

ASHRAE Ottawa Valley Chapter

Chapter Meeting #7 – Apr. 17th, 2012 (17:30 pm)



Meeting Date:	Apr. 17 th , 2012
Location:	Travelodge Ottawa, 1376 Carling Avenue
Attendance:	Total: 72
Theme:	ASHRAE Research
Tech Session:	The Design of Air Systems Part 2 by Frank Bann
Table Top:	Total HVAC, Trane
Program:	Methods of Effective Room Air Distribution
Speaker:	Daniel Int-Hout III - ASHRAE Distinguished Lecturer
Prepared by:	Secretary Steve Moons

Tech Session (16:30-17:20)

Frank Bann presented Joel Primeau's presentation on the design of air systems part 2, which was attended by approximately 25 people.

Social (17:30 – 18:39)

Business Session (18:40 –18:50)

- President Stephen Lynch called the meeting to order, and spoke on the theme of ASHRAE Research. He mentioned that all research dollars from Canada stay in Canada, and the OVC is a recipient of a lot of the research money.
- President Stephen Lynch welcomed members, and introduced the Board of Governors and the Executive.
- Adam Moons introduced this month's new members, Mr. Steve Mackey Mr. Richard Cameron Mr. Peter Keays Mr. Matthew Obach.
- Secretary Steve Moons introduced the evening's guests.
- Governor Chris Fudge presented this year's CTTC awards. Winners at the chapter level were chosen by the panel of Bob Kilpatrick, Rod Potter, Paul Baker and Don Weeks. Winners included:

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's Regional Level winners included:

Residential Building

Andrew MacDonald, NORR Ltd., 424 Metcalf Redevelopment

New Institutional Building

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

- President Stephen Lynch thanks Chris Fudge for his efforts on the technology awards.
- President Stephen Lynch then introduces the table tops for the evening. John Kirow from Thermal Care speaks about Turbocor compressor chillers and fluid cooler/pump packages represented by Total HVAC, Andrew Klassen from Trane discusses Scott Springfield custom air handling units.
- President Stephen Lynch asks Nominations chair Bob Kilpatrick to discuss nominations for the upcoming year. Bob states that this year's nominees for the executive include Don Weeks for President, Rod Potter for President-Elect, Steve Moons for Treasurer, Georges Maamari for Secretary. The new board of governors nominated are Paul Baker (returning), Chris Fudge (returning), Abbey Saunders (returning), and Pat Albert and Dan Redmond as new governors. Mike Swayne motions that the nominees be accepted, and nominations closed. Paul Seguin seconds the motion, and nominations are closed. Installation of new members will be done at the May meeting.
- President Stephen Lynch discusses the upcoming CRC, and asks for volunteers. He refers people to CRC co-chair Dan Redmond.
- Andrew Douma discusses the upcoming ASHRAE Golf Tournament on June 7th. He mentions that portions of the proceeds go to ASHRAE Research. All foursomes from last year are being held until May 1st, at which point they will be opened up to whoever requests them. He states that he is still looking for some additional sponsors for the event.
- President Stephen Lynch discusses the ASHRAE 62.1 seminar being held on Apr. 18th, as well as the free webinar that ASHRAE is hosting on DOAS systems.
- Dinner begins at 7:03. Past president Cathy Godin circles the room for a 50/50 draw benefitting ASHRAE Research.

Dinner (19:05 – 19:46)

- Past President Cathy Godin draws the winner of the 50/50, Pierre Richer. President Stephen Lynch reminds attendees to fill out the speaker review forms.
- President Stephen Lynch then introduces the evening's speaker.

Evening Program (19:50 – 20:56)

- Speaker Dan Int-Hout III, an ASHRAE distinguished lecturer, spoke to methods of effective room air distribution.
- Dan began with describing where we are today and the discrepancy in expectations.
- Dan's presentation would comprise of LEED issues and updates, the discussion of perimeter issues, acoustics, thermal comfort, IAQ / Standard 62.1, and air system selection.
- The challenge with LEED is to improve by 30% the base systems of 90.1. Base system is VAV with overhead (well mixed). To improve on this, options include underfloor air distribution (UFAD), displacement ventilation and chilled ceilings & beams.
- Energy calculations are readily available for VAV, but not necessarily the other options.
- Thermal comfort allows for max. 5F vertical temperature stratification.
- The economics of comfort show a rough equivalence of energy, taxes, maintenance and original construction for life-cycle cost breakdown. However, when compared to the inclusion of people (salaries) of the building, these four areas shrink to only approx. 5% of the costs. The takeaway is that the companies leasing the space are far more interested in occupant comfort to maximize productivity than they are by first cost or energy costs.
- Acoustics in the space are moving back to a dBA rating from NC ratings.
- Sound specifications are recommended to be based on clearly stated assumptions and should reflect the real project needs, not any manufacturer's data.
- Common methods of air distribution include overhead well mixed systems. Care should be taken to select diffusers with appropriate throw at max. and min. airflows. Noise and dirt can be good, as it proves the system is working and mixing the air.
- Part of balancing MUST include the adjustment of diffusers to provide proper distribution.
- The max. delta T for effective mixing using overhead heating is 15F, ie. 90F discharge.
- Pros of this system include well documented energy calculation programs, well understood construction details. Cons are it's difficulty to guarantee 30% more efficiency than 90.1
- Underfloor Air Distribution utilizes raised floors, and provide a lot of flexibility for reworking the space. Other pros include low sound, relatively simple controls, and local occupant control. Cons include no energy modeling programs, and the requirement for careful building construction to avoid leakage and consideration of high humidity climates.
- Displacement Ventilation pros include possibly less cooling energy requirements, longer free cooling period, better air quality / reduced OA requirements. Cons require >10' ceilings, a draft risk near units, and a separate heating system if the exterior walls are not well insulated.
- Chilled Beam pros offer potential energy savings, low air velocities, silent operation, radically smaller ductwork and simple controls. Cons include an excellent building curtain wall to control condensation, and a higher first equipment and installation cost.
- President Stephen Lynch thanked Dan for his presentation and gave him a small gift.
- Meeting adjourned 21:00

Distribution:

All Board of Governors, Webmaster