

2-4 September 2019, Brunel University, London, UK

[www.FireandBlast.co.uk](http://www.FireandBlast.co.uk)



[www.FireandBlast.co.uk](http://www.FireandBlast.co.uk)

The 3rd International Conference On  
Structural Safety under Fire & Blast Loading

**ASRANet**

# CONFAB 2019

| CALL FOR PAPERS |

Abstracts should be sent to [confab@asranet.co.uk](mailto:confab@asranet.co.uk) by the deadline of 29th March 2019

## Conference Themes:

- Characterisation of fire, blast and impact loading on structures
- Behaviour of structural materials at high temperatures and high strain rates, including performance of protective materials
- Mechanics of material and structural damage, including the analysis of failure and collapse mechanisms
- Modelling and simulation, including coupled modelling methods
- Design of structures for improved resilience
- Strengthening, retrofit and repair
- Risk and uncertainty modelling as well as performance based engineering
- Safety of high risk facilities such as nuclear power plants
- Applications of sensing, AI and big data in infrastructure safety
- Examples of high-end design case studies in various industry sectors, both on and offshore
- Material Behaviour of Timber Structures under Fire & Blast Loading
- Design of Bridges for Fire & Blast Resistance (Including Cables & Other Appendages)
- Effects of Fire & Blast on Steel Connections
- Effects of Fire & Blast on Facades & Glass Assemblies
- Competing Constraints in the Design Process
- Multi-Hazard Assessment & Design

## Organising Committee

**Prof Asif S Usmani**, Hong Kong Polytechnic University, Hong Kong

**Prof Yong Lu**, University of Edinburgh, UK

**Prof Purnendu Das**, ASRANet Ltd, UK

**Dr Katherine Cashell**, Brunel University London, UK

## International Advisory Committee

Prof Zhaohui Huang	Brunel University London	UK	Prof Lin-Hai Han	Tsinghua University	China
Prof Hong Hao	Curtin University	Australia	Prof Luke Bisby	University of Edinburgh	UK
Prof Dmitri Val	Heriot-Watt University	UK	Prof Jose Torero	University of Maryland	USA
Prof Wan-Ki Chow	Hong Kong Polytechnic University	Hong Kong	Prof Naian Liu	University of Science and Technology	China
Prof Guillermo Rein	Imperial College London	UK	Prof Andrew Tyas	University of Sheffield	UK
Prof Umesh Kumar Sharma	Indian Institute of Technology Roorkee	India	Prof Guo-Qiang Li	Tongji University	China
Prof Norbert Gebbeken	Munich Bundeswehr University	Germany	Prof Ganesh Thiagarajan	University of Missouri Kansas City	USA
Dr Masuhiro Beppu	National Defense Academy	Japan	Prof Eric C Williamson	University of Texas Austin	USA
Prof Daniel Ambrosini	National University of Cuyo	Argentina	Dr Panos Kotsovinos	Arup	UK
Prof Mark Stewart	Newcastle University	Australia	Prof Ben Zhang	Glasgow Caledonian University	UK
Prof Suwen Chen	Tongji University	China			

## Industrial Advisory Board

Mr Allan Jowsey, PFPSpecialists , UK

Mr Florian Block, BuroHappold Engineering, Germany

Dr Susan Lamont, ARUP, United Arab Emirates

Dr Holly Warren, AkzoNobel, UK

Mr Kees Both, Promat, Belgium

Dr Richard Haigh, IKM Consulting, UK

Dr Danny Hopkin, OFR Consultants, UK

## Keynote Speakers

Prof Jose Torero, University of Maryland, USA

Prof Mark G Stewart ,The University of Newcastle, Australia

Prof Ganesh Thiagarajan, University of Missouri Kansas City, USA

## Cost

**Full registration: £400**

**Student: £200**

## Invited Speakers

Dr Susan Lamont, ARUP, United Arab Emirates

Dr Holly Warren, AkzoNobel, UK

Dr Richard Haigh, IKM Consulting, UK

Prof Luke A Bisby, University of Edinburgh, UK

Prof Umesh Kumar Sharma, Indian Institute of  
Technology Roorkee, India

## Key Dates

**Abstract deadline: 29th March 2019**      **Abstract acceptance: 29th April 2019**

**Full payment: 2 July 2019**      **Full paper submission: 2 August 2019**

## ABOUT KEYNOTE & INVITED SPEAKERS

---

### **Prof Jose Torero, University of Maryland, USA**

#### **Integrating Fire Safety into Robustness, Resilience and Optimization**

Professor José L. Torero holds the John L. Bryan Chair and is the Director of the Center for Disaster Resilience at the Clark School of Engineering, University of Maryland. He works in the field of Fire Safety Engineering where he specializes in the behaviour of fire in complex environments such as forests, tall buildings, novel architectures, tunnels, aircraft and spacecraft. He holds a BSc for the Pontificia Universidad Católica del Perú (1989), and an MSc (1991) and PhD (1992) from the University of California, Berkeley. He received a Doctor Honoris Causa by Ghent University (Belgium) in 2016. José is a Chartered Engineer (UK), a Registered Professional Engineer in Queensland, a fellow of the Australian Academy of Technological Sciences and Engineering, the Royal Academy of Engineering (UK), the Royal Society of Edinburgh (UK), the Queensland Academy of Arts and Sciences, the Institution of Civil Engineers (UK), the Institution of Fire Engineers (UK) and the Society of Fire Protection Engineers (USA). José joined The University of Maryland in 2017 following appointments as Professor of Civil Engineering and Head of the School of Civil Engineering at the University of Queensland, Australia, the Landolt & Cia Chair in Innovation for a Sustainable Future at Ecole Polytechnique Fédéral de Lausanne, BRE Trust/RAEng Professor of Fire Safety Engineering at The University of Edinburgh, Associate Professor at the University of Maryland and Charge de Recherche at the French National Centre for Scientific Research.

### **Prof Mark G. Stewart**

#### **How Safe is Safe Enough? Risk and Uncertainty Modelling of Blast, Bullets and Bombs**

Mark G. Stewart is Professor of Civil Engineering and Director of the Centre for Infrastructure Performance and Reliability at The University of Newcastle in Australia. He is the author of Probabilistic Risk Assessment of Engineering Systems (Chapman & Hall, 1997), Terror, Security, and Money: Balancing the Risks, Benefits, and Costs of Homeland Security (Oxford University Press, 2011), Chasing Ghosts: The Policing of Terrorism (Oxford University Press, 2016), and Are We Safe Enough? Measuring and Assessing Aviation Security (Elsevier, 2018) as well as more than 400 technical papers and reports. He has 30 years of experience in probabilistic risk and vulnerability assessment of infrastructure and security systems that are subject to man-made and natural hazards. Since 2004, Professor Stewart has received continuous Australian Research Council support to develop probabilistic risk-modelling techniques for infrastructure subject to military and terrorist explosive blasts and cost-benefit assessments of counter-terrorism protective measures for critical infrastructure. Professor Stewart is the Chief Investigator of collaborative explosives field testing and ballistics performance programs between The University of Newcastle and the Australian Defence Force.

## ABOUT KEYNOTE & INVITED SPEAKERS

### Prof Thiagarajan Ganesh , University of Missouri Kansas -City,USA

#### Current Trends in Blast Behaviour of Reinforced Concrete Structures

Thiagarajan Ganesh is a Professor of Civil Engineering at the University of Missouri Kansas-City. He has been researching in the field of Blast Behavior of Concrete Structures and teaches in the areas of blast and progressive collapse of structures. He is currently the Chair of American Concrete Institute (ACI) – Committee 370 Blast and Impact Load Effects. He also serves as the Associate Editor for American Society of Civil Engineers (ASCE) Journal of Structural Engineering and Journal of Material in Civil Engineering and is a Fellow of ACI. He has served as the past Chair of ACI Committee 447 Finite Element Analysis of Reinforced Concrete Structures for six years. During this time he has developed several blast related sessions and has edited two special publications (SP-281 and SP-306)

### Dr Holly Warren, AkzoNobel, UK

#### Investigation of heat transfer from unprotected secondary attachments to protected structural steel'

Holly Warren received the degrees of M.Eng. in Civil and Environmental Engineering (2010), and Ph.D. in Structural Fire Engineering (2015) from The University of Edinburgh, U.K. She is currently a Structural Fire Engineer with AkzoNobel (Newcastle, U.K.) where she is responsible for specifying intumescent paint fire protection solutions for international clients. Holly also has extensive experience of Fire Safety Engineering having designed fire strategies for a number of global projects. She has research interests in the fire behaviour of both steel and reinforced-concrete structures. She carried out one of the first large-scale experimental test series of restrained reinforced-concrete slab-column specimens to study punching shear behaviour at high temperature. Holly is an associate member of the Institution of Fire Engineers (IFE), U.K., and a graduate member of the Institution of Civil Engineers

### Dr Richard Haigh IKM Consulting, UK

#### Holistic Risk Assessment for Fire, Blast and Gas Safety

Richard is a Chartered Engineer and Fellow of the Institution of Structural Engineers, with 17 years' experience working as a multi-discipline consultant in the petrochemical / oil and gas, energy and commercial buildings sectors. He has a wide range of experience in the design of steel, concrete, timber, masonry, aluminium and FRP structures. As well as specialist knowledge of fire, blast and gas resistant building design for the protection of people and essential equipment. He enjoys finding innovative solutions to his client's complex problems by working within an integrated multidisciplinary team. He is currently Engineering Associate at IKM, leading a team of over 40 people, covering Civil/Structural Engineering, Fire, Blast & Gas Safety, and Building Services Engineering. He has been involved in the design of a diverse range of projects, from concept design through to project completion in the UK, Ireland, Middle East, West Asia and North Africa, working on traditional, design & build, EPC, EPCM and PPP/PFI procurement routes.

## ABOUT KEYNOTE & INVITED SPEAKERS

### **Dr Susan Lamont, ARUP, United Arab Emirates**

(Awaiting CV and title of paper)

### **Prof Luke A Bisby, University of Edinburgh, UK**

**Transient response of eccentrically loaded concrete columns under heating and cooling**

Professor of Fire and Structures, Royal Academy of Engineering (RAEng) Research Chair, Head of the Research Institute for Infrastructure and Environment within the School of Engineering at the University of Edinburgh, and CoEditor-in-Chief of Elsevier's Fire Safety Journal, I have extensive experience of engineering research and consultancy, university teaching and administration, promotion of public understanding of science and engineering, and wideranging professional community activities. I am a Chartered Structural Engineer (CEng, IStructE, UK) and a Licensed Professional Engineer (PEng, Ontario, Canada). I have received numerous awards for my commitment to high quality engineering research and education, and for my dedication to the broader academic/research communities. Core research to date has focused on the thermal and structural performance of both conventional and innovative structural materials and construction systems in fire. On-going fire safety and structural fire engineering research being undertaken in collaboration with various groups internationally, including Ove Arup and Partners (UK), AkzoNobel (UK), University College London (UK), and The Swiss Federal Laboratories for Materials Testing and Research (Switzerland), amongst others. Have advised both private and government fire safety research organisations in the UK, USA, Canada, France, Switzerland, and Germany. Current projects are focused on building and infrastructure materials at high temperatures, polymer composite-confined concrete columns, fire-safe structural strengthening and rehabilitation materials, definitions of design fires, explosive spalling of concrete in fire, passive fire protection coatings, the fire behaviour of concrete structures, fire performance of bio-based building materials (including structural laminated timber and bamboo), fire performance of facades, as well as work on social and regulatory aspects of fire safety and structural engineering. Involved in design code/guide development internationally (American Concrete Institute (ACI), American Society of Civil Engineers (ASCE), British Standards Institute (BSi), European Committee for Standardization (CEN), Canadian Standards Association (CSA)). Peripheral interests in sustainable building design, fire safety in informal settlements, and engineering education, with published peer-reviewed articles also in these areas. Member of the UK Standing Committees on Structural Safety (SCOSS) and Confidential Reporting on Structural Safety (CROSS).

### **Prof Umesh Kumar Sharma, Indian Institute of Technology Roorkee, India**

**Some Outstanding Issues in the Fire Resistance Design and Construction of RC Columns**

Dr. Umesh Kumar Sharma is an Associate Professor in the Department of Civil Engineering, Indian Institute of Technology Roorkee. His areas of interest include fire effects on concrete structures, effect of corrosion on performance of RC Elements under Earthquake and Fire and evaluation and repair of concrete structures. Dr. Sharma has supervised eleven Ph.D theses and forty four Masters Dissertations. He has published 68 research papers in refereed Journals and 85 papers in peer reviewed Conferences. He has completed number of Research Projects funded by various national and International Funding agencies. Dr. Sharma has completed and is involved in number of field consultancy Projects, especially in the area of Structural Evaluation and Retrofitting of Fire Damaged RC Structures.

## ABOUT KEYNOTE & INVITED SPEAKERS

### **Dr Danny Hopkin, OFR Consultants, UK**

**TITLE TBC**

“Dr. Danny Hopkin is an Associate Technical Director at OFR Consultants, where he leads their structural fire engineering capability. He has worked on iconic projects, including the Google European HQ, 4 Pancras Square, London and the Island City Centre in Mumbai. Alongside his role at OFR, Danny is a Visiting Professor in Structural Fire Safety at the University of Sheffield, where he contributes to the teaching of undergraduate and postgraduate students. He is a Chartered Engineer, Fellow of the Institution of Fire Engineers, Member of the Institution of Mechanical Engineers and Professional Member of the Society of Fire Protection Engineers. Further to his consultancy work, Danny is: (i) an inaugural editor of the Springer Structural Fire Engineering Handbook (due for publication in 2019), (ii) chairman of the committee leading the revision of PD 7974-1:2019, (iii) a lead author of PD 7974-7:2019, and (iv) a co-editor of the Fire Technology Special Issue on “Probabilistic methods in Fire Safety Engineering”.

## Sponsorship & Exhibition Space

### Sponsorship

**Cost**        £1500 + VAT

#### Package Includes:

- 2 Free Delegate Registration
- Company Logo in the Conference Programme
- Company Logo in the Book of Abstracts
- Company Advert in the Book of Abstracts (A4 Size)
- Advert in the Conference Proceedings

### Exhibition

**Cost**        £1200 + VAT

#### Package Includes:

- 1 Free Delegate Registration
- 1 Display table (1800 x 1200 mm) in Breakout Area
- Display material: Published material, Structural component
- Display Banners

### Sponsorship Package + Exhibition Package

**Cost**        £2100 + VAT

- 2 Free Delegate Registrations
- 1 Display Table (1800 x 1200 mm) in Breakout Area
- Display Material: Published Material, Structural Component
- Display Banners
- Company Logo in the Conference Programme
- Company Logo & Advert in the Book of Abstracts (A4 Size)
- Advert in the Conference Proceedings

## About Brunel University

**Brunel University London** is a public research university located in Uxbridge, West London, United Kingdom. Founded in 1966 named after the Victorian engineer Isambard Kingdom Brunel. Brunel has over 12,900 students and 2,500 staff

## Getting there

### Airport Connections

London is well connected through Heathrow ,Gatwick &Luton Airport.

### Train Connections

Take the westbound Metropolitan Line to Uxbridge (approx. 40 mins from Baker Street station).

Or take the westbound Piccadilly Line to Uxbridge (approx. 45-50 mins from Earl's Court station).

You can then take a taxi, bus or walk to campus.

West Drayton (First Great Western Link) is the nearest mainline station, approx. 1.5 miles from the campus.

Services run from London Paddington (approx. 20 mins journey time) or from the West (Bristol).

West Ruislip Station (Chiltern Railways) is the mainline service from London Marylebone (approx. 20 mins journey time) and the North (Aylesbury, Banbury and Birmingham) and is approx. 4 miles from the campus.

## Accommodation

A Hotel is present on University Campus

Lancaster Hotel and Spa  
Brunel University London  
Kingston Lane, Uxbridge  
Middlesex  
UB8 3PH

Tel: 01895 268006