

ASHRAE DL Seminar on
“Fundamentals of Building Envelopes in Hot & Humid Climates and Humidity Control in Buildings”

Date & Time: 21 March 2019 (Thursday) (2:00pm – 5:15pm)

Venue: Singapore Polytechnic Graduates' Guild (SPGG), Grand Ballroom, Level 3

► **Fundamentals of Building Envelopes in Hot & Humid Climates**

Designing buildings requires the integration of techniques found in the ASHRAE Guide for Buildings in Hot and Humid Climates. Mr. Patenaude, P.E. will provide a presentation on the fundamentals of building envelopes in hot and humid climates, vapor barriers and air barriers. These three building systems are the main cause for concern for HVAC Engineers and comprise most building failures in hot and humid areas.

► **Humidity Control in Buildings**

Designing buildings for humidity control requires the integration of techniques found in the ASHRAE Humidity Control Design Guide. Mr. Patenaude, P.E. will provide a presentation on the fundamentals of humidity control including estimating dehumidification loads, control of outdoor ventilation air with the use of dedicated outdoor air systems and building air pressurization.

Speaker Profile



Raymond E. Patenaude, PE, CMA, CIAQP, RPIH

**Principal Engineer,
Holmes Engineering Group LLC**

Raymond E. Patenaude, PE, CMA, CIAQP, CEM, RPIH, Principal Engineer for the Holmes Engineering Group LLC, is a registered Professional Engineer specializing in HVAC systems, moisture intrusion into buildings, and microbial contamination of building environments. He has been a Consulting Engineer for over thirty-eight years involved with the analysis, design and construction of building HVAC systems. As a recognized expert in his field, Mr. Patenaude, provides professional consultation and investigation in building science including: cause and origin of construction defects; building envelope assessments; HVAC failure causation analysis; energy analysis; moisture intrusion; mold growth investigations; and remediation management.

Mr. Patenaude is a former ASHRAE Vice President, DRC for Region XII and Chair of TC 1.12, Moisture Management in Buildings. In addition he was the Chair of the Project Monitoring Sub-Committee for the new “ASHRAE Guide for Buildings in Hot and Humid Climates”. Currently Mr. Patenaude serves ASHRAE as a member of Standard 100, “Energy Conservation in Existing Buildings” and TC 1.12, “Moisture Management in Buildings”. In addition, Mr. Patenaude is also a member of the National Society of Professional Engineers, the Florida Engineering Society, the National Academy of Forensic Engineers, the National Academy of Building Inspection Engineers, the National Institute of Building Sciences, Association of Professional Industrial Hygienists, the American Conference of Governmental Industrial Hygienists, American Industrial Hygiene Association and Chairman of the Board of the Certified Indoor Air Quality Professionals.



Registration Form – **ASHRAE DL Seminar on “Fundamentals of Building Envelopes in Hot & Humid Climates and Humidity Control in Buildings”**

Date: 21 March 2019 (Thursday)
Time: 2.00pm – 5.15pm
(Registration starts 1.30pm)

Fee for early registration by 7 March 2019:
S\$10 for ASHRAE Singapore Chapter (ASC) members
S\$60 for ASHRAE/IFMA/IES members
S\$80 for non-members

Fee for registration after 7 March 2019
S\$10 for ASC members
S\$80 for ASHRAE/IFMA/IES members
S\$100 for non-members
(1 Tea Break will be provided)

Venue:
Singapore Polytechnic Graduates’ Guild
Carnation Room, Level 3, 1010 Dover Road
Singapore 139658 (Singapore Poly Gate No. 4)

Register by email to elta.ascsecretariat@gmail.com before **14 March 2019**, 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: 3 PDUs
SCEM-PDU Points: 3PDUs

For enquires on program and registration matters please contact:
Dr. Peter Cheng [Email: peter.cheng@armacell.com], ASC

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



- 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