

# Fleming.

CONFERENCE



'Energy efficient retrofitting for existing buildings'

# Retrofit Asia

12 - 13 June 2017 | Singapore

## Point of View

### @ CITY PLANNER



**Djoko Prihanto**  
Surbana Jurong  
Planning Group  
Deputy MD

### @ CONSULTING ENGINEER



**Er Ling Shiang Yun**  
President, Association of  
Consulting Engineers  
Singapore (ACES), Partner  
Tham & Wong LLP

### @ PROJECT PLANNER AND DESIGNER



**Dr. Saeed Zaki**  
dwp, Regional Managing  
Director Malaysia & Singapore

### @ ARCHITECT



**Leung Man Kit**  
**Ronald Lu & Partners**  
Director of Sustainable Design  
Laureate - Inaugural Singapore Institute of  
Architects, Award-winning project- first zero  
carbon building, Hong Kong

### @ SUSTAINABLE ENERGY EXPERT



**Dr. Thomas Reindl**, Solar  
Energy Research Institute  
of Singapore (SERIS),  
Deputy Chief Executive Officer  
Author- Strategic Scientific Paper "PV  
Roadmap for Singapore"

### @ PROPERTY ASSET MANAGEMENT PERSPECTIVE



**Philip Chan**  
Jones Lang LaSalle  
Property Management  
Pte Ltd, Asia Square,  
Sustainability Manager  
Winner of WaterMark Individual Category  
Award 2015 from P.U.B. , Received from  
Minister Dr.Vivian Balakrishnan , Minister for  
the Environment and Water Resources

## Supporting Chamber of Commerce



## Supporting Association



## Supporting Organization

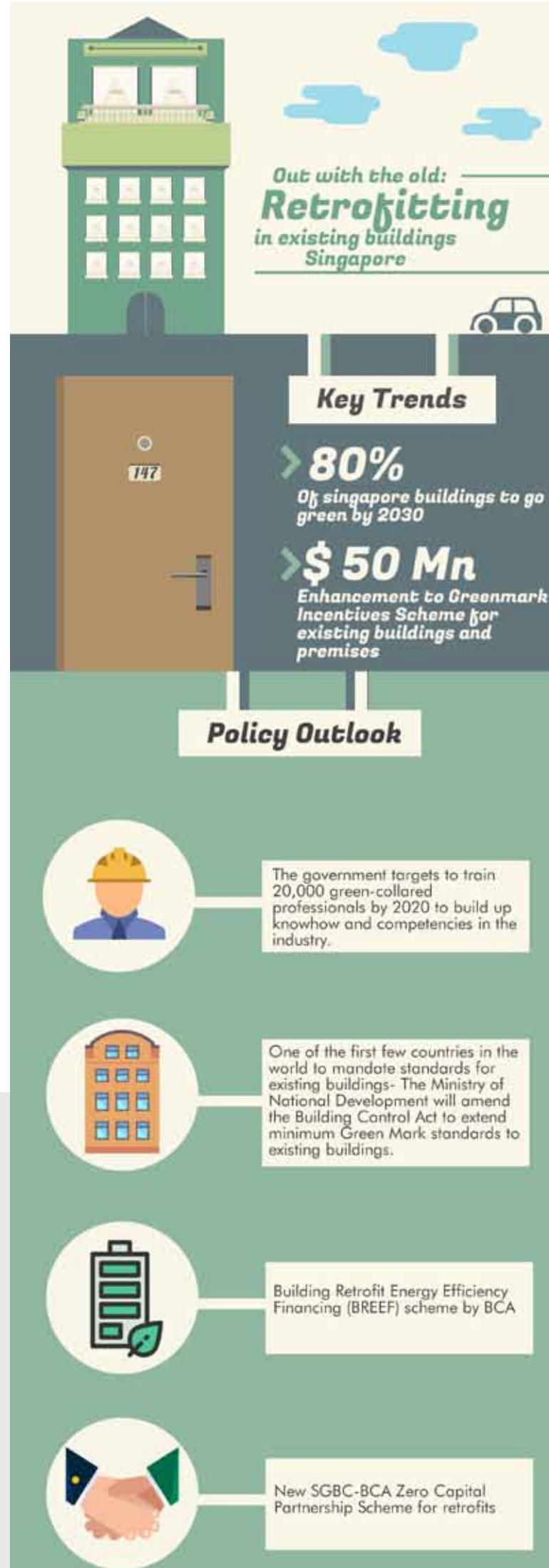


## Media Partners



## WHO MUST ATTEND?

- ➡ Building Owners
- ➡ Developers
- ➡ Government Authorities
- ➡ Academia
- ➡ Consultants
- ➡ ESCO
- ➡ M&E Engineering companies
- ➡ Contractors
- ➡ Architecture companies



**Out with the old: Retrofitting in existing buildings Singapore**

**Key Trends**

- **80%** of singapore buildings to go green by 2030
- **\$ 50 Mn** Enhancement to Greenmark Incentives Scheme for existing buildings and premises

**Policy Outlook**

-  The government targets to train 20,000 green-collared professionals by 2020 to build up knowhow and competencies in the industry.
-  One of the first few countries in the world to mandate standards for existing buildings. The Ministry of National Development will amend the Building Control Act to extend minimum Green Mark standards to existing buildings.
-  Building Retrofit Energy Efficiency Financing (BREEF) scheme by BCA
-  New SGBC-BCA Zero Capital Partnership Scheme for retrofits

# Distinguished Confirmed Speaker Panel



**Djoko Prihanto**

**Surbana Jurong Planning Group**

Deputy MD



**Er Ling Shiang Yun,**

**Association of Consulting Engineers Singapore (ACES), Partner, Tham & Wong LLP**

President



**Leung Man Kit**

**Ronald Lu & Partners**

Director of Sustainable Design



**Dr. Saeed Zaki**

**dwp, Regional Managing Director Malaysia & Singapore**



**Dr. Thomas Reindl**

**Solar Energy Research Institute of Singapore (SERIS), Deputy Chief Executive Officer**



**Brian Norman**

**Hill & Associates Ltd**

Managing Director



**Dr. Jahangeer K. Abdul Halim**

**LJ Energy Pte Ltd**

Assistant Director



**Joshua Chia**

**IEN Consultants Sdn Bhd**

Green Building Consultant



**Soong Sau Khong**

**SAC Energy (S) Private Limited**

Director



**Asst Prof Shah Kwok Wei,**

**Vietnam Green Building Council**

VGBC Advisory Board Member

Deputy Program Director Smart Materials Laboratory ,National University of Singapore



**Philip Chan**

**Jones Lang LaSalle Property**

Management Pte Ltd, Asia Square, Sustainability Manager



**Dr. Yuichi Takemasa**

**Kajima Technical Research Institute Singapore (KaTRIS)**

General Manager



**Subbaih Ramar**

**Ministry of Trade and Industry**

Senior Assistant Director

# DAY 1

12<sup>th</sup> June 2017

8:30 Registration and Morning Coffee

8:50 Welcome Note: **Fleming.**

8:55 Opening Remarks from the Conference Chair

## The Big Picture

9:00 **KEYNOTE ADDRESS**

### **Facilitating collaborative efforts towards energy efficient existing buildings**

9:40 **Special Address**

### **Context Specific Approach towards Sustainable Urban Development**

- Understanding contextual differences in urban planning.
- Exploring sustainable context specific solutions.
- Obtaining stakeholders buy-in as one of key success factors

**Djoko Prihanto, Surbana Jurong Planning Group, Deputy MD**

10:20 **LEADERS PANEL DISCUSSION**



### **Synergize to Energize: Green Revolution**

- Strategic and Methodical Approach to Retrofitting
- Stringent Local Green Building Standards to Produce Tangible Results
- Implementing Appropriate Green Solutions for Waste and Energy Efficiencies
- Solar and energy efficient buildings retrofit

#### **DISTINGUISHED PANELLISTS:**

**Dr. Thomas Reindl, Solar Energy Research Institute of Singapore (SERIS), Deputy Chief Executive Officer**

**Dr.Saeed Zaki, dwp, Regional Managing Director Malaysia & Singapore**

**Djoko Prihanto, Surbana Jurong Planning Group, Deputy MD**

11:00 Exhibition viewing and Networking Coffee

## Show me the money! Creating high-performance retrofitted buildings

11:30 **CASE STUDY**

### **Transforming existing environments towards innovative energy efficient buildings** (topic tbc)

**Dr.Saeed Zaki, dwp**

*Regional Managing Director Malaysia & Singapore*

12:10 **Optimising Resources**

- Efficient Management Of Energy And Water Resources
- Management Of Material Resources And Waste
- IEQ Management
- Analysis Of Life Cycle Costs
- Integration Of Design Decision-Making Process

12:50 **CASE STUDY**

### **Lighting Solutions**

*Here's your chance to make a name of yourself. This session presents a sponsorship speaker opportunity to share your expertise. For inquiries, please contact Alex Rajan at alex.rajan@fleming.events, +601-92754789*

13:30 Conference Lunch and Networking

## Keeping it cool: Energy Efficiency

14:30 **CASE STUDY**

### **Singapore's first Zero Energy Building at the BCA Academy**

- Singapore's First Retrofitted Zero Energy Building (Zeb) Located at the BCA Academy
- ZEB is a Three-Storey Addition and Alteration (A&A) to an Existing Institutional Building
- ZEB Underwent A Very Energy Efficient Re-design of the Façade, Roof, M&E System and Other Building Components to Reduce Its Energy Needs

# DAY 1

12<sup>th</sup> June 2017

## 15:10 CASE STUDY

### Energy Efficient Chiller Plant Design Approach and PITFALLS

- Energy Audits
- Examining condition of the systems and cooling load profile
- Audits of other auxiliary operating parameters
- Design Phase
- Best practices

**Soong Sau Khong, SAC Energy (S) Private Limited, Director**

## 15:50 Afternoon Coffee and Networking

### Every drop counts: Water Efficiency

## 16:20 SUCCESS STORY-SINGAPORE

### Property Asset Management - 360degree perspective on energy efficiency; Optimising the potential saving in utilities

- Water Efficiency
- District Cooling System
- Lighting system
- Green Committee

**Philip Chan, Jones Lang LaSalle Property Management Pte Ltd, Asia Square, Sustainability Manager**

## 17:00 PANEL DISCUSSION

### Overcoming Challenges while Retrofitting HVAC systems

- Retrofitting HVAC Systems to Accommodate Existing Buildings
- Driving energy efficiency in tropical climates, HVAC Systems Energy Consumption in Buildings (Non-Manufacturing) in this Climate Contribute Up To 65% Of The Total Energy Bill
- HCFC Phase-out Management Plan (HPMP) for Singapore

#### DISTINGUISHED PANELISTS:

**Er Ling Shiang Yun, President**

**Association of Consulting Engineers Singapore (ACES), Partner, Tham & Wong LLP**

**Philip Chan, Jones Lang LaSalle Property Management Pte Ltd, Asia Square, Sustainability Manager**

## 17:40 Closing Remarks by the Conference Chairman

## 18:00 Networking Cocktail Reception



# DAY 2

13<sup>th</sup> June 2017

8:30 Registration and Morning Coffee

8:50 Opening Remarks from The Conference Chair

## Innovative IEQ technologies

9:00 **CASE STUDY**

### Remodelling of the China Resource Building in Hong Kong

- Transformation of an architectural icon of 80's to an icon of urban sustainability
- Upgrade of quality and performance to an international Grade A standard office
- Construction by phases to maintain the normal operation of the building while disturbance to the existing tenants had to be minimized
- Use of low-emitting finishes and high ventilation rates to enhance IEQ

**Leung Man Kit, Ronald Lu & Partners**

Director of Sustainable Design

9:40 **Identifying the Right Retrofit through Building Energy Audit**

- Importance of Energy Audit
- Technical Analysis
- Identification of saving measures
- Cost-Effective Design Decisions

**Dr. Jahangeer K. Abdul Halim**

**LJ Energy Pte Ltd**, Assistant Director

10:20 **IEQ PANEL**

### Balanced Buildings: IEQ & Energy Efficiency

- Aligning IEQ Measures to Energy-Efficiency Retrofitting Initiatives
- IEQ in the Commercial Sector
- Balancing IEQ with Energy Efficiency

#### DISTINGUISHED PANELISTS

**Dr. Yuichi Takemasa, Kajima Technical Research Institute Singapore (KaTRIS)**

General Manager

11:00 Exhibition Viewing and Networking Coffee

## Regional Spotlight

11:30 **SUCCESS STORY - MALAYSIA**  
**Energy Efficient Building Retrofits**

- 53% measured energy savings of office retrofit
- Practical passive design retrofits
- Practical active design retrofits

**Joshua Chia, IEN Consultants Sdn Bhd**  
Green Building Consultant



12:10 **PANEL DISCUSSION**  
**Regional Retro-Crisis Update**

- Retrofitting Existing Buildings to Withstand Future Cyclones
- Existing skyscrapers and innovative earthquake-resistant technology
- Looking into the Crystal Ball: Energy Efficient Buildings Technology and Services in APAC will Reach Nearly \$92 Billion in Annual Market Value by 2022 (\*Source Forecasts Navigant Research)

#### DISTINGUISHED PANELISTS:

**Asst Prof Shah Kwok Wei, Vietnam Green Building Council**, VGBC Advisory Board Member, Deputy Program Director Smart Materials Laboratory, National University of Singapore

12:50 Conference Lunch and Networking

## Financing Retrofit

14:00 **Government Initiatives: Driving the expansion of dynamic building market**

- Funding Strategies to Assist Retrofit Projects in Commercial Buildings
- Understanding Building Retrofit Energy Efficiency Financing (BREEF) Scheme
- Driving industry response for Green Mark Incentive Scheme for Existing Buildings (GMIS-EB)

# DAY 2

13th June 2017



## 14:40 STAKEHOLDERS PANEL DISCUSSION Partnering to unlock retrofit opportunities

- ESCOs as a Vital Entry Point For Technology Developers
- Addressing Risks in Green Retrofit Projects
- Security risk assessments for properties
- Discussing BCA's New Rule: Owners Of Existing Commercial And Institutional Buildings Must Include "Barrier-Free" Accessibility Upgrades

### DISTINGUISHED PANELISTS

#### **Subbaih Ramar, Ministry of Trade and Industry**

Senior Assistant Director

#### **Brian Norman, Hill & Associates Ltd**

Managing Director



## Best Practices

## 15:20 INTERNATIONAL CASE STUDY Award winning GPO WITNESS HISTORY INTERPRETIVE CENTRE O'Connell Street, Dublin

*This is a culturally significant project in one of Dublin's most iconic buildings. It is open to the public for the 2016 centenary of the 1916 Rising. The high profile project involves a new exhibition centre within the restored courtyard of the GPO. The public engagement with the iconic GPO will be hugely enhanced with the opening of the new interpretive centre in 2016.*

### Kavanagh Tuite Architects (tbc)



## 16:20 PANEL DISCUSSION Way Forward

- Optimizing building performance
- Raising standards For Environment and Development Goal Co-Existence
- Identifying and Implementing Global Best Practices

## 17:00 Chairman closing remarks

## 17:30 Close of Conference

I would like to thank everyone who has helped with the research and organization of this event - especially the expert advisers for their commitment, time and support.



**Welma Williams**

**Deputy Production Director**

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# Distinguished Speakers and Panellists

## **Djoko Prihanto, Surbana Jurong Planning Group, Deputy MD**

Djoko is one of the very few urban planners, who had hands-on experiences in executing, managing and implementing large scale regional and city planning projects in Asia, Middle East and Africa. Some of his major works include the Master Plan Concept for the Mumbai Metropolitan Region in India, Master Plan for the City of Kigali in Rwanda, Master Plan for the Rustenburg Municipality in South Africa and Master Plan for Al Wakrah Municipality in Qatar. Having been overseeing the initiation, conceptualization, master-planning and the implementation works of more than 90 urban planning and urban design projects across the region since early nineties, Djoko understood very well the key urban, environment and land use issues, economic and socio-political issues, governance and enforcement issues as well as the urban development dynamics in Asian and African cities. Djoko is currently the Deputy Managing Director for Surbana Urban Planning Group (SUPG) and overseeing planning and urban design projects in Africa, South Asia and Indonesia.

## **Er Ling Shiang Yun, President, Association of Consulting Engineers Singapore (ACES), Partner, Tham & Wong LLP**

Er. Ling obtained his Bachelor of Engineering Degree (Electrical) from University of Ottawa, Canada in 1983. He has been in the engineering consulting and construction business since graduation. In the course of his work, Er Ling pursued a part-time course in APESMA/Deakin University, Australia and obtained his Master of Business Administration (Technology Management) in 1997. Er. Ling has been responsible for the design of a large range of building services in a variety of building types in Asia. He has an extensive experience in multi-discipline design, working closely with engineers from other disciplines including structure, fire, mechanical and hydraulic. Er. Ling is the Qualified Person in Electrical Services. He has the responsibility in ensuring the design and construction is in compliance with the relevant Code of Practice and authorities. Er. Ling is an Electrical engineer with 23 years of experience in the Mechanical & Electrical Industry with both Consulting and Contracting experience. His project experiences cover a wide range of projects.

Committees involved currently:

President of Association of Consulting Engineers Singapore (ACES)

Chairman, ACES Electrical practice Committee

Co Chairman Qualified Electrical Contractor Registry

BCA Guidebook Panel Review Committee for BCA Guidebk 2 – Building Systems (Platinum series of Guide Books

APEC Engineers & Monitoring Committee (Since Jan 2007)

TC member for Review of SS CP 59 : 1998 – Code of Practice for Construction, Installation, Operation & Maintenance Of Intruder Alarm Systems (formed May 2007)

Co Chairman Joint Registries Monitoring Committee (JRMC) with IES Member of CIJC (Construction Industry Joint Committee)

Member of Electrical & Electronic Standards Committee (EESC)

And Singapore National Committee of the International Electrotechnical Commission [SNC (IEC)]

TC member on SS 538 : Maintenance of Electrical Equipment of Electrical Installations

Member of Working Group on New Work Item (NWI) for Maintenance of Grid-Tied Solar Photovoltaic Power Supply Systems

Past Committees involved:

Organising Committee member for World Road conference 2006 with LTA

Hon Treasurer, ACES

Chairman Business Practice and Profession Committee, ACES

## **Dr. Saeed Zaki, dwp, Regional Managing Director Malaysia & Singapore**

Saeed possesses over two decades of extensive experience with local and multinational firms in property and real estate development, with over ten years of which in a senior management role. An architect, urban designer and urban planner by trade, Saeed has a proven track record of successful project planning, design, development and implementation, throughout Asia. In 2007, Saeed joined dwp, responsible for the overall operation and key commercial strategies and initiatives, across the Thai market. Directing multiple design studios, Saeed collaborates closely with design directors to ensure that individual project requirements and client business objectives are met, while maintaining design integrity and quality.

## **Dr. Thomas Reindl, Solar Energy Research Institute of Singapore (SERIS), Deputy Chief Executive Officer**

Thomas REINDL is Deputy CEO of the Solar Energy Research Institute of Singapore (SERIS) and Principal Research Fellow at the National University of Singapore (NUS). He started with photovoltaics (PV) in 1992 at the SIEMENS Corporate R&D Labs. After holding several management positions at SIEMENS and running one of the leading German PV systems integration companies as Chief Operating Officer, he joined SERIS in 2010 and soon became Director of the Solar Energy System cluster. During his time at SERIS, he won public research grants in excess of SGD 20 million, founded 2 spin-off companies and authored strategic scientific papers such as the "PV Roadmap for Singapore". Dr. Reindl holds a Master in Chemistry, a Ph.D. in Natural Sciences and an MBA from INSEAD, all awarded with highest honors. His research interest are high-performance PV and embedded systems, techno-economic road-mapping and the reliable integration of renewable energies into power systems.

## **Dr. Jahangeer K. Abdul Halim, LJ Energy Pte Ltd, Assistant Director**

Dr. Jahangeer K. Abdul Halim graduated from College of Engineering Trivandrum (University of Kerala, India) with a First Class degree in Mechanical Engineering in 1991. Thereafter, he worked for about 5 years as an Air-conditioning Design Engineer in United Arab Emirates. From 1996 to 1999, he worked as a Project Engineer with Schindler Lifts (S) Pte Ltd. He graduated with a Master of Science (M.Sc.) in Mechanical Engineering from National University of Singapore in 1998. He was awarded a Research Scholarship by the National University of Singapore (NUS) in 1999 to undertake a research project on solar energy and was awarded a Master of Engineering (M.Eng.) degree in 2002. After completing his M.Eng. degree, he continued with research and teaching at NUS and his research on evaporatively cooled condensers of air-conditioning systems led to the award of a PhD. degree in 2013. Dr. Jahangeer's areas of specialization include: evaporative cooling of air-conditioners, solar thermal systems, heat pump systems, building energy simulation and energy optimization. He has also authored chapters in a number of technical books and research papers in international peer-reviewed journals. He is an SCEM (Singapore Certified Energy Manager). He is also a member of Institute of Engineers Singapore (IES) and American Society of Heating, Refrigerating Engineers (ASHRAE) since 1999.

# Distinguished Speakers and Panellists

## **Joshua Chia, IEN Consultants Sdn Bhd, Green Building Consultant**

Joshua is a graduate from the University in New South Wales (UNSW) in the Degree of Renewable Energy Engineering. It was through the courses that he was exposed to sustainability, energy efficiency and building design. At IEN Consultants, he applies his skills to increase the number of buildings that are not only designed well for the occupants but sustainable and energy efficient in their nature. His ongoing project include an ambitious building retrofit with a 50% energy savings target as well as an energy efficient factory with innovative and energy efficient solutions such floor slab cooling. Joshua has strong skills in computer simulation and as recently successfully obtained his LEED GA qualification.

## **Leung Man Kit, Ronald Lu & Partners, Director of Sustainable Design**

MK Leung is the laureate of the inaugural Singapore Institute of Architects – Uniseal G-Architect Award 2014 and is well recognized for his specialized knowledge and integrated design skills in sustainable building design. His award-winning projects include the first zero carbon building in Hong Kong, a community-centric vertical green campus for the Technological and Higher Education Institute of Hong Kong, the pioneering sustainability master planning for Hong Kong Science Park Phase 3, the Transformation of the existing Jockey Club Environmental Building, and a number of research studies related to sustainable design such as the formulation of the new BEAM Plus Neighbourhood certification tool, the Study for Design and Construction Requirements for Residential Buildings for Energy Efficiency, Review of Building (Planning) Regulations of Hong Kong and Major Revision of the BEAM Plus New Buildings Certification Tool.

## **Asst Prof Shah Kwok Wei, Vietnam Green Building Council, VGBC Advisory Board Member, Deputy Program Director Smart Materials Laboratory, National University of Singapore**

He lectures for REHDA GreenRE in Malaysia and Visiting Research Fellow of Universiti Technologi of Malaysia, UTM. He is Visiting Professor at Tianjin University of Technology, China. He is appointed BCA Ambassador and a member of SPRING and SGBC technical committees. He served as Technical Consultant for Ascendas Services Pte Ltd, Bronx Culture Pte Ltd and NIPO Pte Ltd. Dr Shah's research interest is on nanotechnology and nanomaterials for green building applications. Dr Shah has done outstanding research work on a novel low cost high volume aqueous silicacoating technique has been granted a US Patent (US 20130196057 A1). His research paper published by Nanoscale (Nanoscale, Impact Factor=6.739, DOI:10.1039/C4NR03306J) on "Noble metal nanoparticles coated with silica by a simple process that does not employ alcohol" was highlighted by popular online science magazines such as ScienceDaily, Physorg and A\*STAR website. Separately, Dr Shah's research on microencapsulated phase change materials enhanced by highly thermal conductive nanowires (Journal of Materials Chem. A, DOI: 10.1039/C3TA14550F, Impact Factor=6.626) led to the development of "M KOOL" phase change cooling technology, which was featured on Physorg, Channel News Asia, Straits Times, Business Times, TODAY, The Star Online and Lianhe Wanbao. So far, Dr Shah's achievements include 3 first authored papers, 9 coauthored papers, 1 book chapter, 12 patents disclosures and 1 commercial licensing. Dr Shah has won multiple awards locally and overseas. In 2015, Dr Shah was awarded

"IES Prestigious Engineering Achievement Awards 2015" by the Institution of Engineers (IES) Singapore. Again in 2015, Dr Shah was awarded "Young Green Innovator of the Year 2015" under the BCASGBC Green Building Individual Awards at the IGBC Conference. In 2014, Dr Shah's phase change technology won two awards at Startup Asia 2014 for "Most Promising Idea" and "Most Attractive for Investment" Awards. Again in 2014, Dr Shah Kwok Wei has been selected as top 5 finalist nomination for The IET Innovation Awards 2014 at London, UK (IET, Institute of Engineering & Technology) selected from over 400 entries from 30 countries. Dr Shah won two "Highly Commended IET Innovation Award" for both "Built Environment" and "Startup" category. For his studies, Dr Shah won the JTC Overseas Undergraduate Scholarship to Tokyo University, and followed by A\*STAR Graduate Scholarship for his PhD studies at NUS. Prof Shah will bring along a wealth of industry experience to his new appointment. Dr Shah worked in the building and construction industry as senior electrical engineer in Jurong Consultants Pte Ltd and Jurong Town Corporation JTC. Dr Shah practiced as electrical engineer designing high and lowvoltage systems (LV/HV power systems, lighting systems, security systems, lightning protection systems, standby generators, telecommunication systems) for commercial buildings such as IBM Building Phase 2 in Changi Business Park, Ayer Raja Technopreneur Centre and Tembusu Power Substation etc. Prof Shah is often invited to serve on many public and industry technical committees.

## **Brian Norman, Hill & Associates Ltd Managing Director**

Brian is the Managing Director for Hill & Associates with overall responsibility for delivering risk consulting services across Asia for the G4S Group. Brian arrived in Asia in 2008 and has delivered consulting and security solutions for clients in over 30 countries across the region. From 2011 until 2016, Brian was the Director of Corporate Development in Asia and the Middle East (AME) for G4S, H&A's parent company. As the Director of Corporate Development, he led the AME Strategy Development Group which performed strategic research, created initiatives on new markets and underperforming business lines, and produced in-depth external market and internal research reports to help guide local strategies. Brian also ran M&A activities for the region overseeing and successfully completing several acquisitions, sales and disposals of G4S businesses. In addition to being the Director of Corporate Development G4S, Brian managed seven countries and businesses, overseeing over 10,000 employees in countries including Yemen, Bahrain, Oman, Kuwait, Lebanon, Jordan, and India. Prior to G4S, Brian spent over a decade in consulting with Deloitte and PwC across a range of industries in their North America, Europe and Asia markets. With Deloitte, Brian was an Associate Director and Senior Manager of Merger and Acquisition Services and led over 60 inbound/outbound multinational transactions for both strategic and private equity clients. Brian managed client relationships throughout the engagements and created and conducted training programs for clients. At PwC, Brian led SEC audit, bankruptcy, and initial public filings engagements. He also consulted on various engagements to help clients get in compliance with internal control reporting through Sarbanes Oxley, carve out subsidiaries from parent companies, and other various change management processes. Brian graduated from the University Of Iowa College Of Business, has a USA CPA certification and speaks English and French.