



UKIERI Concrete Congress

# Concrete: The Global Builder

Working together for durable and sustainable infrastructure

5 – 8 March 2019

**Venue:**

Dr B R Ambedkar National Institute of Technology  
Jalandhar – 144 011 (Punjab) India

[www.ukiericoncretecongress.com](http://www.ukiericoncretecongress.com)

## Fourth Announcement

The Congress will be honouring seven distinguished persons from world over who have made outstanding contributions in the area of Cement and Concrete Science, Technology, Design and Construction.

Congress Collaborating Institutions



UNIVERSITY OF  
BIRMINGHAM



Trinity College Dublin  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin

**C**ONCRETE is a global construction material, serving the social, engineering and commercial needs of the mankind through means of building the essential infrastructure to sustain our progress. The basic materials that comprise concrete are also global and this makes it second to water only in volume consumption. Notwithstanding these benefits, concrete and its providers and users also have responsibilities and obligations in ensuring its correct, durable and sustainable applications. This UKIERI Concrete Congress is being organised to discuss all aspects relating to concrete's current and future contribution as to how we build the established and develop living world. In achieving this aim, the Congress will be working with the stakeholders worldwide, involving researchers, practitioners, professional institutions, trade organisations and the relating Government departments.

The six Conferences comprising the Congress are designed to cover a wide range of issues reflecting concrete's versatility relevance and potential for further exploitation. The proceedings of the Congress will be managed differently, maximizing the delivery of current knowledge as well as the creation of new knowledge, focusing on the advantages and benefits as well as cutting across barriers that can limit applications. The need for future provision whilst responding to environmental concerns will be discussed. There will be opportunity to learn, network, debate and find solutions and opportunities relating to these issues.

The Congress will appeal to providers of services, manufacturers, practicing engineers, designer's consultants and researchers as well as planners and property developers. In fact, to all that relate to concrete's unique contribution to how we live both now and in the future.

## Chief Patrons

**Lalit K Awasthi, Chairman, Board of Governors**  
Dr B R Ambedkar National Institute of Technology, Jalandhar, India

**Gobind S Longowal, President, Managing Committee**  
Guru Nanak Dev Engineering College, Ludhiana, India

## Patrons

**Lalit K Awasthi, Director**  
Dr B R Ambedkar National Institute of Technology, Jalandhar, India

**Sehijpal Singh, Principal**  
Guru Nanak Dev Engineering College, Ludhiana, India

## Organising Committee

**Ravindra K Dhir OBE, Chairman**  
University of Birmingham, UK / Trinity College Dublin, Ireland /  
University of Dundee, UK

**H S Rai, Co-chairman**  
Guru Nanak Dev Engineering College, Ludhiana, India

**S P Singh, Secretary**  
Dr B R Ambedkar National Institute of Technology, Jalandhar, India

**Raman Bedi, Secretary**  
Dr B R Ambedkar National Institute of Technology, Jalandhar, India

**S K Mishra, Dr B R Ambedkar National Institute of Technology, Jalandhar, India**

**A Agnihotri, Dr B R Ambedkar National Institute of Technology, Jalandhar, India**

**K S Gill, Guru Nanak Dev Engineering College, Ludhiana, India**

**B Bhattacharjee, Indian Institute of Technology Delhi, India**

**S Bhalla, Indian Institute of Technology Delhi, India**

**S Bishnoi, Indian Institute of Technology Delhi, India**

**G S Ghataora, University of Birmingham, UK**

**S Goel, DAV Institute of Engineering and Technology, Jalandhar, India**

**R Khan, Aligarh Muslim University, Aligarh, India**

**R Mehra, Dr B R Ambedkar National Institute of Technology, Jalandhar, India**

**C Q Lye, University of Birmingham, UK**

**C J Lynn, University of Birmingham, UK**

**Moray D Newlands, University of Dundee, UK**

**Kevin A Paine, University of Bath, UK**

**A P Singh, Dr B R Ambedkar National Institute of Technology, Jalandhar, India**

**Tarunjit Butalia, The Ohio State University, USA**

**Jagbir Singh, Guru Nanak Dev Engineering College, Ludhiana, India**

**H P Singh, Dr B R Ambedkar National Institute of Technology, Jalandhar, India**

**S B Singh, Birla Institute of Technology and Science, Pilani, India**

**N Singh, Dr B R Ambedkar National Institute of Technology, Jalandhar, India**

**K Kapoor, Dr B R Ambedkar National Institute of Technology, Jalandhar, India**

**Opening Session**  
Tuesday  
5 March 2019  
13.30 hrs

## UKIERI Concrete Congress - Concrete: The Global Builder

Dedicated to Professor Tom Harrison  
University of Dundee, UK

### Opening Paper

*The Challenges  
Facing the  
Concrete Industry*



Tom A Harrison is a consultant and Visiting Industrial Professor at Dundee University. After working for contractors in the UK and then for a small design office in Canada, he joined the Cement & Concrete Association in its Construction Research Department. During this time, he achieved a PhD on formwork pressures. He became the Head of Construction and Technology in 1987 and when the C&CA became the British Cement Association and stopped its own research, he became its standards manager. In 1993 he was head-hunted to become the Technical Director of the British Ready-Mixed Concrete Association where he remained until reaching retirement age. He was chairman of the European Ready-Mixed Concrete Organisation's technical and environmental committee for 14 years, chairman of the BSI Concrete committee for 19 years, and actively involved in European and International standardization. While in the process of reducing his CEN activities, he still convenes two working groups and one task group. His other activities including publishing, acting as an expert witness and a member of the Editorial Board, Magazine of Concrete Research.

## Sponsoring of and Exhibiting at the Congress

The focal point of the Congress will be the exhibition and organizations are invited to sponsor the event and take the opportunity to exhibit and network with the delegates. Sponsors, depending on package, will gain exposure from a range of promotional benefits as shown below:

Sponsorship and Benefits						
Sponsorship Package	Cost (₹ in Lacs)	Free Delegates	Exhibition Spaces (Units)*	Dinner Spaces	Presentation at Opening Session (Minutes)	'Ad' Space in Final Programme (Page)
Patron	10	20	4	20	30	1
Platinum	4	8	3	8	15	1/2
Diamond	3	6	2	6	10	1/2
Gold	2	4	1	4	--	1/4
Silver	1	2	1	2	--	1/4
Congress Dinner	1½	3	1½	3	--	1/4
Congress Lunch	1	2	1	2	--	1/4

### \* 2 meter length

In addition, Congress Website will prominently display details of Sponsors and link directly to the Sponsor's own Website. Sponsor's company profile will also be printed in the programme given to all the delegates at the Congress.

For sponsoring and exhibiting information, please contact:

**Professor Ravindra K Dhir OBE**  
Congress Chairman

University of Birmingham, UK / Trinity College Dublin,  
Ireland / University of Dundee, UK  
Tel: +44 121 4278 108  
Email: r.k.dhir@bham.ac.uk

Organisations may simply wish to be Exhibitors at the Congress (at the cost of ₹ 0.50 Lacs per unit space). Please contact.

## Conference 1

Wednesday  
6 March 2019

# Achieving Performance with Sustainable Materials

Dedicated to Professor Jorge deBrito  
University of Lisbon, Portugal

### Themes

- Recycled and Secondary Materials
- Geopolymers and Aluminosilicates
- Role of Admixtures
- Self Compacting Concrete
- Bamboo Reinforced Concrete
- Processing of Materials
- Sustainable Quarries
- Material Performance Assessment
- Developing Value Added-Use of Materials
- Structural Performance Assessment
- Role of Design/Construction/Specifications
- CO2 Life Cycles Assessment/Analysis
- Commercialisation of Sustainability
- Environmentally Sensitive Strategies
- Durability Issues
- Future Developments and Trends
- Others

### Opening Paper

**Professor Jorge deBrito**  
University of Lisbon, Portugal

**Paper Title :** *Upscaling the use of Recycled Aggregate Concrete*



### Keynote Papers



**Senior Professor Rafat Siddique**  
Thapar University, Patiala, India

**Paper Title :** *Utilization of Industrial By-products in the Development of Sustainable Concrete*



**Professor Jian Yang**  
Wafaa Mohamed Shaban,  
Haolin Su, Jianhe Xie, Lijuan Li, Shanghai Jiao  
Tong University, Shanghai, China

**Paper Title :** *Performance of Concrete Incorporating Strengthened Recycled Concrete Aggregate*

**Professor Tarunjit Butalia**  
The Ohio State University, USA

**Paper Title :** *Beneficial Use of Pondered Fly Ash in Structural Concrete*



**Professor Ravindra K Dhir**  
and Dr C Q Lye, University of Birmingham, UK

**Paper Title :** *Moving Forward with Sustainable Construction Materials: An Unavoidable Challenge*



## Conference 2

Wednesday  
6 March 2019

# Smart Materials

Dedicated to Professor Deborah D L Chung  
University at Buffalo, The State University of New York, USA

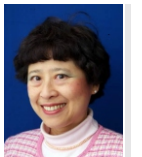
### Themes

- Super Absorbent Polymers
- Carbon Capture
- Benefitting from Self-healing Phenomenon
- Benefitting from Self Cleaning Phenomenon
- Use of Resin Encapsulation
- Non-Intervention Techniques
- Biotic Bacterial Materials
- Smart Sensors
- Novel Fibres
- Non-Ferrous Reinforcement
- Nano-materials
- Phase Change Materials
- Others

### Opening Paper

**Professor Deborah D L Chung**  
University at Buffalo, The State University of New York, USA

**Paper Title :** *Multifunctional Cement-Based Materials*



### Keynote Papers



**Dr K Paine**  
University of Bath, UK  
Prof A Al-Tabbaa, University of Cambridge,  
Dr D Gardner University of Cardiff and  
Prof A Jefferson, University of Cardiff, UK  
**Paper Title :** *Resilient Materials for Life: Biomimetic Self-Healing and Self-Diagnosing Concretes*



**Professor S Bhalla**  
Indian Institute of Technology Delhi, India  
**Paper Title :** *Fusion of Smart Materials and Concrete Technologies: Present and Futuristic Applications*

**Dr L Pelecanos**  
University of Bath, UK and  
Professor K Soga, University of California, USA

**Paper Title :** *Innovative Structural Health Monitoring of Reinforced Concrete Piles Using Distributed Fibre Optic Sensing*



### Conference 3

Thursday  
7 March 2019

## Advanced/Effective Precast Concrete Construction

Dedicated to Professor Mahesh Tandon  
Managing Director, Tandon Consultants Pvt Ltd, New Delhi, India

### Themes

- Formwork and Falsework
- Microwave Curing
- Elevated Temperature/Steam Curing
- Use of Fly Ash and Blastfurnace Slag
- Geopolymers
- Use of Admixtures/Pigments
- Self Compacting Concrete
- Use of Fibres
- Pre- and Post-Stressing
- Offsite and Onsite Manufacture
- Concrete Finishes
- Pigmentation
- Concrete Facades
- Infrastructure, Housing and Buildings
- Quality Management Systems
- Health and Safety
- Sustainability of Precast Concrete
- Others

### Opening Paper

#### Professor Mahesh Tandon

Managing Director, Tandon Consultants Pvt Ltd, New Delhi, India

**Paper Title :** *Precast Concrete Construction Technologies for Metro Projects in India*



### Keynote Papers



#### Professor B Bhattacharjee

Indian Institute of Technology Delhi, India

**Paper Title :** *Multi-Functional Performance of Precast Planer Elements and Sustainability*

**Professor S B Singh** and Pankaj Munjal  
BITS Pilani, India

**Paper Title :** *ECC and Its Applications for Strengthening of Masonry Beams*



### Conference 4

Thursday  
7 March 2019

## Urbanisation and Infrastructure

Dedicated to Professor Manamohan R Kalgal  
UltraTech Cement Ltd, India

### Themes

- Roads and Bridges
- Tunnels
- Utilities
- Water and Sewage Structures
- Flood and River/Coastal Defence
- Railway Network
- Offshore Structures
- Power Generation Structures
- Airports and Docks
- High-rise and Sub-structures
- Housing Development
- Commercial Buildings
- Public Buildings
- Lean Construction
- Innovative Developments
- Composite Construction
- Others

### Opening Paper

#### Professor Manamohan R Kalgal

UltraTech Cement Ltd, India

**Paper Title :** *The Role of Concrete in Mass Housing and Road Infrastructure*



### Keynote Papers



#### Dr Sulo Shanmuganathan

Technical Director, Holmes Consulting LP, New Zealand

**Paper Title :** *Future of Concrete in Urban and Infrastructure Development*

#### Dr David Collery

Institute of Technology Sligo, Ireland

**Paper Title :** *Building on a Performance-Related Approach to Using Normal Weight Aggregates in Concrete - Recycled Aggregates*



#### Dr C Q Lye

Senior Technical Manager, G&W Group, Singapore  
and Prof. R K Dhir, University of Birmingham, UK

**Paper Title :** *Deformation Properties of Concrete made with Recycle Aggregate*

#### Professor S P Singh

National Institute of Technology Jalandhar, India  
Professor S K Kaushik, Indian Institute of Technology Roorkee, India

**Paper Title :** *Self Compacting Fibre Reinforced Concrete for Pavements-Fatigue Performance*





## Conference 5

Friday  
8 March 2019

# Asset Management and Protection

Dedicated to Professor Peter Robery  
University of Birmingham, UK

### Themes

- Protection Against Deterioration
- Assessing Structural Condition
- Planning Considerations
- Structural Health Monitoring
- Change of Use
- Repair Methodologies
- Resin Injection
- Sprayed Concrete
- Developing Self Healing Techniques
- New Techniques and Repair Materials
- Conservation
- Cladding, Render and Coatings
- Others

### Opening Paper

**Professor Peter Robery**  
University of Birmingham, UK

**Paper Title :** *Best Practice in the Management and Protection of Concrete Assets*



### Keynote Papers



**Dr Chanakya Arya**  
University College London, UK

**Paper Title :** *Condition Assessment and Protection of Concrete Structures against Corrosion: Do Cracks Matter?*

**Dr David Dunne**

Head of Asset Management (Bridges & Structures)  
Arcadis, UK

**Paper Title :** *Asset Management: Local Problems, Global Solutions*



## Conference 6

Friday  
8 March 2019

# Education, Training, Skills and Research

Dedicated to Professor Roger P West  
Trinity College Dublin, Ireland

### Themes

- Vocational Qualification Schemes
- Apprenticeship Schemes
- Career Structures
- Stems
- European level Qualifications/Schemes
- University Education Schemes
- Distance/On-line learning
- Professional Recognitions
- Continuing Professional Development
- Life Long Learning
- Role of Research
- Structured Research
- Pedagogical Matters
- Others

### Opening Paper

**Professor Roger P West**  
Trinity College Dublin, Ireland

**Paper Title :** *Sharing Concrete Knowledge Globally*



### Keynote Papers



**Dr Andy Smith**  
University of Derby, UK

**Paper Title :** *Technical Education for your Workforce: Concrete Sector Distance Learning within Higher Education in the UK*

**Dr G S Ghataora**  
University of Birmingham, UK

**Paper Title :** *Value of Postgraduate Education*



**Dr Moray Newlands**  
University of Dundee, UK

**Paper Title :** *A Concrete Education: Futureproofing for the Digital World*



**Trinity College Dublin**  
 Coláiste na Tríonóide, Baile Átha Cliath  
 The University of Dublin



**MSc in Environmental Engineering**  
**MSc in Structural and Geotechnical Engineering**  
**MSc in Transport Engineering**  
**MSc in Sustainable Energy**

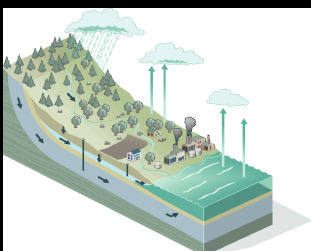
**Trinity College Dublin**  
**IRELAND'S leading university**

Trinity College Dublin, is Ireland's most prestigious university, ranked No 1 in Ireland and 104<sup>th</sup> in the World by the *QS World University Rankings 2019*. The Department of Civil, Structural and Environmental Engineering at Trinity offers four MSc taught courses, as listed above, offering a range of over 20 compulsory and optional modules and a dissertation in any relevant research area for the stream taken. As well as the conventional modules in these disciplines, courses in renewable energy and research methodology are offered. Many courses have a focus on sustainability and recent research advances. All applications welcome. **For immediate inquiries, see Prof Roger West at UKIERI Concrete Congress 2019**

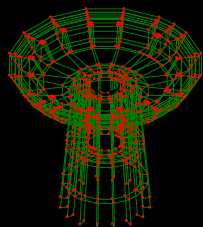
Duration: One year. Full-time  
 Course Director: Assist Prof Liwen Xiao  
 For more information see [www.tcd.ie/civileng](http://www.tcd.ie/civileng)  
**Email: [liwen.xiao@tcd.ie](mailto:liwen.xiao@tcd.ie)**

**Opportunities for research funding leading to a PhD degree also exist.**

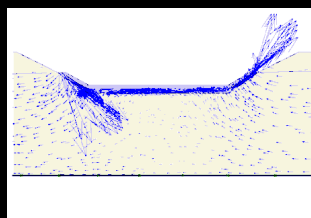
Environment



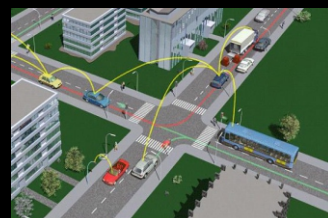
Structures



Geotechnics



Transport



Sustainable energy







Trinity College Dublin  
Coláiste na Tríonóide, Baile Átha Cliath  
The University of Dublin



THAPAR INSTITUTE  
OF ENGINEERING & TECHNOLOGY  
(Deemed to be University)



## INTERNATIONAL ENGINEERING PROGRAMME

Thapar Institute of Engineering and Technology (TIET) is ranked in the top 20 universities in NIRF. Trinity College Dublin (TCD), University of Dublin is Ireland's premier university and consistently ranks in the top 1% worldwide. TIET and TCD in partnership are pleased to offer a unique and exciting degree pathway programme for students. The programme allows students to live and study in India and Ireland while earning a TCD degree.

## KEY HIGHLIGHTS

- Study for 2 years in TIET and 2 years in Trinity.
- Conduct cutting-edge research.
- Hands-on experience using state-of-the-art facilities.
- Internationally accredited qualification.

## ADMISSIONS OPEN FOR 2019-20 SESSION

For immediate inquiries, see Prof Roger West at UKIERI Concrete Congress 2019

APPLY ONLINE AT  
[www.thapar.edu](http://www.thapar.edu)

E: [admissions@thapar.edu](mailto:admissions@thapar.edu)  
P: +91 8288008120/08121



## Congress Fees

The Congress fee will include all lunches, teas/coffees, refreshments, Congress dinner and proceedings. It has been devised to have wide international participation. The fee structure is shown below.

Fee per Delegate (₹)			
	1 Delegate	2 Delegates	3 or more Delegates
Early bird registration*	5500	5000	4500
Standard registration	8500	7500	6500
Author registration	6500	5500	4500
Student registration	3000	2500	2000

\* On or before 31 December 2018

## Registration / Payment Details

The delegates can register by filling up the Registration Form which is supplied separately. The Registration Form can also be downloaded from the Congress Website. The payments such as Registration Fee and Sponsorship etc. can be made either by Bank Transfer or by Demand Draft, the details for which are given below:

### Payment by Bank Transfer

Account Name: **UKIERI Concrete Congress**  
Account No.: **65155472509**  
Account Type : **Current**  
Bank: **State Bank of India**  
**REC Jalandhar-144011, India**  
IFSC Code: **SBIN0050841**  
SWIFT Code: **SBININBB440**

### Payment by Demand Draft

Demand Draft in favour of **UKIERI Concrete Congress**, payable at **Jalandhar**

Kindly send the Registration Form (supplied separately) and the Confirmation Receipt of the Bank Transfer by e-mail at [ucc@nitj.ac.in](mailto:ucc@nitj.ac.in) or the hard copies of the same or Demand Draft along with Registration Form to the Congress Secretary to the address given in the adjacent column.

## Language and Venue

The language of the Congress is English and will be held at Dr B R Ambedkar National Institute of Technology, Jalandhar (Punjab), India.

## Accommodation

Limited accommodation is available in the Institute Guest House. A list of hotels in the city offering discounted Congress rates will be provided on the Congress website shortly. Please note that the accommodation is not included in the Congress fee and the delegates are responsible for their own accommodation.

## Travelling to Jalandhar

The city of Jalandhar is situated on National Highway No 1. It is 350 km away from New Delhi and is easily accessible by train. The Shatabdi Express trains plying between New Delhi and Amritsar (via Jalandhar City) are the best mode of travel to and from Jalandhar. The nearest international airport is at Amritsar about 90 km from Jalandhar.

## For Further Details, Please Contact

**Professor S P Singh**, Congress Secretary  
Department of Civil Engineering  
Dr B R Ambedkar National Institute of Technology  
P.O. REC  
Jalandhar – 144 011 (Punjab), India  
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+91 98140 88475 (M)  
e [ucc@nitj.ac.in](mailto:ucc@nitj.ac.in)



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**Concrete: The Global Builder**  
Working together for durable and sustainable infrastructure  
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