

# Air Filtration Design & Maintenance Symposium

*Design and maintenance of effective filtration systems*

November 24, 2009

9:30 am to 12:30 pm

**Presented by**



Fariborz Haghghat, Ph.D.

Concordia Research Chair – Energy & Environment  
Department of Building, Civil and Environmental Engineering

**In collaboration with**



Michael Dobbs

Vice President

Camfil Farr (Canada) Inc.

## **OVERVIEW**

Concerns about occupants' health and comfort, along with energy consumption, are main design parameters for ventilation systems. However, threats to public safety and security cannot be overlooked and need to be taken into consideration. The sudden release of chemical and biological agents can pose a safety and security threat to public buildings and can cause injuries and loss of life. The possibility of a pandemic (such as H1N1) or the sudden release of biological agents needs to be addressed when designing new ventilation systems or maintaining existing air handling units.

This seminar will provide a detailed overview of current filtration standards, help resolve critical IAQ design and maintenance concerns, train participants to reduce AHU energy consumption and improve sustainability initiatives.

## **WHO WILL BENEFIT?**

This seminar will be valuable to building operators, facility management personnel, HVAC designers engineers and contractors, property managers, energy/sustainability managers, infectious disease control and research staff. The material covered in this seminar is particularly relevant in the design of an energy efficient and healthy indoor environment.



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### SEMINAR DETAILS

This no-cost, technical session will take place on Tuesday, November 24, 2009. Please note that the presentations will be given in English. All attendees will receive an accompanying booklet of the presentations in their preferred language at registration. French speaking liaisons will be available during the Question and Answer period to translate questions and responses as required.

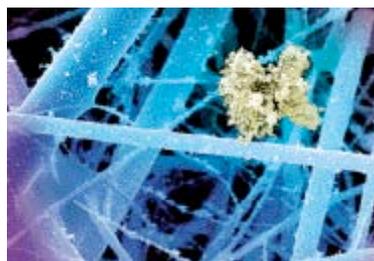
**Location:** Concordia University  
1515 Saint Catherine St. Ouest,  
Montreal, Quebec  
EV Building Room 2-260

### Agenda:

Time	Topic	Speaker
9:30 am	Registration	
10:00 am	Introduction	Fariborz Haghighat
10:10 am	Particulate Filtration: How Recent Changes in ASHRAE Standards Affect Design and Maintenance Considerations	Don Thornburg
10:50 am	Full Scale Test of Gas Phase Filter	Hamid Kholafai
11:20 am	Molecular Filtration: Optimizing System Design to Improve IAQ and Mitigate the Threat of Toxic Gases	Chris Ecob
12:00 pm	Question & Answer	
12:30 pm	Lunch	

### REGISTRATION

Seating is limited, so please register soon to reserve your spot. Registration will be open until November 18, 2009. To register, click [here](#), or visit [http://www.camfilfarr.com/cou\\_caen/concordia\\_symposium.cfm](http://www.camfilfarr.com/cou_caen/concordia_symposium.cfm).



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### **SPEAKER BIOGRAPHIES**

#### ***Don Thornburg, BS Mechanical Engineering***

Research & Development Manager, Camfil Farr

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Don has over twenty-six years engineering experience designing HVAC systems and filtration solutions for a broad range of commercial and industrial applications. Don has dedicated the past twelve years of his career to Camfil Farr in a research and development capacity designing air filter products and innovative filter testing equipment. Prior to Camfil Farr, Don held the positions of facilities engineer for United Telephone (Sprint), engineering manager for Flanders Filters, and director of engineering for Viskon-Aire. His current responsibilities include directing and fulfilling Camfil Farr's North American R&D commitments with specialized focus in In-situ testing. Don is also the lead resource in directing the development and the ongoing system improvements to Camfil Farr's proprietary filter Life-Cycle Cost (LCC) Analysis software tool.

Don is recognized for his diligence and dedication in leading multiple ASHRAE efforts forming and executing regulatory standards established for the HVAC industry. Since 1992 to present, he has been a voting member of ASHRAE SSPC 52.2 and currently serves as committee chairman. For the past four years, Don has chaired the ASHRAE TC 2.4 Particulate Filtration Standards subcommittee. In 2005, he was the appointed chair for ASHRAE's GPC 26 In-situ Testing of Air Filtration Devices Standard. Don has also served in directing ISO initiatives since 2005, holding the roles of secretary for ISO TC 142, Working Group 3, is the current convener for Working Group 3, project lead for the In-situ work item, a U.S. TC 142 delegation member, and currently vice-chair of the U.S. TAG.

#### ***Hamid Kholafai***

Research Assistant, Concordia University

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Hamid's current research focused on the evaluation of air cleaning system performance and the development of advanced air cleaning systems. Throughout his M.A.sc at Concordia University, he worked on indoor air quality related areas including theoretical and experimental mass transfer in porous materials, gaseous air pollutants and control techniques.

#### ***Chris Ecob, Ph.D.***

Technical Director, Camfil Ltd (UK)

Global Business Manager – Molecular Filtration, Camfil AB (Sweden)

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Chris Ecob was awarded his first degree in Chemistry from Durham University in 1979. He continued to study for his Ph.D. at Salford University from 1979 – 1983. The study concerned the use of activated carbon in the nuclear power industry. The position was sponsored by Sutcliffe Speakman Carbons Ltd, who at the time were the leading UK producer of activated carbon. In 1983 Chris Ecob joined Sutcliffe Speakman Carbons as their UK technical sales representative.

In 1984 Chris joined Automet filtration, a manufacturer of air filtration products and took responsibility for all carbon filtration business. The move to Automet allowed Chris to become involved with providing complete system solutions to end-users. Chris continued to develop solutions for a wide range of customer applications, both in the UK and around the world.

1989 was marked by two significant successes. Firstly, Chris was promoted to the position of Technical Director at Automet. Secondly, after studying on nights and weekends for several years, Chris was awarded his Ph.D. for a study on the use of impregnated activated carbon to control radioactive iodine in the nuclear power industry. In particular, the influence of relative humidity and the effect of pore structure in the carbon were investigated.

In 1997, Automet Filtration were purchased by Camfil AB. Chris has continued to take responsibility for chemical filtration both from a UK perspective and from a position within Corporate R&D. Camfil AB have invested heavily in new molecular filtration since acquiring Automet, especially in new product development and testing capabilities. Chris is now responsible for global customer support, particularly to the microelectronics industry.

