

ASHRAE Ottawa Valley Chapter

Chapter Meeting #4 – 24 January 2019

Meeting Date:	24 January 2019
Location:	Centurion Conference & Event Center, 170 Colonnade Rd, Ottawa, ON
Attendance:	Total: 79
	Members: 60 Guests: 18 Students: 0
Theme:	YEA
Tour:	None
Tech Session:	Introduction to the NMS by Luc Pellerin
Table Top:	Total HVAC and Enviroair
Program:	Indoor Agriculture
Speakers:	Geoff Brown
Prepared by:	Adrienne Mitani

Tech Session (16:30 – 17:30)

Social (17:30 – 18:10)

Business Session (18:15 – 18:35)

- President Daniel Redmond welcomed everyone and gave the call to order. He explained that the meeting was moved to the Thursday due to the ASHRAE Winter meeting.
- President Daniel Redmond introduced the Board of Governors and the Executive.
- Secretary Adrienne Mitani introduced the guests.
- President-Elect Aaron Dobson spoke about the current Research Promotion campaign and the evening raffle, which was for four tickets donated by Engineered Air for a Senators hockey game for Ottawa versus Winnipeg Jets on February 9th.
- Governor Joe Della Valle announced the upcoming February YEA event for archery tag, a game similar to dodgeball with bows and arrows, and an upcoming seminar presented by Ralph Kison, who does the Young Engineers in ASHRAE Leadership Weekends, for a one-day crash course on March 13th.
- President Daniel Redmond announced the annual ASHRAE Curling bonspiel which will be held at the Nepean Sportsplex Monday March 8th. Format will be similar to previous years with four ends each, however this year the dinner will be held off site at 6pm. Please contact Coleen Fox if you have any questions.
- Luc Pellerin of the NRC spoke briefly about the NMS and tech session that was held before the meeting. The National Master Specification (NMS) was moved from Public Works to the NRC in 2015, and they have started to put together improvements. Design for Climate resistance infrastructure is underway, and commissioning section into the NMS, smart building initiatives and performance-based specification. They are inviting the industry to give feedback or review on a volunteer basis. They are looking for insight into have performance-based specifications are developed. If you are interested please email or call Luc directly available from the NRC website.

- Daniel Redmond gave a short recap of the main events at the Winter ASHRAE meeting, with current and incoming leadership.
- Table tops for the evening were TotalHVAC and Enviroair. Michael Lallemand spoke about VRF and the line of Samsung products both air cooled and water cooled. James Pady from Longhill presented about the DAS product line related to indoor agriculture, they have worked with Dectron and now DAS, and an indoor purification technology used in indoor agriculture, health care, and industrial use.
- Secretary Adrienne Mitani announced the upcoming ASHRAE Career fair, which will be held again at Carleton University on March 4th. Booths will be \$300 and sponsorship is \$150, registration for booths is online.

Business Session Finished at 18:35 pm

Dinner (18:35 – 19:15)

- Dinner served at 18:35 pm
- Dinner was an assorted buffet.
- Dessert was cake served with a choice of coffee or tea.

Evening Program (19:15- 20:50)

- Evening program started at 19:55pm
- Tickets were raffled off for research promotion, with \$700 raised for ASHRAE Research.
- President Daniel Redmond introduced Geoff Brown.
- President Daniel Redmond announced the speaker Geoff Brown and the topic of Indoor Agriculture. Geoff works the Business Unit and Brand Manager for the Agronomic IQ series of Dehumidifiers at DAS. He specializes in indoor humidity control, and how it relates to indoor climates for indoor agriculture and the recent cannabis industry.
- He is also on the committee for a joint standard for ASBE and ASHRAE for indoor agriculture X653. Focus was mostly on Cannabis due to that is the market. These focus on greenhouses, mixed light facilities, and warehouse, with crops such as cannabis, food and flowers, and the design of these facilities depends heavily on the crop.
- Some consideration for crop facilities is the amount of water that they will be adding to the room and how the plants process the water. The requirements of the plants will vary on the strain of the plant and the specific requirements and expectations of the growers, which he stressed was necessary to get in detail.
- Cannabis has a six-stage growth cycle, which require different temperatures and humidity levels for specific amounts of time, as the plants mature, are cloned, flower, and depending on the processed dried and cured. If a room is ever contaminated, usually the room is scrapped and washed down thoroughly. Depending on what the end product is, dried, oil, or other there will be different processes required.
- Some items of note are the high power density required for indoor agriculture, which is compared to a data center, with a large latent heat load. Dehumidification of the space is required at low temperatures for exact temperature and humidity for different rooms with crops at different life stages, or for different strains. All of the growers are trying to differentiate their product, either with extracts or as a master craft product which may have different requirements for the process.

- The primary drivers in the process is light for sensible load, and water usage to understand the water and latent load of the space. However when the lights turn off, the plants will pump moistures into the air, which means during night temperature setback the grains of moisture in the air will stay the same but the humidity will increase as the temperature decreases.
- When the HVAC systems are investigated, some considerations are the dew point, since dehumidification is required at low temperatures, and how the moisture can be removed. The cooling demand does not change with the season and reheat is required all year round, therefore choosing systems that are capable of both, and something that is scalable as the facilities grow is key. The technical requirements are not new, however getting the required information for the desired environments is key, and within the budgets and scale that is required.
- One question was asked about odour, and often it is only treated at the exhaust for neighbors, with carbon filtration, and active oxidization.
- President Daniel Redmond thanked speaker and presenting a gift of a commemorative coin to Geoff Brown.
- The attendees were reminded of the survey, which will be emailed after the meeting, and a reminder that there was no meeting next month.
- The next meeting is February 19th at the Centurion Conference and Event Center with a presentation on Refrigerant.

Meeting adjourned 21:10 pm