



Technology for a Better Environment

Thailand Chapter Office: 487 Soi Ramkamhaeng 39(Thepleela), Wangthonglang, Bangkok 10310  
Tel. 0-2318-4119, 0-2318-4123 Fax. 0-2318-4120 e-mail:ashrae@ashraethailand.org

Co-Organizers



## สัมมนาวิชาการ ครั้งที่ 2 (ASHRAE Technical Seminar # 2)

Co-organize a Technical Seminar presented by ASHRAE Distinguished Lecturer Titled: -

1. Healthy Built Environment – Pandemic and Beyond
2. The New Carbon Standards: Net Zero Operational, Embodied, Whole Life and Upfront Energy (Carbon)

Date: **Monday, April 3<sup>rd</sup> 2023**

Time: 09:00 – 16.30

Swissotel Le Concorde Bangkok



ใช้เป็นคะแนนสำหรับเลื่อนระดับสามัญ  
วิศวกรต้องได้ CPD อย่างน้อย 9 หน่วย  
หลักสูตรนี้รับ CPD Point 1.5 เท่า

By... **ASHRAE Thailand Chapter**  
**Air-Conditioning Engineering Association of Thailand (ACAT)**  
**CRC2022 Co.,Ltd.**

### Abstract

#### 1. Healthy Built Environment – Pandemic and Beyond

AIA Approved | 1LU | Leung02

In 2019, United Nation World Health Organization (WHO) categorized health threats that can derail humans and pandemic was number three on the list. When COVID-19 hit us in early 2020, we saw it firsthand of what the impacts can be. This presentation will touch on the current pandemic but also look beyond the current shadow of COVID into the holistic health impacts in our future and what are the strategies to make us healthier. Total spending on health care was 5% GDP in 1960, and is about 18% today. It is projected to rise to about 25% by 2025, and rise to about 37% by 2050. These costs can be the element that derail our future economy if they are not adequately addressed.

Our built environment and our lifestyles have been decoupled with nature and its natural cycles. The key for a healthy future is to address our built and terrestrial environments. The parameters in our built environment include acoustic, light, air, water, microbial, material, thermal comfort, circadian rhythm, and human interactions. It is important to understand how the built environment impacts the 10 major human systems including the skeletal, muscular, nervous, endocrine, cardiovascular, lymphatic, respiratory, digestive, urinary, and the reproductive system. Body functions are the physiological or psychological functions of body systems. The focus on this presentation will start with human centric health design, and move beyond to terrestrial health. Holistic health of humans also requires a healthy earth to thrive together. Using Amish communities as a study case, this lecture will also compare how our urban environment is different from the rural environment and how to develop a healthier environment with less chronic diseases similar to allergy, autism, asthma, etc.

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## **2. The New Carbon Standards: Net Zero Operational, Embodied, Whole Life and Upfront Energy (Carbon)**

While the past focus on energy and carbon is more about operational, the new focus will be on Whole Life Carbon. For the past 20+ years, the MEP industry was focused on operational energy reductions. Through strategies related to energy efficiency, utility source selection, and integration of renewable energy, great progress was made to reduce operational carbon. Our focus is now moving to the embodied and Whole Life Carbon associated with the materials and systems found in the built environment. Embodied carbon looks at the carbon impacts associated with extracting, manufacturing, and transporting materials to the jobsite, in addition to manufacturing and transportation, including impacts related to in-use and end of life. While life cycle analysis (LCA) accounts for impacts over the full lifecycle of a material, which includes embodied and operating carbon, or, cradle to grave. Also, more focus is on Upfront Carbon, or, cradle to gate to understand the carbon impact of different materials.

This will greatly impact our work tomorrow. This discussion will include different methodologies in counting of carbon, examples of different carbon calculations, and ways to reduce carbon emission holistically. With the new administration goal of 1.5C net zero economy by 2050, and 2035 all renewable electricity grid, we need to accelerate holistic carbon effort to an all-electric, and net zero future.



### **About Speakers :**

#### **Luke Leung**

Director  
Skidmore, Owings & Merrill  
224 S. Michigan Avenue Suite 1000  
Chicago, IL 60604  
United States  
(312) 360-4121  
Region: VI

### **Speaker's Profile**

Luke is a LEED (Leadership in Energy and Environmental Design) Fellow; He is also a Centennial Fellow from The Pennsylvania State University Architectural Engineering Department; Board of Directors for USGBC (United State Green Building Council), Illinois; Chairman of the ASHRAE (American Society of Heating, Refrigeration and Air Conditioning) Committee on "Tall Buildings"; Chairman of the Building Pressure Committee, Chicago Committee on High Rise Buildings; Sustainable Committee with Council on Tall Buildings and Urban Habitat; Part Time Professor at IIT; Member of the Chicago Sister Cities Program with China; MBA from University of Chicago, MS and BAE from Architectural Engineering at Penn State University.

Luke Leung is the Director of the Sustainability Engineering Studio for Skidmore, Owings and Merrill

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LLP. He is the incoming Chair of ASHRAE Environmental Health Committee; Team leader for ASHRAE Epidemic Task Force, Commercial Buildings; Group Leader for LCA and Embodied Carbon, ASHRAE Decarbonization Task Force; National Renewable Energy Laboratory IN2 Incubator Industry Advisor; BOMA Toronto, Health Committee Co-Chair. His work includes Burj Khalifa, the world's current tallest man-made structure; Multiple times "Excellence in Engineering" award from the American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE); Selected projects also include Pertamina Tower (Net Zero Supertall), General Motors Global Headquarters, XiongAn Net Zero Development, Beijing Finance Street, Embassy of Ottawa in Canada, Embassy in Beijing, Lakeside – 55 million sqft low energy development, a LEED Platinum building with the first large scale horizontal wind turbine in the city of Chicago; etc., and has served as a member of the editorial team for the CTBUH guide Natural Ventilation in High-Rise Office Buildings, ASHRAE "Design Guide for Tall, Supertall, Megatall Building Systems", among other publications.

**Target Audiences**

1. ASHRAE Thailand Chapter, ACAT Members
2. RHVAC Designers & Consulting Engineers and Contractors
3. University Lecturers in Dept. of Architecture & Engineering
4. End users, HVAC Facilities Engineers, Building Owners and others.

**Agendas:-**

09:00 - 09:15	Registration
09:15 - 09:30	Opening Speech: President, ASHRAE THAILAND CHAPTER 2022-2023
09:30 - 10:45	Healthy Built Environment (Session 1)
10:45 - 11:00	Coffee-Tea Break
11:00 - 11:45	Healthy Built Environment (Session 2)
11:45 - 12:00	Q & A
12:00 - 13:00	Lunch
13:00 - 14:30	The New Carbon Standards (Session 1)
14:30 - 14:45	Coffee-Tea Break
14:45 - 15:45	The New Carbon Standards (Session 2)
15:45 - 16:00	Q & A
16:00 - 16:15	Closing Speech: President, Air Conditioning Engineering Association of Thailand

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### ใบสมัครสัมมนาวิชาการ ครั้งที่ 2

- เรื่อง 1. Healthy Built Environment – Pandemic and Beyond
- 2. The New Carbon Standards: Net Zero Operational, Embodied, Whole Life and Upfront Energy (Carbon)

วันจันทร์ ที่ 3 เมษายน พ.ศ. 2566

ณ ห้อง อุบลชาติ ชั้น 3 โรงแรมสวิสโฮเต็ล กรุงเทพฯ -รัชดา



ลงทะเบียน

<https://forms.gle/gv34pVRGBsM1ctY7A>

#### อัตราค่าลงทะเบียน

ก่อน 30 มี.ค. 2566

หลัง 30 มี.ค. 2566

- |  |                                      |                                      |
|--|--------------------------------------|--------------------------------------|
| <input type="checkbox"/> สมาชิก ASHRAE Thailand Chapter/ACAT | <input type="radio"/> ราคา 2,000 บาท | <input type="radio"/> ราคา 2,400 บาท |
| <input type="checkbox"/> บุคคลทั่วไป                         | <input type="radio"/> ราคา 2,400 บาท | <input type="radio"/> ราคา 2,800 บาท |

#### ➤ หมายเหตุ

1. สมาคมแอชเร่ จำกัด อยู่ในข่ายที่ไม่ต้องถูกหักภาษี ณ ที่จ่าย 3 %
2. สมาคมแอชเร่ จำกัด เป็นองค์กรแม่ข่ายของสภาวิศวกร มีหน้าที่ในการจัดกิจกรรมการพัฒนาวิชาชีพวิศวกรรมอย่างต่อเนื่อง ให้การรับรองกิจกรรมและจำนวนหน่วยพัฒนา PDU ของกิจกรรมการพัฒนาวิชาชีพวิศวกรรมอย่างต่อเนื่อง
3. ติดต่อขอรายละเอียดได้ที่ คุณ สุวีรัตน์ หรือ คุณจุฬารัตน์ โทรศัพท์ 02-318-4119, 02-318-4123 โทรสาร 02-318-4120 หรือ [www.ashraethailand.org](http://www.ashraethailand.org)

#### วิธีการชำระเงิน

- เงินสด ณ ที่ทำการสมาคมฯ
- เช็คสั่งจ่าย "สมาคมแอชเร่"
- โอนเงินเข้าบัญชี ธนาคารยูโอบี สาขาสี่แยกศรีวิภา บัญชี ออมทรัพย์  
ชื่อบัญชี "สมาคมแอชเร่" เลขที่บัญชี 960-165-497-7

กรณีโอนเงินเข้าบัญชีเรียบร้อยแล้ว กรุณาแจ้ง(1) ชื่อ-นามสกุล และ (2)ข้อมูล ชื่อ ที่อยู่ในการออกใบเสร็จที่ถูกต้อง รวมทั้งส่ง(3) หลักฐานการชำระเงินมาที่

1. ไลน์กลุ่ม "ASHRAE Seminar" โดย add เข้ากลุ่ม ผ่าน line link: [http://line.me/ti/g/ddKvdcQ\\_dv](http://line.me/ti/g/ddKvdcQ_dv)
2. ส่งเอกสารการชำระเงินพร้อมรายละเอียดชื่อ-ที่อยู่ในการออกใบเสร็จโดยแนบใบนำฝากมา ทาง E-mail [merberashrae@gmail.com](mailto:merberashrae@gmail.com)

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