



# 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](mailto:contact@ashrae.ottawa.on.ca)

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DATE: **Tuesday, April 17, 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: **ASHRAE Research**

TECH SESSION: **Joel Primeau's HVAC Boot Camp – Air System Design 2 (Duct Design & Fan Selection) - Presented by Frank Bann**

PROGRAM: **Methods of Effective Room Air Distribution**

SPEAKER: **Daniel Int-Hout III - ASHRAE Distinguished Lecturer**

OVERVIEW: In order to meet the increased expectations of building occupants, designers must be aware of the conflicts between first cost economics, occupant productivity and life cycle costs. LEED: 2009 is out, and many are not aware of some significant changes that have resulted in air distribution, IAQ and Comfort. Thermal Comfort: Determining optimum occupant comfort strategies. ASHRAE Standard 55 has been revised. Acoustics: Accurately predicting end use environments. A new classroom acoustical requirement needs to be understood. IAQ: The changing face of ASHRAE Standard 62.1, and upcoming developments.

With the goal of saving energy over the 90.1 baseline (Overhead VAV), there is a challenging to come up with alternate systems that will meet this goal using: Displacement Ventilation (DV), Underfloor Air Distribution (UFAD) and Chilled Beams.

The presentation will briefly cover pros and cons of all 4 methods of air delivery: Overhead air distribution; DV ( Displacement Ventilation); Underfloor Air Distribution (UFAD); Chilled Beams; and, the DOAS Fan Box.

BIO: Mr. Dan Int-Hout, Chief Engineer, Krueger, has a Masters degree in Business Management from Central Michigan University, and a Bachelors degree in Biology and Physics from Denison University. Mr. Int-Hout has written over thirty technical papers and articles on VAV system performance, acoustics, air diffusion, controls and occupant comfort. He was recently Chairman of both ASHRAE Technical and Standards Committees on Thermal Comfort, is a past Chairman of several other related ASHRAE Technical and Standards Committees, as well as ASHRAE Standards and Environmental Health Committees. He received the ASHRAE Distinguished Service Award in 1993. He is currently the Chairman of the ARI Committee on Applied Acoustics (885) and Chair of ISO 205 U.S. Panel on Thermal Comfort. He is presently a member of the ASHRAE Technical Activities Committee (TAC).



## April Meeting Menu

Assorted Rolls and Butter-Baby Spinach Leaves, Artichoke, Black Olive, and Marinated Roast Red Pepper with Lemon, Honey and Herb Vinaigrette—Grilled Chicken Breast Cacciatore Style Served with Rice Pilaf and Seasonal Vegetables—Fresh Fruit Flan—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](mailto:stephen.lynch@directenergy.com)

We are down to our last two meetings of the year and what a year it has been. The theme “Year of the Volunteer” is an understatement with all the effort people have put in to ensure this year goes smoothly. But we are not done yet. Please keep the following dates on your calendar:

- April 17<sup>th</sup>: Meeting 07: Speaker Topic – Methods of Air Distribution
- April 18<sup>th</sup>: ASHRAE Standard 62.1 – 2010 SEMINAR
- May 15<sup>th</sup>: Meeting 08: Past Presidents Night with Speaker Topic – Becoming an Invaluable Part of Your Team
- June 7<sup>th</sup>: ASHRAE OVC Golf Tournament

### Fun Fact:

Earth Hour was on March 31<sup>st</sup>, 2012 and is not to be confused with Earth Day which is on April 22<sup>nd</sup>, 2012. To clarify the difference, I found this great summary on the Internet.

“Earth Day always falls on April 22 and is an entire day celebration, and in a sense commemorates the start of the modern environmental movement in 1970. It was started by Gaylord Nelson to raise awareness about air and water pollution and to get the issues onto the national political agenda. Today, Earth Day highlights a broad array of environmental issues.

Earth Hour takes place on the last Saturday of March at 8:30 pm for one hour. The date in March corresponds to when turning out lights will be most visible around the globe, in terms of sunset times, thereby maximizing the effect and ensuring the greatest visual impact for a global ‘lights out’ event. WWF helped create the first Earth Hour in Australia in 2007, to inspire people to take action against climate change. The event spread, uniting people around the world in their desire to stop climate change. Today Earth Hour asks participants to go beyond the hour of lights out and to share their commitment towards sustainable actions every day.“ [ <http://www.worldwildlife.org/sites/earthhour/faq.html> ]

On a health and safety note, April is the start of spring and the season of Ladder Safety and stretching before getting onto the golf course.

In regards to Ladder Safety, everyone should consider:

- Hazard Identification & Control
- Ladder Selection
- Inspection Procedures
- Safe Ladder Set-up & Use
- Proper Care, Transportation & Storage

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 April 17th at the Travelodge. Please remember, we are now in the conference room down stairs.

Stephen Lynch, P.Eng.

2011 – 2010 ASHRAE OVC, President

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## What You Missed—March

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 6:40pm, and attendees were seated for dinner.

Joel Primeau continued the series of HVAC 101 presentations, this month's presentation centering on the design of air systems. 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 Students in ASHRAE. He informed the membership that MCA Ottawa Director Bob Martel had passed away, and mentioned the final arrangements. Mike Swayne informed the membership that Ken Hazell had passed away. He described his time working with Ken, and Ken's impact on the HVAC community. A toast was raised to both deceased members of the Ottawa construction community. Membership Chair Adam Moons announced the new chapter members Mr. Matthew Desjardins, Mr. Daniel Cousineau and Mr. Daniel Laforge. Secretary Steve Moons introduced the guests for the evening.

President Stephen Lynch discussed the success of the curling bonspiel, and mentioned the next ASHRAE social gathering will be the golf tournament, coming up in June, with more details to follow in the April Communiqué. Joel Primeau spoke about Carleton University having regained its student chapter status, and congratulated the faculty advisor on winning an ASHRAE grant. President Stephen Lynch mentioned the upcoming career fair, and encouraged participation for both presenters and attendees.

President Stephen Lynch then introduced the table tops for the evening. Marc Parent from Longhill Energy spoke about Nortec humidifiers, Rod Lancefield from HTS Engineering discussed Daikin VRF systems, and Dave Digel from Digel Air presented on Mitsubishi VRF systems. Derek Atkins spoke about the second seminar OVC will be offering on ASHRAE 62 to be held in April, with information and registration available on-line. President Stephen Lynch asked for suggestions for seminars for next year, and mentioned ASHRAE's DOAS webinar that is happening on Apr. 19<sup>th</sup>.

President Stephen Lynch asked Nominations chair Bob Kilpatrick to discuss nominations for the upcoming year. Bob requested that any nominations be sent to the nominating committee. Nominations will be presented at the April meeting, and installation of new members will be done at the May meeting.

During dinner, past president Cathy Godin circled the room for a 50/50 draw benefitting ASHRAE Research. The eventual winner took home a cool \$132. A buffet dinner was served at 7:05, and President Stephen Lynch asked Joel Primeau to introduce Simone Charon. She spoke about work she has done with Engineers Without Borders, and finding engineering opportunities in sub-Saharan Africa. She requested donations to help with her work there. ASHRAE OVC presented Simone with a cheque for \$200. Joel Primeau asked students from Algonquin College to present their work to date on the 2012 ASHRAE Design Competition. The team is on track for its submission, and is confident of a successful project.

President Stephen Lynch then introduces the evening's speaker, Rob Robertson, an employee of LG spoke to variable refrigerant use for LEED designs. The basics of the system involve moving refrigerant in gaseous and liquid state to various evaporator/condenser heads (depending on cooling/heating operation) by use of a variable capacity compressor, independent metering devices and controls capable of ensuring the quality of refrigerant at various stages of the system. Piping design for these systems vary for different manufacturers. The expected maximum tonnage of ganged systems is approximately 65 tons. Diversity is well managed with these systems as often buildings require both heating and cooling at the same time. The indoor units are 10-50% oversized to allow for the movement of refrigerant to the spaces requiring more capacity. Oil recovery is attained with a oil return cycle, lasting about 3 min. Energy efficiency of the system is very good in both heating and cooling modes. The systems can do simultaneous heating and cooling of multiple zones. The approximate maximum distance of refrigerant piping is 350 ft. from the 1<sup>st</sup> "T" for the evaporator. The system refrigerant piping is not affected by the vertical position of the compressor / condensers. Control options includes BACnet, Lonworks and other proprietary controls. The systems can include hot water reheat, low ambient operation, and integrated fresh air options.

President Stephen Lynch thanked Rob for his presentation and gave him a small gift, and the meeting adjourned 8:36pm.



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## Student Activities

by Matthew Edmonds

2011-2012 Student Activities Chair

Happy April everyone!

Our March meeting brought out quite a slew of students and they made up almost 20% of the meeting attendance! We are starting to see a lot of familiar faces and some very committed students. Keep an eye on them, I see bright futures for them all! Many of them are still open for summer employment, or are graduating and looking for full time employment, so employers, don't be afraid to ask around.

I mentioned in the last communique that we were preparing for our student career fair at the end of this month, unfortunately, due to bad timing and many other reasons, very few employers could make it out to the event, and as such we have decided to not hold the fair this year. So what does this all mean!? Well, it means a couple of things.

**First off, for any interested employer (yes this means YOU!), we will be circulating the resumes of our student members for your review. If you are interested in being added to the circulation list, please contact me.**

The second thing this leads to is a review of what we are trying to achieve with our career fair (matching up employers with qualified students), revamping this antiquated event, and identifying better ways of achieving results and have a longer lasting impact on our students and to give them an edge in their career. Things are currently in the works, and we should have some very exciting programs next year for our students!

On March 30<sup>th</sup> I am heading down to San Diego for the Young Engineers of ASHRAE (YEA) Leadership Conference. This three-day conference is about developing leadership and networking skills. Once I am back, the plan is to take my new knowledge and skillset and relay it back to the BOG, and also put together a workshop for the student body. More on that upon my return!

Until then, 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](mailto:matte@longhill.ca)

February's Volunteers and Sponsors:

**Student Competition Volunteers:** Barry Riddell Chris Frauley

**Student Meal Sponsors:** Michael Swayne x 2, Paul Baker, Matthew Edmonds, Joel Primeau,

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>



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## Membership Update...

### Adam Moons

Membership Committee Chair 2011-2012

Walmart Ventilation Products

E-mail: [adam@walmart.net](mailto:adam@walmart.net)

Greetings Everyone!

Matt Edmonds and I are off for the YEA Leadership weekend, and we are both anxious to bring valuable information back to the Chapter. This represents a great investment in our young leaders, and in the future of the OVC. We have been fortunate that our meetings have been teeming with students and young professionals. I believe that they are all seeing the value in being a part of ASHRAE. I strongly encourage those with new hires, recently graduated, to take advantage of the Smart Start Program which allows for ASHRAE membership fees at significantly reduced rates for the first three years. Please contact me, or the ASHRAE website, for more information.

As we draw closer to the end of please be aware of your dues, and feel free to take a moment to update your profile while you are online!

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

Mr. Steve Mackey

Mr. Richard Cameron

Mr. Peter Keays

Mr. Matthew Obach

Looking forward to seeing you at the next ASHRAE event!



## ASHRAE Golf Tournament

### Andrew Douma

Special Events Committee Co-Chair 2011-2012

Total HVAC

E-mail: [andrewd@totalhvac.com](mailto:andrewd@totalhvac.com)

**April Showers bring ... the ASHRAE Golf Tournament!**

**The 2012 ASHRAE Golf Tournament is scheduled for Thursday June 7<sup>th</sup>, 2011 at the Loch March Golf & Country Club.**

Registration forms with full tournament details will be sent to all of last year's Registered Participants. Spots for returning teams will be held until April 30<sup>th</sup>, 2012, after which time the field will be opened up to new teams. Registration forms will be made available at the April Chapter Meeting. Registrations will only be confirmed upon return of the completed Registration form and payment through the On Line Payment System.

The registration form also extends an invitation to the Membership to become involved as Hole Sponsors. Our Hole Sponsorship for ASHRAE Research Program has been wonderfully supported by our Chapter Membership in the past and continued support is appreciated for this year's event. As we are all aware the beneficiary of this tournament is ASHRAE Research and accordingly the more successful we are in this effort the more we will gain as a community. As always we expect a quick sellout so don't delay in returning your responses and getting your game in shape.

Should you have any questions about the Tournament or Hole Sponsorship please contact Andrew Douma at [andrewd@totalhvac.com](mailto:andrewd@totalhvac.com) or by phone at 613.723.4611.

Sincerely,

Your 2012 ASHRAE Golf Tournament Organizing Committee



## 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](mailto:christine@walmar.net)



Congratulations! Our chapter is among the 30 ASHRAE Chapters who have established named Endowed Research Funds. In keeping with the tradition of ASHRAE recognition, they have created a patch to commemorate our initial gift and will present it to us at the upcoming CRC (Spring 2012 or Fall 2012).



### It is easy to donate to ASHRAE Research.

You can go online to <https://xp20.ashrae.org/secure/researchpromotion/rp.html> (be sure to select ASHRAE Research CANADA and specify your Chapter and – Ottawa Valley Chapter)

If you prefer, you can make a cheque payable to “ASHRAE Research” and give it to me, Christine Kemp, Research Promotion Chair 2011/2012. (send to 24 Gurdwara Road, Nepean, Ontario K2E 8B5)

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## Table-Top Displays

### Abbey Saunders

Governor 2011-2012

Table Top Display Committee Chair 2011-2012

National Research Council Canada

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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:

May 15, 2012

Cost for table-tops is \$200.

Remaining spaces are limited, so book your table-top today!

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



Thermal Care is a manufacturer of cooling equipment for both industrial and air conditioning applications with over 40 years experience. Thermal Care specializes in packaged fluid cooler / pump arrangements, custom pumping packages and custom chiller applications. Thermal Care has been successfully building chillers using the Turbocor Magnetic Centrifugal Compressors for 10 years and can supply both water-cooled and air-cooled chillers with the compressor. Thermal Care combines different components to offer energy efficient, space saving solutions for cooling.

Thermal Care is represented locally by Total HVAC, who has been providing HVAC solutions for Ottawa construction market for over 15 years.



## ASHRAE Society News

### Peter Paciorek

Governor 2011-2012

Alliance Engineering

E-mail: [peter@allianceengineering.ca](mailto:peter@allianceengineering.ca)



## April news from ASHRAE Society

### Building Labeling Program Helps Building Owners Save Energy

ATLANTA— Energy use is one of the highest operating costs for building owners. It is also the most controllable. To help owners reduce their energy costs, a new building labeling program is available that not only rates buildings according to the in-operation energy use but also provides owners with suggested measures that can improve energy efficiency.



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An Ingerium Group Company

The Building Energy Quotient (bEQ) program assigns to buildings an energy usage quotient based on completion of an in-operation assessment that includes an ASHRAE Level I Energy Audit. ASHRAE, a building technology society with more than 50,000 members worldwide, is the developer of bEQ.

“bEQ lets a commercial building owner zero in on opportunities to lower building operating cost and make informed decisions to increase value,” Tom Phoenix, P.E., a consulting engineer in Greensboro, N.C., who chairs the bEQ committee, said. “The ultimate goal of the program is to encourage more energy efficient buildings and give owners more control over rising energy costs.”

The key component of the program is the in-operation assessment and the ASHRAE Level I Energy Audit, which serves as the industry standard for determining a building’s energy use and producing an actionable plan to improve building performance. To meet bEQ’s requirements, the assessment must be performed by an ASHRAE-Certified Building Energy Assessment Professional who will:

- Perform a walk-through survey to become familiar with building construction, equipment, operation and maintenance.
- Meet with the owner and operator to learn of special problems or planned improvements and operation or maintenance issues.
- Complete a space function analysis and determine whether efficiency may be affected by functions that differ from the original functional intent of the building.
- Identify low-cost/no-cost changes to the facility or to operations and maintenance procedures that will result from these changes with their approximate savings.
- Provide a summary of special problems or needs including possible revisions to operations and maintenance procedures.
- Recommend potential capital improvements and provide an estimate of potential costs and savings

Registrants in the bEQ program receive:

- The bEQ In Operation Workbook of the complete building analysis.
- The bEQ Certificate presenting key building performance factors for operations staff.
- The bEQ Dashboard illustrating the level of In Operation performance.
- The bEQ Plaque showing the building rating for public display.

“The bEQ documentation provides data on actual energy use and other information that will allow owners to evaluate and reduce their buildings’ energy consumption,” Phoenix said. “When all the facts on a building’s energy use are known, an owner can make informed decisions to manage energy use.”

“bEQ demonstrates corporate responsibility to employees, tenants, investors and the public,” he said. “The certificate provides the necessary documentation to meet disclosure requirements for building and real estate transactions,” he added.

bEQ was introduced two years ago as a pilot program with the intent of providing an easily understood scale to convey a building’s energy use in comparison to similar buildings and climate zones, while also providing building owners with building-specific information that highlights potential energy saving opportunities. Under the program, buildings are eligible to receive an In Operation rating as long as the building has at least 12 months of consecutive energy use data. The rating is based on the building and how it is operated.

“Information on a building’s energy use is the critical first step in making the necessary changes and choices to reduce energy use and costs,” Phoenix said

The building also can display a plaque —much like a nutrition label or the miles per gallon rating for a car—with an easily understood rating scale to allow a comparison of the building’s energy use with similar buildings, as well as demonstrate the building owner’s commitment to energy efficiency.

Building energy use disclosure is already mandatory in California; Washington, D.C.; Austin, Texas; Washington State; the European Union; and Australia.

For more information, visit [www.buildingenergyquotient.com](http://www.buildingenergyquotient.com).



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## Operation and Maintenance Guideline from ASHRAE Now Available

ATLANTA – A newly published guideline from ASHRAE gives facility managers and building operating staff a strong foundation on which to improve performance of all buildings.

ASHRAE Guideline 32-2012, Sustainable, High Performance Operation and Maintenance, provides guidance on optimizing operation and maintenance of buildings to achieve the lowest economic and environmental life cycle cost without sacrificing safety or functionality.

“The guideline will assist those who operate and maintain buildings to achieve high performance: safe, productive indoor environments; low economic life cycle cost; low energy, water and resource use; and low impacts on the environment,” Michael Bobker, chair of the Guideline 32 committee. “The guideline applies to all buildings, not just new ones. We believe that all buildings can move toward sustainable high performance in their operations and maintenance.”

The guideline applies to the ongoing operational practices for buildings and systems with respect to energy efficiency, occupant comfort, indoor air quality, health and safety. These systems include the building envelope, HVAC&R, plumbing, complementary energy systems, and utilities and electrical systems.

“Modern air conditioning systems protect the health, comfort and productivity of building occupants,” ASHRAE Presidential Member Bill Harrison, whose presidential theme focused on the need for operation and maintenance, said. “Unfortunately, they consume a lot of energy while providing these benefits. When these systems are not operated properly, the energy they use can increase by 50 percent or more. ASHRAE Guideline 32 helps building owners and managers evaluate and eliminate the wasted energy caused by poor operating procedures. The elimination of non-value producing energy helps protect our environment while saving the building owner money. Guideline 32 provides a no regrets path to improving energy efficiency in our buildings.”

The guideline contains recommendations for three levels of building oversight: senior managers, facility managers and technicians. Checklists for tracking that appropriate steps are being taken to move toward high-performance operation and maintenance are included for each.

Among the items on the checklist are:

- Technicians
  - Develop an HVAC system maintenance program using ANSI/ASHRAE/ACCA Standard 180, Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems
  - Maintain access and code required clearances to all HVAC and electrical equipment
- Facility managers
  - Develop and implement protocols for good facility/system documentation
  - Establish performance baselines and targets. Institute a system for regular reporting and evaluation.
- Senior managers
  - Assess buildings, workforce, practices, management tools and systems
  - Measure and report on building performance as part of regular business analytics

The cost of ASHRAE Guideline 32, Sustainable, High-Performance Operations and Maintenance, is \$69 (\$59, ASHRAE members). To order, contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada) or 404-636-8400 (worldwide), fax 404-321-5478, or visit [www.ashrae.org/bookstore](http://www.ashrae.org/bookstore)

## Public Input Sought on Alternative to ASHRAE Standard 62.1 Ventilation Rate Procedure Proposed

ATLANTA – A proposed change to the ventilation rate procedure in ASHRAE’s indoor air quality standard is open for review after changes were made based on public input last year.

ANSI/ASHRAE Standard 62.1-2010, Ventilation for Acceptable Indoor Air Quality, sets minimum ventilation rates and other requirements for commercial and institutional buildings.

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The ventilation rate procedure provides a prescriptive method for determining minimum ventilation requirements. It accounts for pollutant sources from both the building and its occupants, and allows the designer to account for the efficiency of different ventilation systems when delivering outdoor air to the breathing zone.

Proposed addendum f was first released for public comment in September 2011 after some users of Standard 62.1 indicated the ventilation rate procedure was “too complicated,” according to Standard 62.1 chair Roger Hedrick. He said the 62.1 committee agreed that application of the multiple-zone recirculating system equations described in Section 6.2.5 and Appendix A can be complex.

“When designing multiple zone recirculating ventilation systems, Table 6-3 provides a default value of Ventilation Efficiency (Ev) based on the largest value of the zone primary (Zp) outdoor air fraction, for all the zones served by the system,” he said. “However, if Max (Zp) exceeds 0.55, then Appendix A must be used to design the system outdoor airflow. Addendum f attempts to simplify the design process by providing a simplified default approach for cases with Max (Zp) greater than 0.55.”

The earlier review draft set the default value of the zone primary outdoor air fraction based on a default minimum zone primary airflow set as 30 percent of the zone design primary airflow.

“The public review comments pointed out that this formulation did not work mathematically under certain conditions,” Hedrick said. “This new public review version instead simply allows Ev to be set to 0.6, unless a higher value is provided by Table 6-3 or by using Appendix A. Use of a relatively low value of Ev will result in higher outdoor airflow rates, but using the default will simplify the system design process.”

Also open for review is addendum i, which would add limits for low humidity. Recent studies have shown that excessively low humidity may result in unacceptable indoor air quality. The Standard 62.1 committee is interested in the appropriateness of the relative humidity limit and the climate zones where the requirement applies. The addendum is open for an advisory public review, meaning comments received allow for constructive input and need not be resolved or formally acted on by the project committee.

In addition to addenda f and i, three additional addenda are open for public review from March 23 until April 22. For more information, visit [www.ashrae.org/publicreviews](http://www.ashrae.org/publicreviews). They are:

- Addendum h –Table 6-1, includes ventilation rates for “Sports arena (play area)” and “Gym, stadium (play area).” Both space types have ventilation rates based on floor area only, the per person rate is zero. Users of the standard have expressed interest in applying demand controlled ventilation to these space types, which is effectively prohibited by the lack of a per person component to the ventilation rate. This proposed addendum replaces both of these space types with “Gym, Sports Arena (play area)”, with  $R_p = 20$  cfm/person and  $R_a = 0.06$  cfm/ft<sup>2</sup> and assigns this new space type with an air class of 2 rather than class 1 from the first publication public review version.
- Addendum k adds an exception to the recirculation limits on Class 4 exhaust airstreams from laboratory hoods which would allow use of heat wheel energy recovery in some cases. The exception defines several criteria which the airstream must meet before such heat recovery can be used, and the heat recovery system must limit recirculation airflow to less than 0.5 percent of the outdoor air intake flow.
- Addendum l adds a refrigerated warehouse space type to Table 6-1, providing revised ventilation rates for these spaces. These rates include a “People Outdoor Air Rate,  $R_p$ ” which will require ventilation during periods of expected occupancy, but do not include an “Area Outdoor Air Rate,  $R_a$ ” which will allow the ventilation rate to be zero for refrigerated warehouses with no occupants.

In addition, addendum j is open for public review from March 23 until May 7. The proposed addendum would add requirements to the Indoor Air Quality Procedure (IAQP) for determining minimum ventilation rates which require consideration of the combined effects of multiple contaminants of concern on individual organ systems. This “additive” effect is already implicit in the Ventilation Rate Procedure. This proposed change is intended to improve the IAQP by requiring consideration of these additive effects that are well established in the literature for many organ systems, according to Hedrick.

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## **Standard 189.1 Deemed Compliance Option for IGCC; ICC Announces Availability of New Green Code**

ATLANTA – The building industry now has greater flexibility in the design of high performance buildings through a change impacting application of the green building standard from ASHRAE, the U.S. Green Building Council (USGBC) and the Illuminating Engineering Society (IES) included in the International Green Construction Code (IgCC).

ANSI/ASHRAE/USGBC/IES Standard 189.1-2011, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings, provides a green building foundation for those who strive to design, build and operate high performance buildings. It covers key topic areas of site sustainability, water-use efficiency, energy efficiency, indoor environmental quality and the building's impact on the atmosphere, materials and resources.

Standard 189.1 now serves as a compliance option with the newly published IgCC, developed by the International Code Council (ICC) and endorsed by cooperating sponsors ASTM International and the American Institute of Architects. The change allows permit applicants – rather than the authorities having jurisdiction – the option to use Standard 189.1 as the path of compliance. In earlier versions of the IgCC, Standard 189.1 was deemed a “jurisdictional compliance option,” meaning code jurisdictions had to choose between the provisions of Standard 189.1 and the IgCC in determining which compliance path to take.

“ASHRAE is pleased to see this change take place, allowing building designers, owners and contractors to choose to design to Standard 189.1, instead of the choice being made solely by the jurisdiction setting the code,”

Ron Jarnagin, ASHRAE president, said. “With today’s release of the 2012 IgCC, jurisdictions now have a viable green code at their disposal. Standard 189.1 stands on equal footing within the IgCC to provide a more complete set of options for governments and project teams alike.”

“IES also fully supports the change that removes the restriction,” Rita Harrold, director of technology, said. “The resulting freedom of choice will benefit all segments of the construction industry involved in developing design criteria for high performance buildings.”

The 2012 IgCC serves as a new model code for constructing and remodeling residential and commercial structures and is expected to increase sustainability, cost savings and job growth while providing direction for safe and sustainable building design and construction, according to the International Code Council.

“The IgCC adds to the strong foundation of guidance to move the industry forward in regards to high performance buildings,” Jarnagin said. “The document brings together the code expertise of ICC with technical expertise of ASHRAE to create a comprehensive green building code to improve overall performance of buildings, including reduction of energy consumption.”

“Today, the Code Council and its cooperating sponsors announce a new green construction code that will make a contribution toward healthier, lower impact and more sustainable building practices,” Richard P. Weiland, CEO of the ICC, said. “The International Green Construction Code published today was developed during the last three years with input from code and construction industry professionals, environmental organizations, policy makers and the public. Our community was diligent in developing a code that is not only adoptable, usable and enforceable, but also flexible and adaptable. We expect this new model code, like the family of other ICC Codes, to be adopted across the country and used globally.”

Early versions of the IgCC released during the development of the code already have been put into use by states and jurisdictions demonstrating the need and demand for safe and sustainable construction.

The IgCC was developed at public hearings with input from experts in code development and enforcement, architecture, engineering, building science, environmental advocacy, government, business, academia and the public.

The IgCC is the first model code to include sustainability measures for an entire construction project and its site – from design, through construction, certificate of occupancy and beyond. It establishes minimum green requirements for buildings and complements voluntary rating systems. The IgCC offers flexibility to jurisdictions which adopt the code by establishing several levels of compliance, starting with the core provisions of the code, and then offering “jurisdictional requirement” options that can be customized to fit the needs of a local community. A jurisdiction can also require higher performance through the use of “project electives” provisions.

The code acts as an overlay to the existing set of International Codes, including provisions of the International Energy Conservation Code and ICC-700, the National Green Building Standard, and incorporates ASHRAE Standard 189.1 as an alternate path to compliance. The IgCC provides model code language that establishes a baseline for new and existing buildings related to energy conservation, water efficiency, site impacts, building waste, material resource efficiency and other sustainability measures. The IgCC will be updated alongside the other model codes developed through the Code Council’s open, transparent and consensus-based code development process.



## CRC Update

Daniel Redmond  
2012 CRC Planning Committee Co-Chair  
**Smith & Andersen**  
E-mail: [daniel.redmond@smithandandersen.com](mailto:daniel.redmond@smithandandersen.com)

Each year delegates from ASHRAE chapters meet at the Chapter Regional Conference (CRC) with regional officers and society representatives to review the past year's activities and to plan for the future. The Ottawa Valley Chapter will be hosting the 2012 CRC for Region II. Region II is comprised of all of the Canadian chapters east of Winnipeg. In total there are nine chapters in Region II. Each year the CRC is hosted by a different chapter. The last CRC hosted in Ottawa was in 2002.

In attendance will be people from each of the ASHRAE chapters in Region II as well as some people from Society in Atlanta. While a large part of the CRC is focused on motions reviewing and improving the way regional council or society operates, it is also a valuable opportunity for training of the chapter committees as well as a chance for ASHRAE Chapter volunteers to connect with ASHRAE Society.

The 2012 CRC will be held at Carleton University in one of their new award winning buildings overlooking the Rideau River.

We will soon be seeking volunteers to assist with the successful operation of the CRC in many different roles.



## CRC Sponsorship Opportunities

Joel Primeau  
OVC Past-President (1999-2000)

Our thanks are extended to the following, who have already signed on as CRC sponsors:

- Master Group (Gold)
- HTS Engineering (Silver x 2)
- Engineered Air (Silver)
- Direct Energy (Silver)
- Dilfo Mechanical (Bronze)
- Primeau Consulting (Bronze)

There are many great sponsorship opportunities left: remember it's first come, first serve.

The complete list of CRC Sponsorship Opportunities can be seen later in the Communique.



## Chapter Technology Awards

**Chris Fudge**

TEGA Chair 2011-2012

**Master**

E-mail: cfudge@master.ca

Hi All,

The annual ASHRAE OVC Technology Award winners have been decided. Our panel of judges, Bob Kilpatrick, Rod Potter, Paul Baker and Don Weeks had their work cut out for them determining winners. This year's winners at the chapter level are:

### **Commercial**

New: Frank Bann of Goodkey Weedmark and Associates Ltd. The City of Ottawa – Central Archives and Public Materials Centre

Existing: Kashyap Desai. MRCL 130 Albert Variable Refrigerant Flow (VRF) Heating and Cooling System

### **Educational**

New: Robert Lefebvre of Goodkey Weedmark and Associates Ltd. Ashbury College Boys' Residence

### **Other Institutional**

Existing: Kashyap Desai, CMCC HVAC Controls and EMCS

### **Industrial Facilities Process**

Existing: Kashyap Desai, CMCC 3000 Ton +/- Cooling/Heating Plant Upgrade

### **Public Assembly**

Existing: Kashyap Desai, Rideau Center 1700 Tons +/- HR Cooling/Heating Plant Upgrade

### **Residential Single Family Home**

Existing: Geoffrey Russell Lynch of Dessau Inc. Bath Institution

Last year we had two winners at the Regional Level. We will be presenting the following with their certificate at the OVC chapter meeting in April:

### **Residential Building**

Andrew MacDonald, NORR Ltd., 424 Metcalf Redevelopment

### **New Institutional Building**

Patrick St-Onge, Wood Banani Bouthillette Parizeau Inc., Gatineau Fire Station No. 5

Please join us on April 17<sup>th</sup> to celebrate the accomplishments of our fellow ASHRAE members.

Thanks to all of those who took the time out of their busy schedules to submit their projects!



## ASHRAE 62.1 Seminar

**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](mailto:Georges.Maamari@wbbpengineering.com)

### *ASHRAE Standard 62.1-2010*

**DATE:** Wednesday April 18<sup>th</sup>, 2012

**TIME:** 9 AM to 4 PM (Sign-In/Coffee 8:30 AM)

**LOCATION:** Travelodge Ottawa Hotel & Conference Centre  
Centennial Ballroom  
1376 Carling Ave., Ottawa, Ontario  
(613) 722 7600

#### SEMINAR DESCRIPTION

This seminar will be offered in two parts:

*morning - 3 hours*

#### **Fundamental Requirements of ASHRAE Standard 62.1-2010**

This introductory course focuses on the basic requirements of ASHRAE Standard 62.1-2010 Ventilation for Acceptable Indoor Air Quality. The course covers the scope, application and multiple compliance paths available in the standard including the ventilation rate procedure, indoor air quality procedure, and natural ventilation procedure. Many of the standard's general requirements apply regardless of the procedure used. In the 2010 version, the IAQ procedure is rewritten and the natural ventilation procedure is new. The different application conditions for the ventilation rate procedure are also described. This course is highly recommended for all HVAC designers and engineers.

*afternoon - 3 hours*

#### **Application of Standard 62.1-2010: Multiple Spaces Equations and Spreadsheets**

Applying ASHRAE Standard 62.1-2010 to multiple spaces can be challenging even for advanced HVAC practitioners. This new, advanced course covers the new Appendix A method and focuses on using the new spreadsheet from the 2010 Users Manual. The subject material includes both constant volume and VAV applications and then examines certain cases where secondary recirculation applies. The course intent is to develop proficiency in using the spreadsheet tool for improving design solutions that will comply with the 2010 Standard. A copy of the spreadsheet will be provided and attendees are strongly encouraged to bring their laptops to learn the power of the spreadsheet and the effect on total outdoor air required when changing different design parameters. ***In-class exercises will be conducted, so attendees will benefit from using their own PC.***

#### DOCUMENTATION:

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

#### FEES:

<u>OTTAWA VALLEY CHAPTER MEMBERS</u>	\$ 325.00
NON-MEMBERS	\$ 400.00

Fees include documentation, light lunch and mid-session refreshments

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*Please make cheque payable to- ASHRAE Ottawa Valley Chapter*

**Deadline for sign-up and payment is April 11<sup>th</sup>, 2012**

**SPEAKER:**



**HOY BOHANON**

**Hoy Bohanon, P.E., LEED AP** is director of the Carolinas region of WorkingBuildings. WorkingBuildings is a professional services firm whose primary service offering is commissioning for high performance buildings. Mr. Bohanon began his engineering career as a research and design engineer, and then gained experience as a project engineer, facilities engineer, facilities manager, indoor air quality research engineer, environmental engineer, and business owner. He has a master's degree in engineering from North Carolina State University, and a bachelor's degree in mechanical engineering from Georgia Institute of Technology.

Mr. Bohanon has written technical papers and articles on indoor air quality, operations, and maintenance and is a frequent presenter at technical society meetings. He was recently appointed to the ASHRAE Standards Committee and is a recipient of the ASHRAE Distinguished Service Award. He is a member of ASHRAE Standard 62.1 committee, Ventilation for Acceptable Indoor Air Quality, serves as program chair for SSPC62.1 and TC5.5 Air-to-Air Energy Recovery. He is chair of the US Technical Advisory Group panel 1 (general principles) and panel 4 (indoor air quality) for ISO TC205 Building Environment Design. He served on the project committee that wrote The Indoor Air Quality Guide: Best Practices for Design, Construction and Commissioning for EPA/ASHRAE/AIA/BOMA/SMACNA/USGBC. He also teaches Complying with Requirements of ASHRAE Standard 62.1-2007 for the ASHRAE Learning Institute. Mr. Bohanon actively serves on committees of the Professional Engineers of North Carolina, the Winston-Salem Chamber of Commerce, US Green Building Council, and the Triad Early Action Compact.

	<p>American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) <a href="http://www.ashrae.ottawa.on.ca">www.ashrae.ottawa.on.ca</a></p> <p>Ottawa Valley Chapter</p>
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	<p><b>Kashyap Desai</b> B.Eng. Associate, Buildings Engineering HVAC and Chiller System Specialist</p>
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Past President



## Technical Session - HVAC Boot camp: Design of Air Systems

Joel Primeau

OVC Past-President (1999-2000)

This month's presentation will continue March's session and conclude the topic of air system design. In March, Joel Primeau covered building pressurization, ventilation effectiveness, air flow patterns, the coanda effect, ... On April 17th, Frank Bann (who graciously accepted to replace Joel this month) will be covering duct design and fan selection.

This will be a great refresher course for anyone signed up for the April 18th seminar.

As usual, the tech session will begin at 430pm and end at 530pm.

Joel

President &  
CRC Delegate



## FREE Webcast: Dedicated Outdoor Air Systems

**Stephen Lynch, P.Eng.**

Chapter President 2011-2012

**Direct Energy Business Services Limited**

E-mail: [stephen.lynch@directenergy.com](mailto:stephen.lynch@directenergy.com)

### April 19th, 2012 | ASHRAE Webcast Series

ASHRAE Society will be hosting a FREE webcast on DOAS on April 19th, 2012.

Hear leading experts discuss the role of Dedicated Outdoor Air Systems in the overall HVAC system and describe various DOAS equipment configurations, characteristics, and applications. This webcast will identify common design and operational pitfalls, and cover challenges unique to DOAS.

This free webcast is brought to you by the Chapter Technology Transfer Committee and sponsored by **Valent Air Management Systems, Rotor Source, Inc., Engineered Air, Munters, and Heat Pipe Technology.**

If you would like to learn more about this event, please visit the following ASHRAE Society web page, [FREE Webcast](#).

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email: [gregt@jp2g.com](mailto:gregt@jp2g.com)

**Longhill Energy**

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- Ability to work in a team environment
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# REGION II

## CRC 2012 – Ottawa

### SPONSORSHIP OPPORTUNITY

## OVERVIEW OF SPONSORSHIP OPPORTUNITIES

The Ottawa Valley chapter of ASHRAE will be hosting this year's Chapter Regional Conference (CRC). Hundreds of HVAC engineers from all over Eastern Canada will spend three days in the Nation's Capital to train for, plan for and discuss ASHRAE business.

The CRC 2012 will be based at Carleton University's main campus. The Ottawa CRC organizing committee is planning a full weekend of busy working meetings and fun evening activities for our guests.

We simply could not put this event together without the support of HVAC business leaders. We have put together several levels of sponsorship opportunities to help you promote your company's services.

All of our sponsors' logos (along with their level of sponsorship) will be clearly displayed on a large banner at the registration desk and in our events program.

OPPORTUNITIES THAT ARE ALREADY SPOKEN FOR ARE GRAYED OUT...

## PLATINUM SPONSORSHIP

### SATURDAY PRESIDENTIAL DINNER SPONSOR—\$3000

- Your company logo prominently displayed at the event (at the entrance and on each table);
- The MC will officially recognize your company's sponsorship during the dinner; and
- Your company logo identified as a platinum sponsor on official CRC signage and programs.

### SATURDAY AWARDS LUNCHEON SPONSOR - \$3000

- Your company logo prominently displayed at the event (at the entrance and on each table);
- The MC will officially recognize your company's sponsorship during the luncheon; and
- Your company logo identified as a platinum sponsor on official CRC signage and programs.

## GOLD SPONSORSHIP

### FRIDAY EVENING COCKTAIL SPONSOR - \$2000

- Your company logo prominently displayed at the cocktail;
- The MC will officially recognize your company's sponsorship during the cocktail hour; and
- Your company logo identified as a gold sponsor on official CRC signage and programs.



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# REGION II CRC 2012 – Ottawa SPONSORSHIP OPPORTUNITY

Continued

## SILVER SPONSORSHIP

FRIDAY HOSPITALITY SUITE SPONSOR - \$750

SATURDAY BREAKFAST SPONSOR - \$750

SATURDAY HOSPITALITY SUITE SPONSOR - \$750

SUNDAY BREAKFAST SPONSOR - \$750

- For each of these events, the sponsor's logo will be prominently displayed at the event; and
- Your company logo identified as a silver sponsor on official CRC signage and programs.

## BRONZE SPONSORSHIP

**ONE OF EIGHT CONFERENCE ROOM SPONSOR - \$400 (6 of 8 REMAIN AVAILABLE)**

- Your company logo will be prominently displayed in the lobby of the conference centre as a sponsor of a meeting room, as well as being displayed at one of the meeting rooms; and
- Your company logo identified as a bronze sponsor on official CRC signage and programs.

**IF YOU ARE INTERESTED IN BEING ONE OF OUR CRC 2012  
SPONSORS, PLEASE CONTACT **JOEL PRIMEAU** AT:  
[joelp@rogers.com](mailto:joelp@rogers.com) OR **613-867-5635**.**

**SPONSORSHIP OPPORTUNITIES WILL BE AWARDED ON A  
“FIRST COME FIRST SERVED” BASIS**



## Advertising

**Roderic Potter**

Treasurer 2011-201

Webmaster 2011-2012

Rodders CAS

E-mail: [ashrae@rodders.com](mailto: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](mailto: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](mailto: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](http://www.ashrae.org/onlinecourses)

**Phone:** Call toll-free at 1-800-527-4723 (US and Canada) or 404-636-8400 (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 CEUPDH 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](http://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)