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ASHRAE LONDON CANADA CHAPTER #116

TOPIC:

Air Filtration in Cannabis Cultivation

Presenter:

PAYAM NAJAFIRAD
MOLECULAR FILTRATION SEGMENT MANAGER
CAMFIL

MONDAY JAN 27/2020

5:15PM – SOCIAL

6:15PM – DINNER

7:15PM – PRESENTATION

MEETING LOCATION

Four Points by Sheraton

1150 Wellington Rd. S., London

\$60 for MEMEBERS

\$20 for STUDENTS

JAN TOPIC

Air Filtration in Cannabis Cultivation

Air filtration for cannabis production is critical both within the cultivation space and for the air quality leaving the facility.

Within the grow space, bacteria, mildew, and mold can ruin entire crops if not kept in check. Air filtration must be used for recirculated air within the cultivation space to ensure the health of the plants and optimal air quality.

Cannabis producers must ensure that all air leaving their facility is filtered to remove odours produced by the cannabis plants.

Items to be covered:

- Introduction to molecular filtration - Principals
- Recognized media types deployed in molecular filtration
- Recognized standards
- Focus application-Cannabis Cultivation

JAN PRESENTER

PAYAM NAJAFIRAD

PMOLECULAR FILTRATION SEGMENT MANAGER

CAMFIL (www.camfil.com)

Payam Najafirad is the “Molecular Filtration” product manager for Camfil Canada, a leading manufacturer of premium clean air solutions, that provide commercial and industrial systems for air filtration and air pollution control to improve worker and equipment productivity, minimize energy use and benefit human health and the environment.

Payam began his engineering career as a research and HVAC design engineer, and then gained experience as a technical consultant. He has been in the air filtration field since 2007 as a technical consultant, marketing manager, health care segment manager, sales manager and managing director. He has a master's degree in Mechanical Engineering.

Mr. Najafirad has written papers and articles on air filtration systems for the automotive industry, health care facilities, and turbomachinery. He has been a frequent presenter to consultants, engineers, clean room and HVAC designers.

Chapter President's Message

Happy New Year! Between touring the culinary school, our engaging speakers, and even blasting aliens at the Rec Room, 2019 was an exciting year filled with memories. It's great to see so many members making it out each month, and equally nice to see so many new faces as well. Thank you to everybody that came out to make it such a success!

Moving into the new decade we will continue our momentum with Payam Najafirad speaking on Air Filtration in Cannabis Cultivation as well as a Distinguished Lecturer the month after. And I'm happy to announce that we will be bringing the 2020 ASHRAE golf tournament back to fan-favorite Fire Rock. We're even moving the date out a couple weeks for a better shot at sunshine!

James Scudamore (email: jscudamore@ztr.com) 519-452-1233 x512
ASHRAE London Canada Chapter
Chapter President 2019/2020

ASHRAE – TECH HOUR VIDEO

Now Available! Tech Hour Videos

#1: Optimize Occupant Health, Building Energy Performance and Revenue through Indoor-Air Hydration

Presented by: **Stephanie Taylor**, M.D., M. Arch., Taylor Healthcare Inc., CEO

Watch Now in the **ASHRAE 365 App**

Get in the Apple App Store or Google Play or on the web site:

<https://www.ashrae.org/professional-development/tech-hour-videos>

Upcoming Tech Hour Video (Feb 2020)

Tech Hour #2: **Where Have All The Ethics Gone?**

Nov Meeting Summary

ASHRAE London members visited **Fanshawe College - School of Tourism, Hospitality and Culinary Art** within the old Kingsmill's building. A presentation of building systems was followed by a tour thru the building looking at classrooms, meeting rooms and utility/equipment rooms. After the tour, dinners was at **The Chef's Table** at Fanshawe College which provides hands-on learning opportunities for students of Fanshawe's School of Tourism, Hospitality and Culinary Arts.

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Professional Development

Need hours for your professional development requirements? Be sure to attend a chapter meeting. Professional Engineers Ontario requires members to have yearly professional development training recorded through the Practice Evaluation and Knowledge (PEAK) program. Other groups may also require continuing education.

Chapter Upcoming Meetings

Feb 24, 2020 Ivey Spencer Leadership Centre
**CO2 Monitoring for Outdoor Airflow
and Demand-Controlled Ventilation**

ASHRAE Distinguished Lecturer

Thomas M. Lawrence, Ph.D.

The University of Georgia, Athens, GA

***** be sure to check web site for latest information *****

<http://LondonCanada.AshraeChapters.org>

Registration Now Open



2020 ASHRAE Winter Conference

Orlando, FL | February 1-5, 2020

<https://www.ashrae.org/conferences/2020-winter-conference-orlando>

The **technical program** for the 2020 ASHRAE Winter Conference, to be held Feb. 1-5, at the Hilton Orlando is **now available online** and in **ASHRAE 365 phone app**. Registration for the conference provides entry to the co-sponsored AHR Expo, held Feb. 3-5 at the Orange County Convention Center.

The conference's technical program offers over 100 technical sessions, 300 speakers, and more than 150 PDHs.

AHR Expo 2020

03 Feb 2020 – 05 Feb 2020

<https://ahrexpo.com/>



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Members Save 20% Everyday in ASHRAE Bookstore

ASHRAE members automatically receive a 20% discount on ASHRAE's expansive catalog of standards, guidelines, seminars, textbooks, papers and design guides. Log in and the member discount is automatically applied to pricing.

Shop Now: <https://www.techstreet.com/ashrae/ashraegate.html>

2020 AHR EXPO

The **Product Preview PDF** represents just a small sample of the products that will be on display at the AHR Expo.

<https://ahrexpo.com/wp-content/uploads/2019/11/2020-AHREXPO-PRODUCT-PREVIEW.pdf>

Web site has more ways to explore what the Show has to offer:

- Watch the Trailers
- Search the Exhibitor List
- Search the Show by Product Category
- View Education Schedule

FREE REGISTRATION

New ASHRAE HVAC Design Trainings Near You

Expand your understanding of the fundamental and technical aspects needed to design, maintain and operate new and existing HVAC systems.

	Level I	Level II
Toronto, ON	May 18 – 20, 2020	May 21 – 22, 2020

See:

<https://www.ashrae.org/professional-development/all-instructor-led-training/hvac-design-and-operations-training/hvac-design-training-toronto-may-2020>

ASHRAE TORONTO - 2020 CAREER FAIR – WED FEB 12, 2020

Humber College - Centre for Technology Innovation
205 Humber College Blvd, Toronto, ON M9W 5L7
10:00 AM - 2:00 PM

See: <http://torontoashrae.com/>



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ASHRAE RESEARCH

To donate online please visit: <http://www.ashrae.com/donate>

**2019-2020 Current Donors: Norm Clarke, Tom Pollard, Alex Somers, Andrew Crowley
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Honour Roll \$150-\$249

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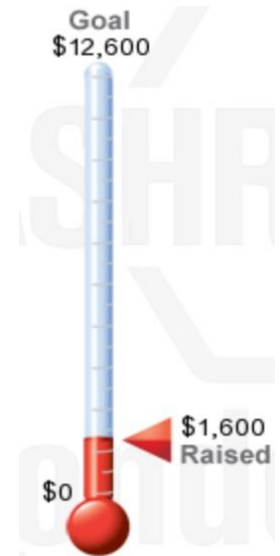
ASHRAE Associate \$2,500-\$4,999

If any questions, please contact me

Andrew Crowley (email: acrowley@drennan.on.ca) 519-671-8454

ASHRAE London Canada Chapter

Research Promotion Chair 2019/2020



Building EQ

Be an Energy Genius 

ASHRAE's Building EQ Portal provides a quick energy analysis that benchmarks a building's energy performance. Building EQ assists in the preparation of an ASHRAE Level 1 Energy Audit to identify means to improve a building's energy performance including low-cost, no-cost energy efficiency measures and an Indoor Environmental Quality survey with recorded measurements to provide additional information to assess a building's performance.

Two different evaluations can be used independently to compare a candidate building to other similar buildings in the same climate zone or together for an assessment of a building's design potential compared to actual operation:

- **In Operation** compares actual building energy use based on metered energy information.
- **As Designed** compares potential energy use based on the building's physical characteristics and systems with standardized energy use simulation.

Learn more on how to access the portal, initiate a project, and begin a submission:

<https://www.ashrae.org/technical-resources/building-eq/building-eq-portal>



AMENDMENT TO THE 2012 BUILDING CODE Ontario Regulation 88/19

On January 1, 2020 additional amendments came into effect, including:

- fire safety measures that include fire prevention and early detection and warning systems
- structural sufficiency of buildings to withstand external forces and improve resilience
- water conservation improvements to plumbing fixtures
- public health and safety requirements
- accessibility requirements for barrier-free access

Additional information: <https://www.ontario.ca/document/changes-2012-building-code>

Amendment Packages can be purchases from:

<https://www.publications.gov.on.ca/browse-catalogues/building-code-and-guides>

BUILDING CODE NEWS - CodeNews Issue 293

January 15, 2020 **Winter 2020 National Code Consultation**

The National Research Council of Canada (NRC) has launched a subsequent public consultation on proposed changes to the national construction codes, including the National Building Code of Canada, National Energy Code of Canada for Buildings and the National Plumbing Code of Canada that were not covered in the Fall 2019 consultation.

This public consultation will shape the content of the anticipated 2020 national codes and subsequently Ontario's Building Code. Ontario code users are strongly encouraged to review and provide comments on the national proposals as they are expected to significantly influence the content of future editions to Ontario's Building Code.

As part of on-going efforts to transform the development of construction codes, provinces, territories and the federal government are committed to increasing the harmonization of the technical requirements across Canada. This will help streamline the national and provincial code development process, thereby reducing duplication and increasing efficiency.

The consultation runs from January 13, 2020 through March 13, 2020. It can be accessed in the link below:

<https://nrc.canada.ca/en/certifications-evaluations-standards/codes-canada/codes-development-process/public-review-proposed-changes-codes-canada-publications-winter-2020>

The majority of the changes in NRC's consultation are related to:

Large Farm Buildings,

Energy Efficiency,

Referenced document table,

And Others

Accessibility,

Earthquake and Structural design,

Plumbing

NATIONAL ENGINEERING MONTH

MARCH 2020

<http://nemontario.ca/>

In March 1992, Engineers Canada created National Engineering Month (NEM) as a "celebration of engineering excellence" in Canada. Although many of National Engineering Month's high profile activities appeal to youth, fundamentally the campaign strives to strengthen bonds within the profession and those of the profession with society.

The NEM campaign strives to support diverse youth in making better decisions about a possible future in engineering & engineering technology professions. We do this by:

- building their curiosity about engineering and engineering technology;
 - helping them to widen their perception and gain a better understanding of these fields; and
 - creating a sense of belonging within these professions.
-



ASHRAE NEWS

ASHRAE eLearning - Web-Based | On-Demand

ASHRAE eLearning is an approved Continuing Education provider for the American Institute of Architects (AIA), and a U.S. Green Building Council (USGBC) Education Partner. Continuing Education (CE) hours earned from ASHRAE eLearning may be applied toward maintenance of state-licensed professionals (architects and professional engineers) and LEED credentials.

For the complete eLearning catalog, please visit <https://elearning.ashrae.org>

Individuals can register online at <https://elearning.ashrae.org> and immediately gain access. Companies can register employees by contacting email: elearning@ashrae.org or calling 678-500-3917.

ASHRAE's New Headquarters Building!

For latest news and photos, see: <https://www.ashrae.org/about/designing-ashrae-s-new-global-headquarters>

Dear ASHRAE Member,

As I reflect upon ASHRAE's 125-year anniversary, there are many reasons to be optimistic about the future of our Society. And, as I meet with our members and chapter leadership around the world, I am also consistently inspired by your personal stories of ASHRAE and its impact on your careers and lives.

At the hub of our Society's work is ASHRAE's headquarters. We have an amazing opportunity to demonstrate decades of research and progress through the renovation of our new global headquarters in Metro Atlanta, Georgia (opening Fall 2020). This renovated 1970's era building will showcase the latest equipment, systems and technology to demonstrate sustainability in action. This is a historic moment for ASHRAE.

For years, ASHRAE has served as a catalyst for the advancement of building technologies. It has driven the creation and development of entire industries that support the built environment. The new ASHRAE global headquarters provides an opportunity for members to acknowledge that contribution and give back – to support a Society that has labored selflessly for the betterment of the built environment. Together we can do something very, very special! I invite you to join me by making a gift to the new ASHRAE Global Headquarters project:

www.ashrae.org/buildingcampaign

Your support is vital to our success and a project of this magnitude needs participation from members and friends across the globe in order to succeed. On behalf of the Board of Directors, ASHRAE staff and myself, your consideration of this request is greatly appreciated.

Sincerely,

Darryl K. Boyce, P. Eng.
2019-20 ASHRAE President

Some of the opportunities to be recognized for your support include the following:

- \$100 - \$249 Listed on the electronic Wall of Honor
- \$250 - \$499 Listed in the Commemorative Magazine and Receive a Special Edition Coin
- \$500 - \$999 Engraved Special Edition HQ Brick
- \$1,000 - \$4,000 "Adopt a Solar Panel" recognition in the Commemorative Magazine
- \$5,000+ Listed on a Special Plaque in the new HQ building

Donate now: www.ashrae.org/buildingcampaign



ASHRAE Releases Revised Version of Data Center Standard

(December 11, 2019) – ASHRAE has released a revised version of its energy standard for data centers.

ANSI/ASHRAE Standard 90.4-2019, Energy Standard for Data Centers, establishes the minimum energy-efficiency requirements for the design and operation of data centers, with special consideration to their unique load requirements compared to other buildings. Standard 90.4 applies to data centers with a conditioned floor area greater than 20 W/ft² and IT equipment loads greater than 10 kW and contains specific requirements for mechanical and electrical systems installed in new data centers or in data center additions/alterations that require new mechanical or electrical systems.

Standard 90.4 has been in a continuous state of development as a code-intended companion to Standard 90.1 since 2013. The standard requires compliance with Standard 90.1 for building envelope, service water heating, lighting, and other equipment.

To purchase Standard 90.4, visit www.ashrae.org/bookstore or contact ASHRAE Customer Contact Center at 1-800-527-4723 (United States and Canada), 404-636-8400 (worldwide) or fax 678-539-2129.

Welcome New Chapters!

Members Council is pleased to announce the approval of three new chapter charters during their 2019 Fall Meeting in Atlanta:

- East India Chapter (Kolkata, India)
- Chandigarh Chapter (Chandigarh, India)
- Rajasthan Chapter (Jaipur, Rajasthan, India)

Members Council also approved the charter of the Abuja Section (Abuja, Nigeria). This brings the total number of ASHRAE chapters to 195 and 37 ASHRAE sections globally.

Memoranda of Understanding & Agreement with Other Organizations

ASHRAE's efforts as a leader in the global building industry include entering into Memoranda of Understanding (MOUs) with other organizations with which Society shares ideals. So far during the current Society Year, ASHRAE has signed MOUs with:

- American Chemistry Council (ACC)
 - Leadership in Educational Facilities (APPA)
 - Electric Power Research Institute (EPRI)
 - International Facility Management Association (IFMA)
 - National Institute of Standards and Technology (NIST)
 - Smart Cities Council
 - Society of Air-conditioning and Refrigerating Engineers of Korea (SAREK)
-

YESTERDAY, TOMORROW AND TODAY:

AN ORAL HISTORY OF ASHRAE'S FIRST 125 YEARS

Leading up to ASHRAE's 125th Anniversary, ASHRAE filmed multiple interviews of ASHRAE members that are a reflection of their often funny, very personal and specific experiences in ASHRAE. Most of all, we hope you will enjoy the enthusiasm and dedication that these members have for the Society!

See: <https://www.ashrae.org/about/leadership/leadership-voices/yesterday-tomorrow-and-today>

- Bogi Setty on His First Experience with ASHRAE
- Paul Torcellini on His First ASHRAE Handbook
- Bassam Elssaad on Old School Tools of the Industry
- Janice Means on Why Representation Matters



ASHRAE Announces Technical Program for 2020 Winter Conference

The technical program for the **2020 ASHRAE Winter Conference**, to be held Feb. 1–5, at the Hilton Orlando is now available online and in **ASHRAE 365**. Registration for the conference provides entry to the co-sponsored **AHR Expo**, held Feb. 3-5 at the Orange County Convention Center.

The conference's technical program offers over 100 technical sessions, 300 speakers, and more than 150 PDHs.

"With changing energy, economic and environmental concerns at the forefront of building decisions, a focus on emerging approaches and advanced concepts of addressing those concerns have become more crucial to building professionals," said conference chair, Melanie Derby. "The 2020 ASHRAE Winter Conference technical program will present cutting-edge methods and practices on a wide-range of topics to provide solutions to these contemporary building-related concerns."

The five-day event includes eight conference tracks, selected to represent areas of focus common among ASHRAE membership. A new and anticipated track at this year's conference, Big Data and Smart Controls, will examine the use of big data, advanced algorithms, occupancy-based control strategies, data mining and other analytical techniques to economically automate buildings. Another new conference track showcases ASHRAE's leadership role in the development of standards and guidelines that are used to shape codes. The track Standards, Guidelines and Codes, will include topics such as the standards development process, the use of standards to help mechanical systems in buildings survive disaster and linking Standard 100 with Standard 90.1-2019, among others.

Conference tracks include:

- HVAC&R Fundamentals and Applications
- Systems and Equipment
- Refrigeration and Refrigerants
- Cutting Edge Approaches
- High Efficiency Design and Operation
- Big Data and Smart Controls
- Ventilation, IAQ and Air Distribution Systems
- Standards, Guidelines and Codes

ASHRAE will offer three Residential Buildings "mini-tracks" and three Refrigeration and Refrigerants track sessions at the AHR Expo on Monday, Feb 3. These sessions offer AHR Expo attendees updates on pertinent topics and are free to attend.

ASHRAE Learning Institute (ALI) will offer four full-day seminars and 17 half-day short courses during the conference.

New ALI courses include:

- Guideline 36: Best in Class HVAC Control Sequences
- Complying with Standard 90.1-2019
- Installing DDC Control Systems
- IgCC and ASHRAE Standard 189.1 Technical Provisions
- Principles of Building Commissioning: ASHRAE Guideline 0 and Standard 202
- ASHRAE Cold Climate Design
- V in HVAC – What, Why, Where, How, and How Much

PDH's are available to attendees who attend any of the technical sessions or ALI courses.

Apply by Jan. 10 to sit for an ASHRAE Certification exam. Exams will be administered on Feb. 5 in these key fields: Building Operations, Commissioning, Energy Assessment, Energy Modeling, Healthcare Facility Design, High-Performance Building Design, and HVAC Design, a new program.

ASHRAE President Darryl K. Boyce, P.Eng. will provide an update on the 2019-20 society theme, "Building for People and Performance. Achieving Operational Excellence," at the President's Luncheon on Monday, Feb. 3. Major contributors to the ASHRAE RP Campaign will also be recognized at this lunch.

For complete conference and expo information, download **ASHRAE 365**, or visit the **2020 ASHRAE Winter Conference** and the **AHR Expo** websites.