

## OUR SPEAKERS

### MR. GORDON SHARP

ASHRAE  
DISTINGUISHED  
LECTURER, USA



### MR. JIN KIM

Global Solution  
Architect, Schneider  
Electric Asia Pacific  
Limited



### IR. TAN CHEE FAI

Chief Technical Director  
of Robolab Technology  
Sdn. Bhd



### IR. PROF. DR. LEONG WAI YIE

Dean of Engineering and  
Information Technology,  
MAHSA University



### IR. VEKNESWARAN T. ARASAPPAN

Head of Technology &  
Innovation at UEM  
Edgenta



### MR. STEPHEN CHIA

Director of the NEM  
Blockchain Centre,  
Council Member of NEM  
Foundation



# BUILDING INDUSTRY 4.0 2018

BEM CPD  
CREDITS  
APPLIED



**DATE : 18 JULY 2018**

(WEDNESDAY)

**TIME : 08.30AM-05.00PM**

KLCC Convention Centre, KL

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## PROGRAMME

08.00am-09.10am	Registration (Breakfast Served)
09.10am-09.15am	Opening Remark by ASHRAE President/ REVAC President
09.15am-10.00am	<b>Industrial 4.0 = Artificial Intelligent in Building Management System</b> <i>by Mr. Jin Kim</i>
10.00am-10.45am	<b>Making Buildings Smarter to Maintain their Energy Efficiency Entitlement (Part I)</b> <i>by Mr. Gordon Sharp</i>
10.45am-11.00am	Coffee Break
11.00am-11.45am	<b>Making Buildings Smarter to Maintain their Energy Efficiency Entitlement (Part II)</b> by Mr. Gordon Sharp
11.45am-12.30pm	<b>Fourth Industrial Revolution: How Intelligent Machines will Transform Everything We Know in a Building</b> <i>by Ir. Tan Chee Fai</i>
12.30pm-02.00pm	Lunch Break
02.00pm-02.45pm	<b>Artificial Intelligent in Smart Building</b> <i>Ir. Prof Dr. Leong Wai Yie</i>
02.45pm-03.30pm	<b>AI, IoT and Machine Learning for Smarter Buildings</b> <i>by Ir. Vekneswaran T. Arasappan</i>
03.30pm-04.15pm	<b>Blocakchain Application in Smart Cities and Smart Buildings</b> <i>by Mr. Stephen Chia</i>
04.15pm-04.30pm	Appreciation Ceremony
04.30pm-05.00pm	Networking (Light Refreshment)
05.00pm	Seminar End



**Mr. Gordon Sharp** is the chairman of Aircuity, Inc. and has over 25 years of wide-ranging entrepreneurial experience and more than 25 U.S. patents in the fields of energy efficiency and laboratory controls. As founder, former president and CEO of Phoenix Controls, he led the development of this world leader in laboratory airflow controls that was acquired by Honeywell in 1998. The technologies invented by Mr. Sharp at Phoenix Controls are today saving over \$1.5 billion annually in energy use. In 2000, Mr. Sharp founded Aircuity, which was spun out of Honeywell and is a smart airside energy efficiency company. Mr. Sharp is a graduate of MIT with bachelors and masters degrees in electrical engineering. He is Executive Vice President and a member of the board of directors of I2SL (International Institute for Sustainable Laboratories), the nonprofit foundation that operates the Labs21 conference. He is also a member of two important standards on ventilation: the ANSI/AIHA Standard Z9.5 Committee on Laboratory Ventilation and the ASHRAE SSPC 170 Committee on Ventilation of Health Care Facilities. He is also a voting member of ASHRAE technical committee TC9.10: Laboratory Systems and TC9.11: Clean Spaces/Cleanrooms. Mr. Sharp is a frequent speaker at national and international conferences on the topics of energy efficiency in buildings and indoor environmental quality and has testified before the US Congress on the topics of climate change and energy efficiency.



**Mr. Jin Kim**, Global Solution Architect, Schneider Electric Asia Pacific Limited. Mr. Kim received his Bachelor Degree of Electrical Engineering from Sydney University in 1984. With his long and continuous career centered around controls of diverse kinds ranging from industrial process to HVAC applications, he is currently performing the role of global solution architect within Schneider Electric to bring his experience and insight into the methodology of energy efficiency and efficacy in various environments.



**Ir. Dr. Tan Chee Fai**, PhD AMN has more than 18 years of working experience in mechanical and manufacturing projects for building, road transport & intelligent manufacturing consultancy. He is actively involved in strategic and technical consultation. Currently, he is the Chief Technical Director of Robolab Technology Sdn. Bhd. Ir. Dr. Tan is actively consult and assist engineering industry towards Industry 4.0. He has led various Industries, University and Malaysia Government funded projects as well as International Funded Projects such as EU FP7. In addition, He has won many innovation awards, more than 20 awards since 2005 such as Brussels INNOVA 2009 and MaGIC e@Standord. He was the Keynote Speaker in various important international engineering events such as World Intelligent Manufacturing Summit (WIMS) at Nanjing, China and ICE-IEM Future Engineers Conference. He was the UNESCO Individual Specialist to study on regional engineering education development. Ir. Dr. Tan was the JCI Ten Outstanding Young Malaysian Award Honoree in 2014.





Wai Yie is currently the Dean of Engineering and Information Technology, Mahsa University. She received her PhD in Electrical Engineering (Hons I) from The University of Queensland (UQ), Brisbane, Australia in 2005. She has authored 6 book series and more than 100 papers that highlight the innovation on Electronics and Biomedical Engineering. Wai Yie is currently the EXCOMM Member, Council Member of the Institution of Engineers Malaysia and Immediate Chairman of Women Engineers Section, Malaysia. Board of Directors of International Network of Women Engineers and Scientists, Honorary Secretary of Women Engineers, The ASEAN Federation of Engineering Organisations (WEAFEO). She is specialized in medical signal processing and telecommunications research. She has been researching on RFID, wireless sensor networks, ultra-wideband and wireless communications, and on Brain Signal Processing for signal conditioning and classification in various EEG-based mental tasks. She has developed a gait analysis system and upperlimb tracking system. She is specialized in medical signal processing and telecommunications, and has received the Ten Outstanding Young Malaysian 2017, Top Research Scientists Malaysia 2017, ASEAN Meritorious Service Award 2017, IEM Best Paper Award 2015, MRR12013 Best Paper Award 2013, Richard Jago Research Prize in 2004 and Trailblazer Innovation Award in 2005, in Australia.



Ir. Vekneswaran T. Arasappan is currently the Head of Technology & Innovation at UEM Edgenta. He graduated with a B.E. (Hons) in Mechanical Engineering and holds a MSc in Energy as well as an MBA in Finance. His professional memberships include ASHRAE and CIBSE. He commenced his career in hospital operations and maintenance and later became a consultant for energy management and green building services. He currently works on the internet of buildings, dabbling in cloud computing, machine learning and artificial intelligence. He is also the Project Director for a Khazanah Nasional initiated innovation Garage.



Stephen Chia has been tasked to develop and grow the NEM technology in SE Asia as NEM Regional Head. He is also a Council Member of the NEM.io Foundation Ltd. and Director of the NEM Blockchain Centre, the largest blockchain centre and blockchain co-working & entrepreneur hub in Asia. He is a serial entrepreneur with experience in the areas of property & operations management, internet services ISP, trading and marketing. Having previously served in organizations like IBM, C.Itoh & Co. and Ernst Young, he returned to Malaysia in 1990 and started his entrepreneurial journey. He was founder of WiNETworks and BizSurf, where it was awarded the exclusive 4G/WiMAX national licensed spectrum and wireless broadband ISP license. The business grew rapidly with the internet boom and was acquired in 2008 and is today the ISP YES network in Malaysia. In 2013, one of his startup company, ADAcode Systems received the APICTA Awards in IT innovation, and accorded the Prime Minister's "Best of the Best Award" and subsequently represented the country in the global APICTA awards competition in Brunei. Together with his wife, they also built & completed a real-estate development project in Dutamas, Kuala Lumpur with a gross development value (GDV) of US\$36m.

## **PAPER 1: Industrial 4.0 = Artificial Intelligent in Building Management System**

*by Mr. Jin Kim*

Industrial revolution greatly advanced the manufacturing and production processes, marks a major turning point in human history, elevate mankind into better living standard and generated positive social impact. These modernization via technology innovation, have not been limited, and slowly, surely expanding into the connected world of commercial building as well. Join the seminar to understand challenges, architectural for Green Building and prepare for the next revolution in Artificial Intelligent.

## **PAPER 2 & 3 : Making Buildings Smarter to Maintain their Energy Efficiency Entitlement (Part I, II)**

*by Mr. Gordon Sharp*

Many highly sustainable commercial buildings as well as complex facilities such as laboratories often use sophisticated control systems to increase their energy efficiency. Unfortunately facility maintenance staffs are often overtaxed and don't have time to analyze building system performance. As a result control systems degrade and building energy use typically rises over time. This talk will describe the use of intelligent agent systems to analyze a wide range of real time building data including HVAC system performance and indoor environment data to alert operators to system degradation and problems that cut energy efficiency. Sometimes referred to as real time or monitoring based commissioning, these analytical systems often use dashboards and other very graphical visualization methods. The result is a practical and simpler means to ensure buildings realize their energy efficiency entitlements and provide a healthier indoor environment not just for when the building is opened, but over the full life of the building.

## **PAPER 4: Artificial Intelligent in Smart Building**

*by Ir. Pro. Dr. Leong Wai Yie*

Smart building uses automated processes to automatically control the building's operations including heating, ventilation, air conditioning, lighting, security and other systems. In this talk, we will apply the artificial intelligent in smart building, uses sensors, actuators and microchips, in order to collect data and manage it according to a business' functions and services. This infrastructure helps owners, operators and facility managers improve asset reliability and performance, which reduces energy use, optimizes how space is used and minimizes the environmental impact of buildings.

## **PAPER 5: Fourth Industrial Revolution: how intelligent machines will transform everything we know in a building**

*by Ir. Tan Chee Fai*

The emerging technologies has changed the engineering environment in the fast pace. The emerging technologies, such as cloud computing, internet of things, wireless sensor network, big data and mobile internet are starting to be implemented into manufacturing industries and it is believed to be approaching. The advances of science and technology continuously support the development of industrialization all over the world. From a technological evolution perspective, there are four stages commonly identified for industrial revolution. The first three industrial revolutions took place in around two centuries, and are the result of, respectively: (1) the usage of wind, water and steam energy to power the machinery; (2) the introduction of electrical into manufacturing line for mass production; and (3) the use of automation technology for the manufacturing line. Due to the emergent of fourth industrial revolution, many worldwide governments have initiated different national plan towards new industry revolution. In this talk, the new industrial revolution, namely fourth industrial revolution will be described as well as to describe how fourth industrial revolution can disrupt the building industries.

## **PAPER 6 : AI, IoT and Machine Learning for Smarter Buildings**

*by Ir. Vekneswaran T. Arasappan*

In today's world, every 'thing' is becoming smarter, from cars to watches and even household goods. It is the era of the Internet of Everything.

Technological advances are converging towards creating smarter services for citizens living in Smart Cities. Smart Buildings play a key role in the smart future. Technologies from the internet of things, cloud computing and machine learning and even artificial intelligence are increasingly being employed in building technologies. The key to realizing a Smart Building lies in the ability to extract the right data from the building and running it through analytics to gain operational insights.

## **PAPER 7: Blockchain Application in Smart Cities and Smart Buildings**

*by Stephen Chia*

Blockchain technology has been touted to be the 4<sup>th</sup> internet evolution technology that will revolutionise the future of how we will transact with each other with its decentralized model. In this discussion, we shall explore what is blockchain technology and how its decentralized model of a tamper and hack proof multi node and high availability network can be used to power smart cities applications and provide an enterprise grade environment for smart buildings use cases. It will also introduce the concept of the smart asset and smart contracts that able to provide stakeholders in the eco system to build trust networks in a trustless environment to automate such smart contracts. It will present two simple use cases of blockchain powered applications in these area, and many other possible business models powered by blockchain technology, beyond treatment of cryptocurrencies.

