

**ASHRAE DL Seminar on  
The New Legionella Standard: ANSI/ASHRAE 188-2015  
'Legionellosis: Risk Management for Building Water Systems'**



**Date & Time:** 28 February 2018 (Wednesday) (2:00pm – 5:00pm)

**Venue:** Singapore Polytechnic Graduates' Guild (SPGG), Ballroom, Level 2

## **Synopsis**

ASHRAE has been actively involved in providing information on Legionella since 1979 in response to the first Legionnaire's disease outbreak in 1976 and the subsequent discovery by the Center for Disease Control and Prevention (CDC) of the causative bacteria – Legionella. While Legionnaire's disease has been known for many years, recent outbreaks have increased awareness of the disease, its causes and prevention strategies. The CDC estimates 8-18 thousand cases per year, of which more than 10% are fatal.

ANSI/ASHRAE 188 first published in June 2015 establishes minimum Legionellosis risk management requirements for building water systems. It applies to human-occupied commercial, institutional, multi-unit residential, and industrial buildings, excluding single-family residential buildings. It is intended for use by owners & managers of human-occupied buildings, excluding single-family residential buildings and also for those involved in design, construction, installation, commissioning, operation, maintenance & service of centralized building water systems and components.

This seminar provides an overview of Legionella bacteria, its source, how it is amplified, how it is transmitted and who is susceptible. There will be a detailed look at the standard, the background on its development and what is required for its application and adoption. Specific topics include the framework for legionella bacteria control measures, health care facility requirements, requirements for adopting a Water Management Program for specific devices such as cooling towers, ornamental fountains, spas, etc., elements of a Water Management Program, and designer requirements.

## **Speaker Profile**



**Patricia T. Graef, P.E., ASHRAE Fellow**

**Senior Engineer  
Munters Corporation  
Fort Myers, FL**

Patricia Graef, P.E., Fellow ASHRAE, LEED GA, is senior Engineer, Munters Corp., Fort Myers, Fla. Patricia Graef has spent the past 44 years focusing on engineering and developing products that control temperature and moisture in building air as well as the water associated with the processes.

Graef received her bachelor of science in mechanical engineering from the University of Florida. In the time Graef has worked for Munters, she has served as a Scientist in the cooling tower division, was the Director of Core Technology for Humidification and Engineering and Development Manager for the HumiCool division. Today she is senior engineer for the Air Treatment division and has more than a dozen international patents in her name.

Graef is Vice President and a member of the Board of Directors of ASHRAE. She also serves on the Board of Governors of her local ASHRAE Chapter. As ASHRAE vice president, Graef is a member of the Board of Directors and the Executive Committee and serves as chair of Technology Council. Her other recent service includes a member of the Advanced Energy Design Guide Steering Committee, member of Finance Committee, Standards Committee, Technical Committees (TC) 3.6, Water Treatment, 5.7 Evaporative Cooling and 5.11 Humidification. She has also held leadership positions on five other ASHRAE standards.

Registration Form:  
 – **The New Legionella Standard: ANSI/ASHRAE 188-2015**  
**‘Legionellosis: Risk Management for Building Water Systems’**

**Date:** 28 February 2018 (Wednesday)  
**Time:** 2.00pm – 5.00pm  
*(Registration starts 1.30pm)*

**Fee for early registration by 14 February 2018:**  
 S\$5 for ASHRAE Singapore Chapter (ASC) members  
 Free for ASC Student Member (limited to 10)  
 S\$30 for ASHRAE/IFMA/IES/SGBC members  
 S\$60 for non-members

**Fee for registration after 14 February 2018**  
 S\$5 for ASC members  
 Free for ASC Student Member (limited to 10)  
 S\$40 for ASHRAE/IFMA/IES/SGBC members  
 S\$70 for non-members  
*(1 Tea Break will be provided)*

**Venue:**  
 Singapore Polytechnic Graduates’ Guild  
 Ballroom, Level 2, 1010 Dover Road  
 Singapore 139658 (Singapore Poly Gate No. 4)

Register by email to [elta.ascsecretariat@gmail.com](mailto:elta.ascsecretariat@gmail.com) before **21 February 2018**, with the required Registration Details below.

Please make the payment by issuing a cheque to **ASHRAE Singapore Chapter, c/o 159 Sin Ming Road, AMTECH Building, Lobby 2 #07-02, Singapore 575625**

**Professional Engineers Board (PDU) Points: Pending**  
**SCEM-PDU Points: Pending**

**For enquires on program and registration matters please contact:**  
 Dr. Yuichi Takemasa [Email: [y.takemasa@kajima.com.sg](mailto:y.takemasa@kajima.com.sg)], ASHRAE Singapore Chapter CTTC Chair

**Registration Details**

Name of Participant	ASHRAE Membership No.:	ASC Reg No.:	PE Reg No.:
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Organization:	<input type="text"/>	Designation:	<input type="text"/>
Mailing Address:	<input type="text"/>		
	<input type="text"/>	Postal Code	<input type="text"/>
Telephone / Mobile No.:	<input type="text"/>	Fax no.:	<input type="text"/>
Email:	<input type="text"/>		

Signature

Date

## Location



- Located at 1010 Dover Road (SP Gate 4)
- 10 mins walk from Dover MRT
- Bus Services to SPGG:
  - Bus Stop A: SBS 33 & SBS 196
  - Bus Stop B: SBS 96, 151, 183