



# New Frontiers in Fire Safety & Emergency Response

# FiSAC

## Fire Safety Asia Conference Singapore 2017

### 15 - 17 November 2017

### PARKROYAL on Beach Road, Grand Ballroom

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# Fire Safety Asia Conference 2017: New Frontiers in Fire Safety & Emergency Response

In tandem with the rapid economic and population growth in Asia, the issue of fire safety has framed the concerns and policies of government officials and fire professionals, for decades. Independently, Asian governments have formulated codes and guidelines that have promoted and provided fire safety requirements in homes and public places.

In order to discuss and share best practices in the Asian fire safety industry, the **Singapore Civil Defence Force (SCDF)** and the **National Fire and Civil Emergency Preparedness Council (NFEC)** are once again jointly presenting the third **Fire Safety Asia Conference (FiSAC) 2017** to be held from **15 - 17 November 2017**.

Covered within the three days are a **two-day conference** and a **full-day workshop**. This comprehensive event will feature fire safety experts and professionals, as well as government agencies and authorities, who will share their experiences and solutions in preventing or containing outbreaks of fire in commercial, industrial and residential areas.

Themed "**New Frontiers in Fire Safety & Emergency Response**", this presentation of FiSAC 2017 is designed for all fire safety experts and professionals. Do make a date to attend! For more, visit [www.fisac.com.sg](http://www.fisac.com.sg)



## Commissioner's Message Comr Eric Yap Commissioner of the Singapore Civil Defence Force

Singapore's urban landscape has seen rapid developments over recent years, driven by the growing socio-economic demands. The Singapore Civil Defence Force (SCDF) fire safety regulations has been evolving in tandem with the developments in the building industry.

The SCDF has fostered a close working relationship with the building industry; working together to overcome building challenges, raising construction productivity and also creating new opportunities in building design. This partnership has been a win-win formula in which the SCDF will continue to grow and nurture as we explore and develop new fire safety standards to meet the building developments of tomorrow.

The development of the Jurong Lake District, Singapore's second business district, is one such example. It is planned as a mixed-use precinct comprising high-rise offices, retail, food and beverage, entertainment space and hotels. With this, fire safety becomes even a greater challenge for architects and building professionals in instituting smart fire safety regulations that ensure spaces are not only fire safe, but conducive for use as well.

One area that the SCDF will be embarking on is harnessing the full potential of technology in fire safety. As the urban landscape and industrial developments continue to evolve, technology can be used as a force multiplier to help keep up with the modernity in building design and at the same time, ensuring that adequate fire safety considerations and provisions are instituted as well. For example, the SCDF is looking into the feasibility of introducing the Video Image Fire Detection System (VIFDS) in the Fire Code.

Using video analytics and advanced image processing, the VIFDS performs several functions. For instance, it is able to detect the presence of fire and smoke at its incipient stage within seconds and alerts the designated alarm monitoring station or fire command centre within the building. The fire, which can be remotely ascertained through real-time video images, would help to reduce the occasions in which fire engines are despatched due to false activation of the fire alarm system. In addition, the VIFDS offers Qualified Persons the flexibility in fire safety design for the concept of future-ready buildings.

Equally important to fire safety is the SCDF response to emergencies. On the operational front, the SCDF has transformed its Emergency Medical Services (EMS). SCDF firefighters have been cross-trained as Emergency Medical Technicians (EMT) and are being deployed on fire bikes to stabilise critical casualties suffering from life threatening emergencies before the arrival of the ambulances. In May this year, the SCDF unveiled a new hybrid Fire-Medical Vehicle (FMV) which is equipped to respond to both fire as well as EMS incidents. The EMT response on both fire bike and FMV play a part in the EMS tiered-response framework. This framework is premised on firstly, differentiating the calls based on the seriousness of the patients' medical condition. Secondly, matching the scale of SCDF resources and speed of response to the severity of each call. It is based on case acuity, of prioritizing patients to the differing nature of emergencies, from the most critical life-threatening emergencies to minor emergencies and non-emergencies.

On the training front, the Home Team Tactical Centre was officially opened in October 2015. It housed a slew of best-in-class training simulators. Some of which include the Chemical Hub which provides training for HazMat incidents with variable intensity levels, an Urban Search and Rescue (USAR) complex for rescuers to hone their skills in USAR operations as well as a Marine Firefighting and Rescue simulator comprising a realistic replication of a ship with complete internal structures and compartments. Such state-of-the-art training facilities provide SCDF responders with realistic training experiences to closely mirror the different types of emergency situations that can occur.

The Civil Defence Academy (CDA) will also undergo a major redevelopment programme from 2018 to 2022. The new CDA will bring training in emergency response to a new and unprecedented level. Notably, the National EMS Training Centre and a Leadership Centre for Disaster Management will be established within the premises.

This is the third Fire Safety Asia Conference (FiSAC) co-organised by the National Fire and Civil Emergency Preparedness Council (NFEC) and the SCDF. We have received encouraging feedback from participants of the previous two conferences, with many of them acknowledging the conference as an excellent platform for building and fire safety professionals, incident managers as well as fire practitioners to share ideas, experiences and best practices. It is with this in mind that we continue with this triennial gathering in the spirit of learning from one another to better the fire safety standards and best practices in incident management. I am also certain that the enriching line up of keynote speakers, conference papers and discussions will foster a rich reservoir of fresh ideas and perspectives in the fire safety and firefighting fraternity.

I wish to thank all participants for your unwavering support for this event, and hope that you have a fruitful and engaging FiSAC 2017.

Thank you.





## Chairman's Message

**Mr. Alan Loh Peng Leong**

**Chairman of the National Fire and Civil Emergency Preparedness Council**

The rapid growth that we have seen in many countries in Asia in the past decade is expected to continue in spite of the current global headwinds. This has brought about and will continue to bring new challenges to fire safety standards and services especially in cities with high urban population density including Singapore.

To address this, fire safety professionals have been improving fire safety design to keep pace with newer and more complex industrial and commercial developments. As members of the fire safety fraternity, the best thing we can do is to learn from each other, progress together and achieve better and more future-ready fire safety designs as well as enhanced response during an emergency. This is the aim of Fire Safety Asia Conference 2017 and is reflected through the theme "New Frontiers in Fire Safety & Emergency Response".

The National Fire and Civil Emergency Preparedness Council (NFEC) is pleased to be organising the third FiSAC series. To be held in Singapore, FiSAC is an opportunity to present, share and discuss the latest fire safety developments in buildings. The Conference will also feature the Fire Safety Design Excellence Awards to recognise buildings in Singapore with outstanding fire safety design and features.

Last year, the NFEC commemorated 30 years of partnering with the community in promoting greater fire safety awareness for a safe and secure Singapore. The NFEC has been actively engaging the industrial and commercial sectors, schools and local community through various programmes. This initiative has reaped benefits, with the low number of fire calls in 2016. In fact, this is the lowest number of fire calls received by the Singapore Civil Defence Force (SCDF) since 1978. The NFEC will strive to continue partnering the SCDF to increase our outreach and engagement in order to maintain the high standard of fire safety in Singapore.

On behalf of the NFEC, I would like to cordially invite all professionals to lend your unwavering support and join us in this event. I also look forward to welcoming all local and overseas delegates from the region to FiSAC 2017.

## Keynote Speakers



**(K1) Neil Gibbins**

Chief Executive Officer and Company Secretary  
The Institution of Fire Engineers  
Global Management of Fire and Associated Risks

Neil's 35-year operational fire service career spanned all roles from fire-fighter to Acting Chief Fire Officer. He has over twenty years of senior management experience and practical application of incident command, fire investigation, training and development and fire prevention/protection. Neil was lead officer for fire protection within the UK Chief Fire Officers Association from 2007 to 2013. Prior to that, he chaired the working group that managed the implementation of the Fire Safety Order by English and Welsh fire services. These roles involved a wide range of fire protection challenges, from chairing a national timber frame building group to designing data capture systems to aid future targeting and evaluation. Neil is a past president of the Institution of Fire Engineers and has been CEO since 2015. Neil has been awarded the Queen's Fire Service Medal and is a Fellow of the Institution of Fire Engineers.



**(K2) Prof. Brian Jay Meacham**

Associate Professor  
Worcester Polytechnic Institute  
Framework for Facilitating Next Generation Performance-Based Building Regulations

Brian Meacham is an Associate Professor at Worcester Polytechnic Institute (WPI) in Worcester, Massachusetts, USA, where he holds appointments in the Department of Fire Protection Engineering and in the Architectural Engineering program. He is internationally recognized as an authority on risk-informed performance-based approaches to engineering and regulation. In 2016, Brian was awarded a prestigious Fulbright Global Scholar Award to conduct research into the situation with performance-based building regulatory systems, with fire safety engineering, and the potential for shifting to a risk-informed and performance-based approach in the countries of Japan, Spain and Sweden. He also conducted research on these topics in Australia, New Zealand, the Netherlands and Scotland during 2016. Brian is a licensed Professional Engineer in the US states of Connecticut and Massachusetts, a Chartered Engineer and Fellow of the Institution of Fire Engineers, and a Fellow of the Society of Fire Protection Engineers.

## Session Speakers

**(S1) COL Alan Chow Mun Keong**

Commander, 1<sup>ST</sup> SCDF Division HQ  
Oil Tank Fire: SCDF's Response Framework and Strategies

**(S2) Dr. Peter Wilkinson**

Director, The Institution of Fire Engineers (IFE)  
Fire Safety Engineering Standards, Past, Present, Future

**(S3) Henry Ho**

Managing Director, IGnesis Consultants Pte Ltd  
JEWEL - A Performance-Based Design Approach

**(S4) David Barber**

Principal, Arup  
Fire Safety Design for Engineered Timber Buildings

**(S5) Dr. Amer Magrabi**

Principal - Fire Engineering, Lote Consulting - Fire | Risk | Security  
The Lacrosse ACP Façade Fire - Post Incident Analysis, Building Code Changes and the New Australian Façade Fire Test Standard

**(S6) Ron Diaper**

Technical Director, Colt Ventilation East Asia Pte Ltd  
The Use of Performance-Based Designs for Smoke Control System

**(S7) Dr. Louis A. Gritz**

Vice President, Research, FM Global  
Sprinkler Research for High Challenge Storage Risk

**(S8) Brian Davey**

Immediate Past International President (2016-17)  
The Institution of Fire Engineers (IFE)  
Solar Panel Hazards & Mitigating the Risks

**(S9) Tay Hao Giang**

Past International and a Trustee and Board of Directors  
The Institution of Fire Engineers (IFE)  
Fire Safety Strategy for Healthcare Facilities

**(S10) Richard Fowler**

Director, The Institution of Fire Engineers (IFE)  
Human Behaviour Issues & Evacuation of Elderly & Infirm Residents

**(S11) Gregory Jakubowski**

Principal and Chief Engineer, Fire Planning Associates, Inc.  
Mitigating Fire Risk Involving Flammable Liquids in Pharmaceutical Plants and Research Facilities

**(S12) Chief William Stewart (Ret.)**

Director & Past International President, The Institution of Fire Engineers (IFE)  
Wind Driven High-Rise Fire

**(S13) Neil Gibbins**

Chief Executive Officer and Company Secretary,  
The Institution of Fire Engineers (IFE)  
Inquest into a Firefighter Fatality

**(S14) Chao Kang**

Chief Executive Officer & President  
Chinese Fire Protection Center Res Foundation  
Formosa Fun Coast Dust Explosion

# Fire Safety Engineering Workshop

## The Nuts & Bolts of Good Pre-Fire Planning

### Day 1: 15 November 2017, Wednesday • 0900 - 1730



**Gregory Jakubowski, P.E., CSP, FSFPE**  
Principal and Chief Engineer  
Fire Planning Associates, Washington Crossing, PA

Gregory Jakubowski is experienced in leading and improving safety and fire prevention and protection from a municipal, site and corporate perspective, including large capital projects. He is also a seasoned manager of major projects, safety, fire protection and environmental engineering design, employee training, system evaluation, hazards analysis, and preplanning and fire control methodologies.

## Conference Programme

### Day 2: 16 November 2017, Thursday

Time	Programme
0800	Registration
0900	Opening Ceremony
0940	Tour of Exhibition & Tea Break
1040	Keynote (K1)
1110	Speaker (S1)
1140	Speaker (S2)
1210	Panel Discussion
1250	Luncheon
1350	Speaker (S3)
1420	Speaker (S4)
1450	Tea Break
1520	Speaker (S5)
1550	Panel Discussion
1620	End of Day 2

### Day 3: 17 November 2017, Friday

Time	Programme
0900	Keynote (K2)
0930	Speaker (S6)
1000	Speaker (S7)
1030	Tea Break
1050	Speaker (S8)
1120	Speaker (S9)
1150	Panel Discussion
1225	Luncheon
1325	Speaker (S10)
1355	Speaker (S11)
1425	Speaker (S12)
1455	Tea Break
1515	Speaker (S13)
1545	Speaker (S14)
1615	Panel Discussion
1650	Closing Remark
1700	End of Day 3

## Gala Dinner

**16 November 2017, Thursday**  
**Marriott Hotel, Grand Ballroom (Level 3)**  
320 Orchard Road, Singapore 238865

Cocktail reception begins at **1900hrs**  
Gala Dinner commences at **1930hrs**

## Professional Accreditation

### Fire Safety Asia Conference (duration: 18 hours)

**CPE** hours accredited to **FSE** **18** hours  
**PDU** points accredited by **PEB** **11** points  
**CPD** points accredited by **BOA** **4** points  
**CPD** points accredited to **FSM** **8** points  
**SDU** points accredited by **MOM** TBA

### Fire Safety Engineering Workshop (duration: 9 hours)

**CPE** hours accredited to **FSE** **9** hours  
**PDU** points accredited by **PEB** **6** points  
**CPD** points accredited by **BOA** **2** points  
**CPD** points accredited to **FSM** **8** points  
**SDU** points accredited by **MOM** TBA



The speakers and programmes are subject to revision without prior notice.

For more information, please contact **FiSAC 2017 Secretariat:**  
**Conference & Exhibition Management Services Pte Ltd**  
1 Maritime Square #09-43 HarbourFront Centre, Singapore 099253  
info@fisac.com.sg | Tel: (65) 6278 8666 | Fax: (65) 6278 4077

# Fire Safety Design Excellence Awards 2017



FIRE SAFETY DESIGN  
EXCELLENCE AWARDS

The prestigious Awards accord recognition to the individuals, organizations and the project teams for ingenious design processes and solutions in overcoming project challenges to achieve high standard in fire safety design of building projects in Singapore.

## The Awards aim to:-

- Inculcate a strong fire safety culture among building professionals in developing our built environment;
- Give recognition to professionals, developers, building owners and project teams for fire safety engineering achievements;
- Honour like-minded individuals (QP) for their consistent contribution towards achieving high standards in fire safety and compliance to the regulatory system; and
- Provide an avenue through which competition for design excellence can be enhanced.

The Awards are open to professionals, developers, building owners and project teams in creating an excellent fire safe building environment for its occupants and the fire fighters.

The **nomination for outstanding building projects** shall meet the following eligibility criteria:

- Building projects must be completed and obtained **TFP/FSC before 28 July 2017**;
- Each eligible building project can only be nominated by one (1) Applicant; and
- Building projects must not have received this award in past years.

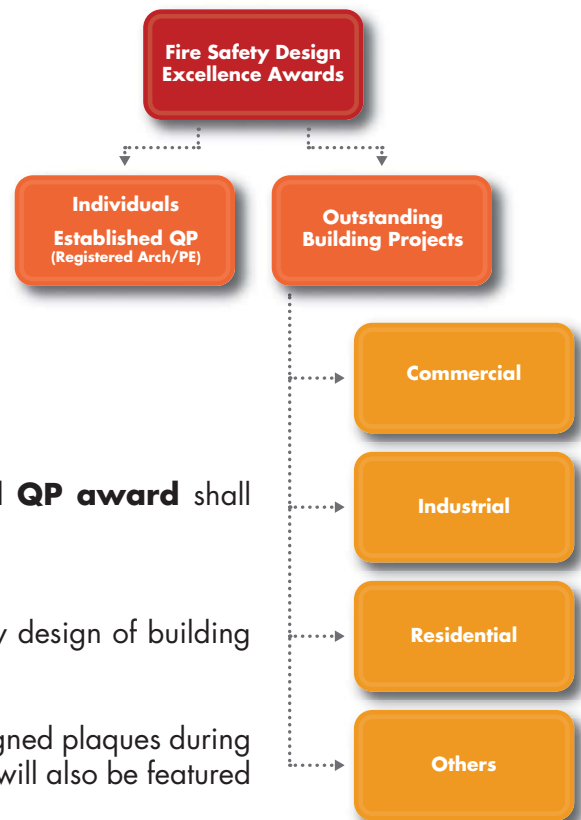
The **nominated Qualified Person (QP) for established QP award** shall meet the following eligibility criteria:

- Must be a Registered Architect or Professional Engineer; and
- Must show strong involvement and track record in fire safety design of building projects in Singapore over the past 5 years.

Award winners will receive award certificates and specially-designed plaques during FiSAC's Gala Dinner on 16 November 2017. Winning designs will also be featured in SCDF publications.

**The nomination is now open until 28 July 2017.** For more information or to apply, please visit <http://fsda.nfec.org.sg>

## Category of Awards



## Organisers



**SCDF**  
The Life Saving Force

## General Enquiries



## FSDA 2017 Secretariat

Tel: (65) 6278 8666 | Fax: (65) 6278 4077

## Participation Enquiries

Ms Zann Wong | [fsda@nfec.org.sg](mailto:fsda@nfec.org.sg)



# Fire Safety Asia Conference 2017

## Conference & Workshop Registration Form

Enjoy Early Bird Rates until 31 July!

PIC Grant Applicable.  
Conditions Apply. Visit [www.iras.gov.sg](http://www.iras.gov.sg) for details

Please complete the registration form and send to: **Conference & Exhibition Management Services Pte Ltd**  
Mailing Address: 1 Maritime Square, #09-43 HarbourFront Centre, Singapore 099253  
Email: [reg.fisac17@cems.com.sg](mailto:reg.fisac17@cems.com.sg) | Tel: +65 6278 8666 | Fax: +65 6278 4077

### REGISTRANT'S PARTICULARS (please write clearly)

<b>Name:</b>		<b>Designation:</b>	
<b>Company:</b>			
<b>Address:</b>			<b>Country:</b>
<b>Tel / Mobile:</b>	<b>Fax:</b>	<b>Email:</b>	
<b>Professional Organisation Membership &amp; Membership No. : eg. IFE/SIA/ACES/IES</b>	1.	2.	

### REGISTRATION FEES \*PIC Grant Applicable. Conditions apply. Visit [www.iras.gov.sg](http://www.iras.gov.sg) for details.

CONFERENCE ONLY (16 – 17 November 2017)	FEE (GST Applicable)
Normal	<input type="checkbox"/> SGD 850.00
Early Bird (before 31 July)	<input type="checkbox"/> SGD 800.00
Supporting Organisations*	<input type="checkbox"/> SGD 800.00
WORKSHOP ONLY (15 November 2017)	
Normal	<input type="checkbox"/> SGD 650.00
Early Bird (before 31 July)	<input type="checkbox"/> SGD 600.00
Supporting Organisations*	<input type="checkbox"/> SGD 600.00
PACKAGE (Conference + Workshop, 15 – 17 November 2017)	
Normal	<input type="checkbox"/> SGD 1,480.00
Early Bird (before 31 July)	<input type="checkbox"/> SGD 1,350.00
Supporting Organisations*	<input type="checkbox"/> SGD 1,350.00
OTHERS	
Accompanying Guest**	<input type="checkbox"/> SGD 280.00
Name:	
GALA DINNER	
Per Table	<input type="checkbox"/> SGD 2,688.00
Per Table (Early Bird before 31 July)	<input type="checkbox"/> SGD 2,419.20
Per Seat	<input type="checkbox"/> SGD 270.00
Dietary Preference: <input type="checkbox"/> Normal <input type="checkbox"/> Vegetarian	<input type="checkbox"/> Halal

\*ACERTS, ACES, FSMAS, IES, IFE, NFEC, REDAS, SIA, SCDF, SISO, SMF  
\*\* Opening Ceremony and Awards Gala Cocktail Reception and Gala Dinner **ONLY**.

### REGISTRATION FEE INCLUDES

- Full Conference:**
- ◆ All meeting sessions, Opening Ceremony, Conference Tea Breaks & Luncheons, and Awards Gala Cocktail Reception & Dinner
- Workshop:**
- ◆ All workshop sessions, Tea Breaks and Luncheon

### CANCELLATION POLICY

- A. The following cancellation and refund policy shall apply:
- ◆ Before 1 August 2017 – 50% refund
  - ◆ After 1 August 2017 – No Refund.
- B. Substitution is allowed with prior notice.
- C. All cancellation has to be made in writing via email to the secretariat office.

### MODE OF PAYMENT

I authorise Conference & Exhibition Management Services P/L to charge the amount of SGD \_\_\_\_\_ to my credit card below:

- BANK DRAFT / CHEQUE payable to **CONFERENCE & EXHIBITION MANAGEMENT SERVICES PTE LTD**
- CREDIT CARD PAYMENT (Please complete the following credit card details)

Name as Appears on Card:	:		
Card No.	:		
Expiry Date	:	CVC No:	
Type of Card	:	<input type="checkbox"/> VISA / MasterCard <input type="checkbox"/> AMEX <input type="checkbox"/> DINERS <input type="checkbox"/> UNIONPAY	Signature as Appears on Credit Card      Date & Company Stamp

### Hotel Accommodation

For hotel booking, visit <http://www.fisac.com.sg/accommodation.php> for more details