, 2012.**

Tech Session: 16:30 Social: 17:30 Dinner: 18:30 Program: 20:00

LOCATION: Travelodge Ottawa Hotel & Conference Centre, 1376 Carling Avenue, Ottawa, Ont., 613- 722-7600

THEME: **CTTC (Chapter Technology Transfer Committee).**

TECH SESSION: **Joel Primeau's HVAC Boot Camp—The Commissioning Process**

PROGRAM: **School HVAC Design**

SPEAKER: **Julian R. de Bullet, ASHRAE Distinguished Lecturer**

OVERVIEW: Many surveys now show that the quality of a student's education is directly connected to the quality of the classroom environment. School officials, design engineers, architects and equipment manufacturers strive to provide the best possible environment that encourages learning. Sound, temperature, humidity and indoor air quality must all be balanced with a fiscally and environmentally responsible solution. This presentation will provide a variety of HVAC solutions for classroom environments. Issues such as IAQ, energy efficiency, sound, complexity, serviceability, first cost and operating costs will be covered.

BIO: Julian R. de Bullet has over 40 years' experience in the HVAC industry. His career has concentrated on the applied use of Chilled Water and All-Air systems as a manager of applied equipment sales and as a manager of a service/performance contracting operation. Most recently, he was Director of Industry Relations for a major HVAC manufacturer.



As ASHRAE Vice President (2001/2003), he served on the Board of Directors and the Executive Committee and was Chair of Member Council and Publishing Council. He is Past President of the National Capital Chapter and was Director and Regional Chair for ASHRAE Region III. He is an ASHRAE Distinguished Lecturer with over 250 Seminars delivered around the world with topics including "Responsible Refrigerant Use", "Sustainable HVAC Systems", "Variable Primary Flow System designs" and "90.1 and LEED". He is a member of ASHRAE TC 8.2 Centrifugal Chillers and has co-authored numerous ASHRAE Handbook chapters. He chaired the Professional Development Committee, (Responsible for the ASHRAE Educational programs), was a voting member of the Publications and Education Council and the Society Advocacy Committee. He has co-authored ASHRAE Position Documents on Energy Efficiency, Natural Refrigerants and Ozone Depletion. He is a Life Member and holds the Distinguished and Exceptional Service Award

He presently serves on both the Honours and Awards Committee and the Nominating Committee.

He is a Graduate of the London University system in England, where he obtained an Electrical Engineering degree and a Diploma in Marketing.

February Meeting Menu

Assorted Rolls and Butter Butternut Squash Bisque Pork Tenderloin Medallions with Dijon Sauce
Served with Roasted Potatoes and Seasonal Vegetables Double Chocolate German Cake with
Raspberry Coulis Coffee/Tea **Chapter Members: \$35.00 Guests: \$50.00**



President's Message

Stephen Lynch, P.Eng.
 Chapter President 2011-2012
 Direct Energy Business Services Limited
 E-mail: stephen.lynch@directenergy.com

This year the ASHRAE Winter Conference and Trade Show were held in Chicago. From my experience, Chicago has always been the larger of the ASHRAE winter conferences. At this particular winter conference, some big announcements happened, including:

The rebranding of ASHRAE and a revised logo.

A Memorandum Of Understanding between ASHRAE and IAPMO to advance Built Environment Codes and Standards.

There were some local awards handed out.

I hope everyone who attended the winter conference had a great time and experience everything the conference had to offer. The summer conference does not include the trade show, but provides a great insight into how ASHRAE operates and into the technical committees. The ASHRAE Summer Conference is in San Antonio, Texas from June 23 – 27, 2012

On a health and safety note, this is a great time of year to create your Health and Safety Training Plan and update outdated policies and procedures. We work in an industry where Health and Safety are taken very seriously. Ensuring you and your company are up-to-date not only ensures the company will not get fined, it also ensures that no one gets injured or worse. I have personally responded to RFP's that require a good CAD-7 rating. For more information:

WSIB www.wsib.on.ca/: [Home](#) / [Employers](#) / [Prevention](#) / [Incentive programs](#) / CAD-7

<http://www.whsc.on.ca/>

<http://training.o.ca/training>

http://www.ihsa.ca/resources/policy_program_resources.cfm

February's meeting theme is CTTC and TEGA. The Chair of CTTC is Chris Fudge. This is the time to prepare your TEGA submissions. At the CRC's and Society Level, the Ottawa Valley Chapter has always been well represented. This is not possible without your TEGA submissions. Please see Chris and his article.

In addition, should any volunteers be interested in attending the Board of Governors meetings; they are held the Thursday after each monthly meeting. Please RSVP myself, should you wish to attend.

We encourage you to promote our chapter and get the word out. Attendance has been improving and we want to see the trend continue.

See you all February 21st at the Travelodge. Please remember, we are now in the conference room down stairs.

Stephen Lynch, P.Eng.

2011 – 2010 ASHRAE OVC, President

E: stephen.lynch@directenergy.com

T: 613-371-9814

 <p>AMERESCO Green • Clean • Sustainable</p> <p>ROY SAMHABER, P. ENG. senior project manager</p> <p>P: 613 224 7500 x6158 P: 888 283 7267 F: 613 224 3726 rsamhaber@ameresco.com ameresco.ca Ameresco Canada Inc. 106 Colonnade Rd N, Ste 200 Ottawa, ON K2E 7L6</p>	 <p>BAXTEC Mechanical Services</p> <p>Your energy savings partner</p> <p>MARK CSIFFARY P.ENG. President • mark@baxtec.com</p> <p>Office: 613-738-7450 Fax: 613-738-2973 Cell: 613-229-8277 www.baxtec.com 29-2450 Lancaster Rd., Ottawa ON K1B 5N3</p> <p>A member of </p>	 <p>Belnor Engineering Inc. innovation control solutions</p> <p>1 Royal Gate Boulevard, Unit 3 Vaughan, ON L4L 8Z7 ☎ 905-254-6372 📠 905-254-6432</p> <p>Proven Safety for Laboratory Standards</p> <p>Guy Mongeon Sales www.belnor.com</p> <p>Dave Fanset Project Coordinator</p> <p>dfanset@belnor.com — Healthcare Solutions — gmongeon@belnor.com</p> <p>1501 Carling Ave., Suite 8, Ottawa, ON, K1Z 7M1 ☎ 613-729-6660 📠 613-729-2690</p> <ul style="list-style-type: none"> ✓ PHOENIX ✓ STROBIC ✓ PARAGON ✓ MAFNA ✓ PLASTEC
--	---	--



What You Missed—January

Steven Moons

2011-2012 OVC Secretary

The meeting took place at the Travelodge Hotel and Conference Center on Carling Avenue in Ottawa, in the Main Ballroom on the lower level. The meeting was called to order at 6:42pm, and attendees were seated for dinner.

Steve Moons filled in for Joel Primeau, and continued the series of HVAC 101 presentations, this month's presentation centering on Psychrometrics. Joel's series will continue to work through more fundamental engineering basics as the year goes on.

The business session started with President Stephen Lynch introducing the theme of the evening being ASHRAE Research, and introducing the Board of Governors and Executive. Membership Chair Adam Moons announced two new chapter members: Glen Clarke and Lee Keeley. Member Pat Albert introduced the guests for the evening.

President Stephen welcomed the members, and reminded them of the upcoming curling bonspiel, and suggested they contact Chris Healey or Rod Potter for further details. Past President Christine Kemp spoke about ASHRAE Research, and discussed ASHRAE research goals. She called up last year's donors to accept their coin and certificate.

President Stephen Lynch thanked Christine Kemp for her work in replacing the name badges for the members, and reminded members to ensure they are left behind when they go. He then introduced the table tops for the evening, from NRC and CaGBC. He then spoke about the ASHRAE Winter Meeting to be held in Chicago, and discussed the Region II dinner to be held there. He thanked Steve Moons for presenting the technical session, and encouraged participation from members and guests. President Lynch then requested that members remember to fill out the speaker evaluation forms at the end of the evening session.

Governor Georges Maamari spoke about the upcoming Feb. 22nd seminar on Chiller Plant Design. The seminar will consist of three courses, and will be one full day. The space is limited to 25 registrants, so he encouraged early confirmation of attendance. Dinner began at 6:50, and past president Christine Kemp circled the room raffling off Senators tickets for ASHRAE Research.

Dinner was a buffet instead of the anticipated plated service, but was very tasty and well received. Following dinner, Past President Christine Kemp drew a winner for the set of tickets for Senators games. The winner was Joe, our faithful server from Travelodge. Stephen Lynch introduced the evening's speaker.

The evening program began at 7:45, with speaker Boualem Ouazia, Ph.D. from NRC presenting on Humidity Control with ERV Technology. The goal of the experiments was to determine the suitability of ERV's to maintain relative humidity (RH) in residential spaces, and investigate the energy savings thereof. One of the concerns were that bathroom exhaust through the ERV would over humidify the house, and in certain seasons the difference in RH between indoors and outdoors would be troublesome. The goal was to maintain occupant comfort, improve IAQ and improve building durability. In defining occupant comfort, ASHRAE, OSHA and Health Canada publishing's were taking into account. They have different humidity recommendations, the limits of which are 30% in winter, 70% in summer, with most being between 35%-65%. Maintaining humidity levels above 35% generally lead to improved occupant comfort and productivity. There are many indoor and outdoor moisture sources, contributing to overall RH in the space. Daily moisture loads in a space can vary, but are between 7.5 L/day and 23 L/day. Main sources are bathroom, kitchen, people and "other" loads. The bathroom load is generally fairly small, alleviating earlier concerns of over-humidification using bathroom exhaust on ERV. Studies were conducted on several homes in various areas comparing pure ventilation with heat recovery ventilators (HRV) and energy recovery ventilators (ERV). In all cases, occurrences of high humidity were slightly less using ERV technology. The results of the test showed a reduction in air conditioning electricity consumption for the ERV house. The performance of both technologies is strongly dependant on outdoor conditions, and are most effective in high humidity climates. Bathroom exhaust did not negatively impact the humidity control performance. Studies in colder climates show use of an ERV has a favourable impact on RH control. The use of ERV's helps prevent



**Goodkey, Weedmark
& Associates Limited**
Consulting Engineers



Ross McIntyre, P.Eng.
Principal, Designated Consultant, Mechanical Engineer

1688 Woodward Dr., Ottawa, ON, Canada, K2C 3R8
Telephone: 613-727-5111 ext. 239 Fax: 613-727-5115
rossmc@gwal.com

Rod Lancefield, P.Eng., LEED*AP
Engineering Sales
rod@htseng.com
C 613.851.1997

HTS Ottawa
1646 Woodward Dr.
Ottawa, Ontario K2C 3R8
T 613.728.7400 Ext 221
F 613.728.8032
Toll Free 888.280.8544
ontario.htseng.com



InAIR Environmental Ltd.

Lan Chi Nguyen Thi, P.Eng.
Partner
1390 Prince of Wales Dr., Suite 503
Ottawa, Ontario K2C 3N6
Phone 613.224.3863
Fax 613.224.2561
lanchi.nguyen@inairenvironmental.ca
www.inairenvironmental.ca

Mould & Flood Remediation
Drinking Water Testing
Training Courses
IAQ Surveys



drying the indoor environment further. ERV's with bathroom pickup could have favourable impact on indoor RH control. Overall, ERV technology is beneficial to maintain comfortable RH and provides energy savings.

President Stephen Lynch thanked Boualem for his presentation and gave him a small gift, and the meeting adjourned 8:30pm.

Committee
Chair



Membership Update...

Adam Moons

Membership Committee Chair 2011-2012

Walmar Ventilation Products

E-mail: adam@walmar.net

Greetings Everyone!

The beginning of the year is off with a bang, and I'd like to thank you all for your continued support. Over the next months the Ottawa Valley Chapter will be reaching out to our valued Engineering community for insights into the best ways to promote our chapter's growth and sustainability. I ask that you afford any information, concerns, questions and insight to those who approach you. We are hoping that your knowledge and years of dedicated experience in the world of HVAC/R will give us, your ASHRAE representatives, the ability to move ahead progressively, while offering the greatest programs and technical information. We have a vibrant chapter that has experienced growth and we are truly focused on advancing that growth, as well as providing our brilliant members accurate and useful information to carry out our respective roles in the HVAC/R community. We will also be introducing some opportunities for those who are YEA eligible. It is our hope that you will all encourage the young engineers, and those who are new to HVAC/R, to take advantage of the opportunities that involvement in the OVC can present. As always, I am more than happy to afford any time necessary to those who have anything that they wish to offer, or answer any questions that you might have.

I would also like to introduce and welcome the following new members:

Mr. Kristofer Knowles Mr. Alexandre Lalonde

Looking forward to seeing you at the next ASHRAE event!

Adam Moons

Membership Chairperson / OVC

Obituary—



CYFRACKI, Ludwik, ASHRAE Life Member

Peacefully, on Monday January 16, 2012 at the age of 76. Beloved husband of Eliza. Predeceased by his parents Joseph & Elisabeth Cyfracki of Poland. He will be greatly missed by his friends in Canada and Poland. He was a full time teacher of thermodynamics and geometry at the Technical Institute in Moosejaw, Saskatchewan and Algonquin College, Ottawa. Employed for many years with Public Works Canada, as a Mechanical Engineer. Funeral Saturday, January 28, to St. Patrick's Home Chapel, 2865 Riverside Drive for Mass of Christian Funeral at 10 a.m. Please find a cure for ALS (Lou Gehrig's Disease).

<p>Dilfo Mechanical Limited MECHANICAL CONTRACTOR 1500 STAR TOP ROAD, OTTAWA, ONTARIO K1B 3W6 Tel: 613-741-7731 Fax: 613-741-9962 cell: 613-880-8504 danny@dilfo.com</p> <p>Danny Dillon, GSC President</p>	<p>Stephen Lynch, B.Eng., P.Eng. Account Executive Services</p> <p>Direct Energy Business Services 100 - 2935 Conroy Rd Ottawa, ON K1G 6C6 613.247.7451 Direct 613.371.9814 Cell 613.247.7990 Fax</p> <p> Direct Energy stephen.lynch@directenergy.com www.directenergy.com</p>	<p>GENIVAR</p> <p>Jim Mills, P.Eng., Ing., LEED® AP Manager, Mechanical Group, Ottawa Senior Mechanical Engineer</p> <p>15 Fitzgerald Road Ottawa, Ontario, CANADA K2H 9G1</p> <p>Tel: 613-829-2800, ext. 108 ~ Cell: 613-240-2746 Fax: 613-829-8259 www.genivar.com ~ jim.mills@genivar.com</p>
--	---	---



Research Promotion Campaign

Christine Kemp

Chapter President 2010-2011
 Awards Committee Chair 2011-2012
 Publicity Committee Co-Chair 2011-2012
 Research Promotion Committee Chair 2011-2012
Walmar Ventilation Products
 E-mail: christine@walmar.net

Thank you very much for the generosity of **Walmar Ventilation Products**. They donated Ottawa Senator Tickets for the draw at the January meeting and we were able to raise **\$310.00 for ASHRAE Research**. Thanks for all of you who participated.



Endowing ASHRAE Research through ASHRAE Foundation

- Minimum of \$2,500 to start new restricted research fund
- Can be added to every year, at any amount
- Full amount counts toward your RP Goal
- 5% interest earned and invested, in your name every year starting with Year 2 ... forever
- Great way to support research into perpetuity
- For more information see [ASHRAE Foundation](#) page on ASHRAE's Homepage

To donate online, please visit <https://xp20.ashrae.org/secure/researchpromotion/rp.html>

Jp2g Consultants Inc.
 ENGINEERS • PLANNERS • PROJECT MANAGERS

1150 Morrison Drive
 Suite 410
 Ottawa, Ontario
 K2H 8S9

Greg Terry, P. Eng.
 Mechanical Engineer

Phone: 613-828-7900
 Fax: 613-828-2600
 email: gregt@jp2g.com

Longhill Energy

Chris Harrison
 Engineered Sales

chsh@longhill.ca
www.longhill.ca
 Phone: 613-226-3856
 Fax: 613-228-2715
 15-111 Capella Court, Ottawa, Ontario K2E 7X1

The Energy Conservation People

Master
 AIR CONDITIONING • REFRIGERATION
 VENTILATION • HEATING

CHRISTOPHER FUDGE P.Eng.
 LEED® AP
 Commercial & Industrial Sales Engineer
cfudge@master.ca

TEL 613-829-2816
 CELL 613-761-2173
 FAX 613-829-3731

The Master Group L.P.
 25H, Northside Road
 Ottawa (Ontario) K2H 8S1
 MASTER.CA



Student Activities

by Matthew Edmonds

2011-2012 Student Activities Chair

What a busy December and January it has been for student activities!

First off, we have had a rash of incoming student applications from Queen's University who are very interested in our chapter, what ASHRAE can do for them, and how we support our student members. We are looking forward to getting many of them out to our future meetings. I will keep everyone in the loop with respect to their arrival!

Second up, I have been working with Laura Creswell and Katie McNeil of Carleton University on setting up a Networking and Career 101 Program to give students a good look into what happens in the real world once you leave the safety and comfort of academia. The idea behind this program is to help jumpstart careers and networking skills long before they have to go into that first job interview, giving them the skills and confidence that other graduates without that exposure won't have.

Thirdly, we are in the infant stages of proposing the ASHRAE Design Competition to the "powers that be" at Carleton University, to incorporate the project as a standard 4th year project choice for the engineering group. I will keep everyone up to date with the progress of this venture.

Fourthly, our 2012 Student Career Fair has been set for March 17th 2012 at Carleton University. This promises to be a well-attended event for engineering students this year. Information and booth packages will be sent out shortly. If you have interest acquiring a booth at the Student Career, please contact me!

And lastly, our Algonquin Design Team also made it down to the ASHRAE Winter Conference in Chicago this year. Updates about their trip are still to come!

I look forward to seeing you all at our next meeting!

Each year we look for this help in two main forms, the first and most common being the student meal sponsorship. We strongly encourage this type of donation as it allows more students to join our meetings and not have them miss out on fantastic opportunities due to budgetary reasons. The second form of help is volunteered time. The student design competition presents significant challenges and the competing students require input from us industry professionals to help them get up that steep and quick learning curve. If this rewarding venture interests you, please contact me immediately at- matte@longhill.ca

December and January's Volunteers and Sponsors:

Student Competition Volunteers: Barry Riddell Chris Frauley

Student Meal Sponsors: Paul Baker, Chris Harrison, Matthew Edmonds, Atma Anantram, Laura Creswell,
Nicholas Lea, Stephen Lynch, Michael Swayne, John Withnall

Thank you all for your support!

Best Regards,

Matthew Edmonds

Student Activities Chair

More student related information from ASHRAE:

Check This Out:

ASHRAE Student Zone: Scholarships and Grants to Careers and Internships... <http://www.ashrae.org/students/>

ASHRAE Scholarship Program <http://www.ashrae.org/students/page/1271>

Smart Start Program (20-50-50) – Don't know what it is? Every Student Should! <http://www.ashrae.org/students/page/703>



Table-Top Displays

Abbey Saunders

Governor 2011-2012

Table Top Display Committee Chair 2011-2012

National Research Council Canada

E-mail: abbey.saunders@nrc-crnc.gc.ca

What better way to display a new product, existing line, or share great ideas than to have a table-top display at our local OVC ASHRAE meetings? The OVC meetings provide a captive audience in the industry and exposure to 50+ people.

We currently have table-top availability for the 2011-2012 OVC ASHRAE meetings on the following dates:

April 17, 2012

May 15, 2012

Cost for table-tops is \$200.

Spaces are filling up quickly, so book your table-top today!

Featured table-tops at the February meeting are detailed below:



HTS is pleased to introduce the world's most energy efficient line of small tonnage packaged rooftop unit from Daikin-McQuay. These units feature the industry proven Daikin variable speed scroll compressors, which have in excess of 1,000,000 installations worldwide.

In addition to the variable speed compressor, these units use ECM motors on the supply, exhaust, and condenser fans. Other features include: modulating gas heat, reverse cycle heat pump, and energy recovery wheels.



Many of the Utility and government incentives for energy savings require monitoring and verification on proposed and actual custom energy saving measures which are being implemented by customers. New Ontario regulations require publically funded institutions to put energy saving action plans in place, communicate and then monitor the results of the prospective measures. With that in mind Yorkland Controls will be showcasing eSight Energy Analytics. eSight not only allows for monitoring and analyzing, but displays and reports the information – customized for how the viewer wants to see it. For example, energy reports are communicated in a financial format for financial viewers, and energy analytics in a format for engineers.

"Hardware Agnostic", eSight's built in integration engine can directly interface with many energy databases and metering hardware such as: SQL, CSV, Tridium, OPC, Data loggers, E-Mon and much more. An expensive infrastructure of data collection doesn't need to be in place to start gaining the benefits of analysis, measuring and then turning the information into actionable items.

Remember to drop by and check them out, and thank-you for your continued support of our ASHRAE Chapter.



Jim Siciliano, P.Eng.
Partner/Mechanical Section Head
Jim.Siciliano@mckeeottawa.ca

1785 Woodward Drive
Ottawa, ON K2C 0P9
CANADA
Tel.: (613) 723-9585 x109
Fax: (613) 723-9584
www.mckeeottawa.ca



METHOT
THE HEATING SPECIALIST

Michael McNamara, P. Eng.
President
michael.mcnamara@methot.ca Ext: 27

Tel : 905.850.3037 Toll free
Cell: 416.986.7822 Tel : 1.800.638.4682
Fax: 905.850.8012 Fax: 1.800.433.3398

1060, boul. Michèle-Bohec, suite 101
Blainville (Quebec) J7C 5E2



An Ingerium Group Company

Mike Swayne
P. Eng.
Manager, Mechanical & Electrical Engineering
T 613 759 5354
Mike.Swayne@norr.com

NORR Limited

55 Murray Street
Suite 600
Ottawa, ON, Canada K1N 5M3
T 613 241 5300 F 613 241 4245
www.norr.com



ASHRAE Society News

Peter Paciorenk

Governor 2011-2012

Alliance Engineering

E-mail: peter@allianceengineering.ca



February news from ASHRAE Society



Shaping Tomorrow's
Built Environment Today

For more than 100 years, ASHRAE has provided guidance for HVAC&R. As time and technology have changed, so has ASHRAE, moving from focusing solely on HVAC&R to providing guidance for total building design, reconstruction, construction and operation.

In recognition of this evolution, ASHRAE is making some changes regarding how we brand the Society. Our promise for sustainability encourages us to improve the quality in the built environment while leaving a lasting legacy for future generations. The new ASHRAE brand supports our focus on improving engineering standards and our market position as a community of engineers and related professionals united by knowledge, mission and a code of ethics to design, construct and operate better places for people to live, work and play.

To learn more please follow the link:

<http://www.ashrae.org/news/ashrae-announces-rebranding>

ASHRAE Recognizes Outstanding HVAC&R Industry Achievements

CHICAGO– Thirty-six people are being recognized by ASHRAE for their contributions to the Society and the building industry at the Society's 2012 Winter Conference held here Jan. 21-25.

The Hall of Fame, honors deceased members of the Society who have made milestone contributions to the growth of HVAC&R technology.

The recipient is Presidential Member Roderick Kirkwood, Fellow ASHRAE, Life Member.



REGULVAR CANADA INC.

170, Laurier Avenue West, suite 714
Ottawa (Ontario)
Canada K1P 5V5
tel.: (613) 565-2129
fax: (613) 565-8895

Stéphan Riffault, P.Eng.
Sales Engineer
srfault@regulvar.com



Industry

Siemens Canada Limited
Building Technologies Division
2435 Holly Lane
Ottawa, Ontario
K1V 7P2 Canada

Tel: (613) 733-9781
Fax: (613) 737-4985
Cell: (613) 614-7165

Atma Anantram P.Eng.
Account Executive

atma.anantram@siemens.com

Smith + Andersen

David Eastwood P.Eng.

Principal
613 230 1186 ext. 403
david.eastwood@smithandandersen.com

1600 Carling Avenue Suite 530 Ottawa Ontario K1Z 1G3
t 613 230 1186 f 613 230 2598 smithandandersen.com

Ottawa Vancouver Toronto Edmonton Dubai Calgary

Fellow ASHRAE is a membership grade that recognizes distinction in the arts and sciences of environmental technology and is earned through achievement as a researcher, designer, educator or engineering executive. The Society elevated 13 members to the grade of Fellow ASHRAE:

- Constantinos Balaras is research director, Institute for Environmental Research and Sustainable Development, National Observatory of Athens, Greece.
- Van Baxter is senior research and development engineer, Oak Ridge National Laboratory, Oak Ridge, Tenn.
- Vin Gupta is senior principal engineer, 3M Company, St. Paul, Minn.
- Mark Modera is professor, civil environmental engineering, mechanical and aerospace engineering, and director, Western Cooling Efficiency Center, University of California at Davis.
- Darin Nutter is associate professor of mechanical engineering, University of Arkansas, Fayetteville.
- Tom Phoenix is principal and vice president, Moser Mayer Phoenix Associates, Greensboro, N.C.
- Arshad Sheikh is owner/principal consultant, SES Consulting Engineers, Lahore, Pakistan.
- Edward Vineyard is group leader, building equipment research, Oak Ridge National Laboratory, Oak Ridge, Tenn.
- Iain Walker is scientist, Lawrence Berkeley National Laboratory, Berkeley, Calif.
- Brian Warwicker is consultant, Brian Warwicker Partnership, Ltd., London, U.K.
- Bill Worek is professor and director, Energy Technology Laboratory, University of Illinois-Chicago
- Xudong Yang is Chang-Jiang professor and deputy director, Institute of Built Environment, School of Architecture, Tsinghua University, Beijing, China
- Jianshun Zhang is professor and director, building energy and environmental systems lab, department of mechanical engineering and aerospace engineering, Syracuse University, Syracuse, N.Y.

The ASHRAE Technology Awards recognize outstanding achievements by members who have successfully applied innovative building designs, which incorporate ASHRAE standards for effective energy management and indoor air quality. Six projects received first-place ASHRAE Technology Awards:

- Roland Charneau, P.Eng., ASHRAE Fellow, ASHRAE Certified Healthcare Facility Design Professional, Pageau Morel & Associates, Montreal, Quebec, Canada in the new commercial buildings category for Mountain Equipment Co-op, Longueuil, Quebec, Canada. The building is owned by the co-op
- Ken Sonmor, Ecovision Consulting, Montreal, Quebec, Canada in the existing commercial buildings category for the IKEA Brossard Distribution Center, Quebec, Canada. The building is owned by IKEA Distribution Services.
- René Dansereau, Dessau, Longueuil, Quebec, Canada the new educational facilities category for the Université de Sherbrooke—Campus de Longueuil, Quebec, Canada. The building is owned by the university.
- Paul Marmion, Stantec Consulting, Ltd., Vancouver, British Columbia, Canada in the new health care facilities category for Abbotsford Regional Hospital and Cancer Centre, British Columbia, Canada. The building is sponsored by Laing Investments Management Services and owned by the hospital.
- Blake Ellis, P.E., Burns & McDonnell, Kansas City, Mo. in the new industrial facilities or presses category for thermal energy storage at Texas Meidcal Center, Houston, Texas. The owner is Thermal Energy Corp.
- Luc Simard, Compressor Systems Control (CSC), Inc., Les Coteaux, Quebec, Canada in the existing industrial facilities or presses category for the Arena Marcel Dutil, St-Gédéon-de-Beauce, Quebec, Canada. The building is owned by the Municipalite St-Gédéon-de-Beauce.

 <p>Doug Graham Regional Manager</p> <p>Tel: 800-561-3449 Fax: 800-668-8476 Cell: 613-852-9700 e-mail: grahamd@tamco.ca www.tamco.ca</p> <p>27 Iber Road Sittingbourne, Ontario Canada, K2S 1E6</p>	 <p>Adam Beales Principal</p> <p>Tel: (613) 723-4611 Fax: (613) 723-4677 Res: (613) 825-7319 Cell: (613) 223-2112 Email: adamb@totalhvac.com Web: www.totalhvac.com</p> <p>Total HVAC Inc. 14A-190 Colonnade Rd., 5. Ottawa, Ontario Canada, K2E 7J5</p>	<p>Andrew Klassen Account Manager</p>  <p>1024 Morrison Drive Ottawa, ON K2H 8K7 Cell 613 808 4054 Direct 613 356 1966 Tel 613 820 8111 Toll Free 888 872 6326 andrew.klassen@trane.com www.trane.com</p> 
--	---	---

The ASHRAE Student Design Project Competition challenged teams of students to create an integrated sustainable building design as well as select and design HVAC&R systems for the Drake Well Museum located in Titusville, Pa., the site where Edwin L. Drake drilled the world's first oil well in 1859 and launched the modern petroleum industry. First place in HVAC System Design is awarded to Holly Brink, Michael Crabb, James Dougherty, Andrew Gilliam and Gina Halbom of University of Nebraska-Omaha. First place in HVAC System Selection is awarded to Lynn Gualtieri, Evan Oda, Kristin Porter, Navid Saiidnia, Jeffrey Wong and Cameron Young of California Polytechnic State University, San Luis Obispo, Calif. First place in the Integrated Sustainable Building Design is awarded to Qi Te, Zhang Qiqi and Chen Yuanyi of Tianjin University, China.

The John F. James International Award is given to an ASHRAE member who has done the most to enhance the Society's international presence. The recipient is Edward Ka Cheung Tsui, managing director, Intelligent Technologies, Ltd., Hong Kong, Hong Kong.

The E.K. Campbell Award honors outstanding achievements by engineering educators and is presented by the ASHRAE Life Members Club. The recipient is Wayne Helmer, Ph.D., P.E., professor of mechanical engineering, Arkansas Tech University, Russellville, Ark.

ASHRAE, IAPMO Sign MOU to Advance Built Environment Codes and Standards

ATLANTA – ASHRAE and the International Association of Plumbing and Mechanical Officials (IAPMO) have entered into a Memorandum of Understanding (MOU) specifically detailing ways in which the two organizations can work together to advance and promote mutual interests in built environment codes and standards.

The MOU was signed during ASHRAE's 2012 Winter Conference held this week in Chicago.

"With ASHRAE's expertise in HVAC&R engineering, and IAPMO's expertise in plumbing and mechanical codes, our joint efforts will ensure that the design, construction, reconstruction and operation of buildings meet the built environment needs in codes and standards," ASHRAE President Ron Jarnagin said.

"IAPMO and ASHRAE enjoy a long history of working together in the interests of promoting health, safety and sustainability through the codes and standards that govern mechanical systems," said IAPMO President Dan Daniels. "I am pleased that this MOU will ensure our two organizations continue to strengthen each other and subsequently strengthen our industry."

"IAPMO is delighted to be working more closely with ASHRAE in our efforts to promote our standards and services throughout the world," said IAPMO CEO GP Russ Chaney. "This MOU provides both organizations with the basis to expand our already close and mutually beneficial relationship as we continue to collaborate together."

The MOU outlines several areas in which ASHRAE and IAPMO will work together, including:

- Collaborating on common public affairs goals, such as joint promotion of codes and standards at the local, state and federal levels; and promotion of mutually beneficial positions during the development and passage of state and federal legislation.
- Exploring opportunities to co-develop new courses or other training programs that take advantage of overlapping and complementary expertise.
- Fostering technical cooperation in areas of common interest by providing opportunities to participate in and comment on proposed standards, guidelines, policies and position statements developed on technical subjects as they relate to buildings and community developments; exploring ways to use ASHRAE standards in IAPMO codes, including derivative documents developed for use outside the U.S.; and investigating the feasibility of creating a coalition of U.S. codes and standard organizations to promote the international use of standards and codes developed by coalition participants.
- Promoting research in areas where research results will add to the body of knowledge in codes and standards.
- Disseminating research results quickly, focusing on high-impact findings.
- Identifying opportunities for research funding from other sources



WESMECH
TECHNICAL SALES INC.

50 Flonson Drive, Suite 160 • Toronto, Ontario • M9W 1B3
Tel: 416-251-8990 • Watts: 1-800-613-3789 • Fax: 416-251-8900
www.wesmechtech.com

Joseph McCallion, C.E.T.
President
josephm@wesmechtech.com cell: 416-720-8976



Yorkland Controls
ENVIRONMENTAL SOLUTIONS

Honeywell BELIMO
HVAC/BAS & Vulcan

Johnson Controls FACILITY EXPLORER

KMC SIEMENS
CORPORATE ENERGY SERVICES

Larry Gravelle
Tel: (613) 721-3301
Fax: (613) 721-4906
1-877-733-3833
www.yorkland.net

Yorkland Controls represents leading control systems and component manufacturers. Integrated solutions for Lighting, Card Access, CCTV and Building Automation.



S&R MECHANICAL
Division of 881291 Ontario Inc.

2035 Lanthier Dr., Cumberland, Ontario K4A 3V3
Tel: (613) 830-0165 • Fax: (613) 830-9152
CORNWALL • Cell: (613) 577-9165 / OTTAWA • Cell: (613) 808-9245

Mark Babineau
Special Project Division Manager
markb@srmech.com



TEGA

Chris Fudge

TEGA Chair 2011-2012

Master

E-mail: cfudge@master.ca

Hi Everyone!

This upcoming meetings theme is CTTC (Chapter Technology Transfer Committee). In light of this I would like to remind you the deadline for submitting technology awards is March 9th. The ASHRAE Technology Awards program recognizes, on an international scale, successful applications of innovative design, which incorporate ASHRAE standards for effective energy management, indoor air quality, and good mechanical design.

The purpose of the ASHRAE Technology Awards program is threefold:

To recognize ASHRAE members who design and/or conceive innovative technological concepts that are proven through actual operating data.

To communicate innovative systems design to other ASHRAE members

To highlight technological achievements of ASHRAE to others, including associated professionals and societies worldwide, as well as building and facility owners

Chapter level submissions must be submitted electronically directly to me at cfudge@master.ca. The building in questions should be in operation for a period of about 9 months. There are six categories to which applications may be submitted:

- I. Commercial Buildings (New and Existing)
- II. Institutional Buildings (New and Existing)
 - o Educational Facilities
 - o Other Institutional
- III. Health Care Facilities (New and Existing)
- IV. Industrial Facilities or Processes (New and Existing)
- V. Public Assembly Facilities (New and Existing)
- VI. Residential (New and Existing)

The short form description is located at:

www.ashrae.ottawa.on.ca/ashraeoc_docs/Awards/Chapter-Regional-Application-Short-Form.pdf

The ASHRAE website has plenty of helpful information to guide you during the application process. The technology awards section of the ASHRAE website is located at;

<http://www.ashrae.org/membership--conferences/honors--awards/technology-awards-program>

If you have any questions during the application process you may contact me or any of the CTTC committee members; George Maamari, Abbey Saunders, Aaron Dobson, Kashyap Desai and Adam Moons. The CTTC committee is looking for judges to help review applications at the chapter level. If you are interested in volunteering for this worthy endeavor please contact me!

Chris Fudge, P.Eng. LEED AP

 <p>Martine Ménard, B.Sc. Regional Manager martine.menard@sonitec.com</p> <p>Vortisand® High Efficiency Water Filtration Systems www.vortisand.com Head Office: 4320 Bois-Franc, Saint-Laurent, QC H4S 1A7 • Tel: (514) 335-2200 x227 • Fax: (514) 335-2295 US Office: 85 Sengstack St. Holyoke, MA 01041 Toll Free • 1-888-876-9655</p>  	 <p>Kashyap Desai B.Eng. Associate, Buildings Engineering HVAC and Chiller System Specialist</p> <p>Stantec Consulting 1505 Lapemiere Avenue Ottawa ON K1Z 7T1 Tel: (613) 725-5563 Fax: (613) 722-2799 Cell: (613) 298-3551 kashyap.desai@stantec.com</p>	 <p>Building System Surveys / Design & Retrofit AutoCAD System Design & Customization</p> <p>Roderic S. Potter Principal 155 Pineridge Road RR# 3 Corp. ON K0A 1L0 tel 613.839.2257 / fax 613.839.3226</p>  <p>www.rodgers.com info@rodgers.com cell 613.266.2334</p>
--	---	---



Chiller Plant Design Registration

Georges Maamari

Governor 2011-2012

Roster Committee Chair 2011-2012

Special Events Committee Co-Chair 2011-2012

Wood Banani Bouthillette Parizeau

E-mail: Georges.Maamari@wbbpengineering.com

Chiller Plant Design Seminar

DATE: Wednesday February 22nd 2012
TME: 9 AM to 3 PM (Sign-In/Coffee 8:30 AM)
LOCATION: Travelodge Ottawa Hotel & Conference Centre
 Rotary Room
 1376 Carling Ave., Ottawa, Ontario
 (613) 722 7600

SEMINAR OUTLINE

Chiller Plant Design Fundamentals
 Constant Flow Chiller Plant Design
 Variable Flow Chiller Plant Design

SEMINAR DESCRIPTION

Chiller Plant Design Fundamentals

This is a primer segment for the advanced chiller plant design courses. It covers the basics of the components such as pumps, piping, cooling towers etc. that are used to construct a chiller plant.

Constant Flow Chiller Plant Design

This course takes the design through the pros and cons of single chiller, parallel, series and series counterflow chiller plant design. It compares operating cost as well as performance. It is a good lead in to variable flow chiller plant design.

Variable Flow Chiller Plant Design

We will focus on primary/secondary and variable primary flow chiller plant design as influenced by ASHRAE Standard 90.1. The material will cover pros and cons, design parameters and control issues. Next we will discuss low delta T syndrome. We will explain what it is and why it happens. Then we will discuss how to correct it.

DOCUMENTATION:

A hard printed copy of instructor's presentation will be provided.

Speaker: Julian R. deBullet

Julian R. de Bullet has over 40 years experience in the HVAC industry. His career has concentrated on the applied use of Chilled Water and All-Air systems as a manager of applied equipment sales and as a manager of a service/performance contracting operation. Most recently, he was Director of Industry Relations for a major HVAC manufacturer.



As ASHRAE Vice President (2001/2003), he served on the Board of Directors and the Executive Committee and was Chair of Member Council and Publishing Council. He is Past President of the National Capital Chapter and was Director and Regional Chair for ASHRAE Region III. He is an ASHRAE Distinguished Lecturer with over 250 Seminars delivered around the world with topics including "Responsible Refrigerant Use", "Sustainable HVAC Systems", "Variable Primary Flow System designs" and "90.1 and LEED". He is a member of ASHRAE TC 8.2 Centrifugal Chillers and has co-authored numerous ASHRAE Handbook chapters. He chaired the Professional Development Committee, (Responsible for the ASHRAE Educational programs), was a voting member of the Publications and Education Council and the Society Advocacy Committee. He has co-authored ASHRAE Position Documents on Energy Efficiency, Natural Refrigerants and Ozone Depletion. He is a Life Member and holds the Distinguished and Exceptional Service Award

He presently serves on both the Honors and Awards Committee and the Nominating Committee.

He is a Graduate of the London University system in England, where he obtained an Electrical Engineering degree and a Diploma in Marketing.

Past President



Technical Session - HVAC Boot camp: The Commissioning Process

Joel Primeau

OVC Past-President (1999-2000)

Technical Session: Joel Primeau's HVAC Boot camp: The Commissioning Process

February 21, 4:30 pm at the Travelodge

In February, Joel Primeau will teach us about Commissioning. His presentation will cover the Commissioning process from pre-design to occupancy, highlighting the roles and responsibilities of the commissioning authority, the design engineer and the installing contractors. Joel will also describe in details the various documents that record each essential step of the commissioning process. He will also discuss re-commissioning, retro-commissioning and continuous commissioning process. If you still believe that "commissioning" is nothing more than "equipment start-up verification"; this tech session is definitely for you.

Committee Chair



Curling Bonspiel

Chris Healey

Co-Chair Special Events 2011-2012

Walmart

E-mail: chris@walmart.net

ASHRAE OVC Curling Bonspiel - March 2, 2012

Nepean Sportsplex, \$360 per team of 4, \$90 per individual, 20 teams max.

Date

Mar 2, 2012

Location

Nepean Sportsplex tel: (613) 580-2828

1701 Woodroffe Avenue

Ottawa, ON, K2G 0C4 [Map](#)

Registration Deadline

Feb 24, 2012

(Continued on next page)

 <p>Jp2g Consultants Inc. ENGINEERS • PLANNERS • PROJECT MANAGERS</p> <p>1150 Morrison Drive Suite 410 Ottawa, Ontario K2H 8S9</p> <p>Greg Terry, P. Eng. Mechanical Engineer</p> <p>Phone: 613-828-7800 Fax: 613-828-2600 email: gregt@jp2g.com</p>	 <p>Longhill Energy</p> <p>Chris Harrison Engineered Sales</p> <p>chrish@longhill.ca www.longhill.ca Phone: 613-226-3656 Fax: 613-226-2715 15 - 111 Capella Court, Ottawa, Ontario K2E 7X1</p> <p>The Energy Conservation People</p>	 <p>Master AIR CONDITIONING REFRIGERATION VENTILATION HEATING</p> <p>CHRISTOPHER FUDGE P.Eng. LEED® AP Commercial & Industrial Sales Engineer cfudge@master.ca</p> <p>TEL 613-829-2816 CELL 613-761-2173 FAX 613-829-3731</p> <p>The Master Group L.P. 25H, Northside Road Ottawa (Ontario) K2H 8S1 MASTER.CA</p>
---	---	---

Event Description

Cost will be: \$ 360.00 per team of 4, 20 teams max.

Location: Nepean Sportsplex

Curling will start at 1:00 pm sharp, with Dinner to follow upstairs, provided by Capone's Catering

Spectators Bar & Grille will be open at 11:30 for lunch.

Teams need to sign in by 12:30.

Event Contact Person

[Chris Healey @ Walmar](#)

Pricing , more details and Online Registration can be found at the following link:

<https://secure-onlineregistration.com/ashraeottawa/en/index.php?m=eventSummary&eventID=34>



Senior Mechanical Engineer

NORR Limited is a multi-discipline team of Architects, Engineers and Planners with a diversified multi-sector portfolio. We deliver creative global building solutions for both private and government clients including commercial office buildings, as well as facilities for education, sports and recreation, hospitality, justice and correctional services, aviation and biotechnology. We are seeking a Senior Mechanical Engineer to join our team in Ottawa. The candidate will report directly to the Manager, Mechanical and Electrical Engineering.

Position requirements will include:

- Leading and prioritizing multiple mechanical engineering design projects from original concept to complete preparation of construction drawings and specifications including tender and post tender process submissions and construction administration
- Mechanical building systems investigation and reports
- Management and mentoring of staff
- Effective written and oral communication skills
- Bachelor of Mechanical Engineering degree with minimum 10 years' experience in building mechanical system plumbing, HVAC, fire protection, and controls design and investigation
- P. Eng. designation in Ontario

We offer a competitive salary and compensation/benefit package and a flexible work schedule in a professional and collaborative work environment.

Please direct your resume in confidence to:

Jonathan Hughes, OAA, LEED AP
Vice President, Public Buildings
NORR Limited
55 Murray Street
Suite 600
Ottawa, ON, Canada K1N 5M3

Jonathan.Hughes@norr.com



Advertising

Roderic Potter

Treasurer 2011-201

Webmaster 2011-2012

Rodders CAS

E-mail: ashrae@rodders.com

Advertising career opportunities on the ASHRAE Ottawa Valley web site makes good business sense. We offer a unique way to reach technical professionals and make your ad dollars work hard for you.

To discuss your needs, contact one of our Chapter Officers, via our [This Year](#) page. Increase the impact of your advertising through the ASHRAE Ottawa Valley web site today.

Rates for career opportunities ads are as follows:

Chapter Member: \$50/month

Non-member: \$250/month

PLACEMENT OF AN AD

We suggest that you complete and submit our [advertisement form](#) to speed up the processing of your request. If you have provided your e-mail address, a confirmation receipt e-mail will be sent to you for reference.

Please note that **ads require prepayment** made to the Treasurer. For payment and other information contact:

Roderic Potter

E-mail: ashrae@rodders.com

The ads will appear on the web site until the end date for publication provided in the submitted form. To extend the ad, please resubmit the form with the new publication dates and the required prepayment amounts.

Committee
Chair



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 also appear on the Chapter website.

Cost is \$225.00 for the year; contact Rod Lancefield, rodl@htseng.com , (613) 728-7400.



Your card here!



ASHRAE Learning Institute 2012 Spring Online Course Series

2 WAYS TO REGISTER

Internet: www.ashrae.org/onlinecourses

Phone: Call toll-free at 1-800-527-4723 (US and Canada) or 404-836-8400 (worldwide)

Note: You may register up to 24 hours prior to an online course. Courses are in US Eastern Standard Time.



District Cooling & Heating Systems

Mon, March 19, 2012 – 1:00 pm to 4:00 pm ET

Basics of Combined Heat & Power

Wed, March 21, 2012 – 1:00 pm to 4:00 pm ET

Evaluating the Performance of LEED®-Certified Buildings

Wed, March 28, 2012 – 1:00 pm to 4:00 pm ET

Commissioning Process & Guideline 0

Wed, April 4, 2012 – 1:00 pm to 4:00 pm ET

* Complying with Standard 90.1-2010: HVAC/Mechanical

Mon, April 9, 2012 – 1:00 pm to 4:00 pm ET

* Complying with Standard 90.1-2010: Envelope/Lighting

Wed, April 11, 2012 – 1:00 pm to 4:00 pm ET

* Take both Standard 90.1 courses and save 20% on the price of these courses



The following courses are comprised of two parts. Registrants must attend both parts in order to receive CEU/DPH credits. Archiving is available.

Humidity Control: Principles and Applications – Part 1
Mon, March 26, 2012 – 1:00 pm to 4:00 pm ET

Humidity Control: Principles and Applications – Part 2
Mon, April 2, 2012 – 1:00 pm to 4:00 pm ET

Implementing ASHRAE Standard 189.1-2009 – Part 1
Mon, April 16, 2012 – 1:00 pm to 4:00 pm ET

Implementing ASHRAE Standard 189.1-2009 – Part 2
Thurs, April 19, 2012 – 1:00 pm to 4:00 pm ET

Integrated Building Design – Part 1
Mon, April 23, 2012 – 1:00 pm to 4:00 pm ET

Integrated Building Design – Part 2
Wed, April 25, 2012 – 1:00 pm to 4:00 pm ET

ASHRAE HVAC Design Workshops

2 Workshops, 5 Days of Intense Instruction

May 21-25, 2012 • ASHRAE Foundation Learning Center • Atlanta, GA

HVAC Design: Level I – Essentials

May 21-23, 2012

ASHRAE's HVAC Design: Level I - Essentials workshop provides intensive, practical education for designers and others involved in delivery of HVAC services. Developed by industry-leading professionals, the workshop provides participants with training design to accelerate their evolution into effective member on a design, construction or facilities maintenance team. Gain the fundamentals and technical aspects to design, install and maintain HVAC systems.

HVAC Design: Level II – Applications NEW

May 24-25, 2012

ASHRAE's HVAC Design: Level II - Applications workshop provides advanced instruction on HVAC system designs for experienced HVAC designers or those who completed the HVAC Design: Level I Essentials workshop. Gain an understanding of system design incorporating the application of Standards 55, 62.1, 90.1 and 189.1.

Creating Effective, Highly Skilled Engineering Team Members

- Gain knowledge to make immediate contributions to design projects
- Participate in in-depth, practice-focused training
- Learn from industry leaders selected by ASHRAE
- Receive free bonus resources valued at over \$200

Attendees of the HVAC Design Workshops can earn continuing education credits. Contact the relevant governing body for more information.



Visit www.ashrae.org/hvacdesign to register

ASHRAE Certification Programs

- Building Energy Assessment Professional (BEAP)
- Building Energy Modeling Professional (BEMP)
- Commissioning Process Management Professional (CPMP)
- Healthcare Facility Design Professional (HFDP)
- High-Performance Building Design Professional (HBDP)
- Operations & Performance Management Professional (OPMP)

For more info, visit
[www.ashrae.org/
certification](http://www.ashrae.org/certification)