



UKIERI Concrete Congress

# Concrete Research Driving Profit and Sustainability

2 - 5 November 2015

**Venue:**

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

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

## Third 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



University of Zagreb



TRINITY COLLEGE DUBLIN

Host Organisations: Dr B R Ambedkar National Institute of Technology, Jalandhar and Guru Nanak Dev Engineering College, Ludhiana (Punjab)

**U**KIERI Concrete Congress is a biennial event which has been established by a group of academics from the UK and India who came together in the year 2007, through a research project, funded by the UK-India Education and Research Initiative (UKIERI), and chaired by Professor Ravindra K Dhir.

In 2013, a Congress was held at Dr B R Ambedkar National Institute of Technology, Jalandhar, India that dealt with Innovations in Concrete Construction. The Congress identified the link between research, development and exploitation of new ideas, materials and techniques within the concrete and construction fields.

In 2015 a major concrete based event will bring together those involved in research, technological development and their transfer into commercial opportunities and social well-being. This gathering will identify with the construction industry at large providing new opportunities based on creative thinking, technical knowledge, expertise and practical application. Emphasis will be placed on bringing to market the fruits of research and development. New products, techniques, processes and application will be demonstrated. Efficiency, effectiveness and economy aimed at industrial profitability that is needed now and yet sustainable in the longer term will underwrite the presentations. It is industry that creates wealth and when wealth is used wisely there is benefit for all. In bringing technology and industry together can be summed up in three outcomes, thinking together, working together and achieving together.

This Congress will be a meeting point for achieving these actions and form the basis for concrete, construction and their industrial future.

## Chief Patrons

**Rajiv Mehrotra, Chairman, Board of Governors**  
Dr B R Ambedkar National Institute of Technology, Jalandhar, India

**Avtar Singh, President, Managing Committee**  
Guru Nanak Dev Engineering College, Ludhiana, India

## Patrons

**I K Bhat, Director**  
Dr B R Ambedkar National Institute of Technology, Jalandhar, India

**M S Saini, Director**  
Guru Nanak Dev Engineering College, Ludhiana, India

## Congress Organising Committee

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

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

**H S Rai, Joint Secretary**  
Guru Nanak Dev Engineering College, Ludhiana, India

**R Mangabhai, Sponsorship Coordinator**  
Mangabhai Consulting, UK

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

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

**Ivana B Pecur, University of Zagreb, Croatia**

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

**J N Jha, Guru Nanak Dev Engineering College, Ludhiana, India**

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

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

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

**D Bjegovic, University of Zagreb, Croatia**

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

**N Stirmer, University of Zagreb, Croatia**

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

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

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

**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**

**J Yang, Shanghai Jiao Tong University, China**

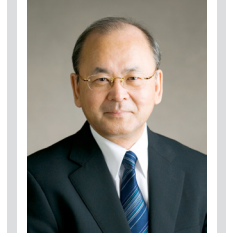
**Opening Session**  
Monday  
2 November 2015  
13.30 hrs

## UKIERI Concrete Congress: Concrete Research Driving Profit and Sustainability

Dedicated to Koji Sakai  
Representative, Japan Sustainability Institute, Sapporo, Japan

### Opening Paper

*The Essence of  
Sustainability in  
Concrete Construction of  
Emerging Countries*



Currently the Representative of Japan Sustainability Institute, founded in March 2014, Dr Koji Sakai was the Associate Professor at Hokkaido University, the Head and Director of Civil Engineering Research Institute, and the Professor of Kagawa University. He also holds three international positions, including Honorary Professor at the University of British Columbia (Canada), Guest Professor at Southeast University (China), and Special Professor at King Monkut's University of Technology – North Bangkok (Thailand). Dr. Koji Sakai has been involved with the work of various organizations such as federation international du beton (fib), International Standard Organization, American Concrete Institute, and Japan Concrete Institute and has received several honours and awards for his work, especially in the area of sustainability, including JSCE Book of the year Award and ACI Concrete Sustainability Award. He has published about 700 papers and books, etc.

## Sponsoring of and Exhibiting at the Congress

The focal point of the Congress will be the exhibition and organisations 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	1 / 2	3	1 / 2	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:

**Mr Raman Mangabhai**  
Sponsorship Coordinator

Mangabhai Consulting, UK  
Email: mangabhai@sky.com

**Professor Ravindra K Dhir OBE**  
Congress Chairman

University of Birmingham, UK / Trinity College Dublin, Ireland /  
University of Dundee, UK, 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

Tuesday  
3 November 2015

# Modern Sustainable Cements for Concrete Construction

Dedicated to Georg Dirk  
Past Chairman/Managing Director, Dirk India

### Themes

- Development in Clinkers
- Portland Cement Combinations, Benefits and Risks
- Potential Materials for Use as Cementitious Materials
- Ultrafine Cements
- Low Heat Cements
- Calcium Sulfo- Aluminate Cements
- Blite Cements (High C2S Cements)
- Magnesium Oxide Cements
- Low Energy and Low Emission Cements
- Alkali Activated Cements
- Cement Kiln Dust Characterisation and Use in Concrete
- Major Changes in Cement Use in Concrete and the Way Forward

### Opening Paper

#### Georg Dirk

Past Chairman/Managing Director, Dirk India

**Paper Title :** *How to increase the use of Fly Ash in Cementitious Applications?*



### Keynote Papers



#### Professor Bishwajit Bhattacharjee

Indian Institute of Technology Delhi, India

**Paper Title :** *Enhancing Fly Ash Utilization in Cement and Concrete through Combination with Other Materials*



#### Professor Ravindra K Dhir

University of Birmingham UK/Trinity College Dublin Ireland/University of Dundee UK; C Q Lye, University of Birmingham, UK

**Paper Title :** *Pozzolanic Materials Use in Concrete: Carbonation and Carbonation-Induced Corrosion Assessment*

#### Professor Peter C Hewlett

University of Dundee, UK/David Ball Group, UK  
M Liska, David Ball Group, UK

**Paper Title :** *Cemfree – The Development of Sustainable Non-Portland Cement based Concretes*



## Conference 2

Tuesday  
3 November 2015

# Quality Precast Concrete Construction

Dedicated to Martin Clarke OBE  
Past Chief Executive, British Precast Concrete Federation

### Themes

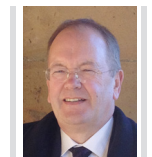
- Sustainable Precast Concrete Production
- Quality Control Procedures
- Offsite and Onsite Manufacture
- Precast Concrete and Infrastructure
- Bridge Segmental Construction
- Tunnel Segments
- Tilt-up Construction Technology
- Architectural Finishes
- Precast for Housing Development
- Masonry Construction
- Block Work – Lightweight and Heavy Duty
- Precast Panels/Hollow Floor Beams

### Opening Paper

#### Martin Clarke OBE

Past Chief Executive, British Precast Concrete Federation

**Paper Title :** *Raising the Bar - How to Achieve Safe, Sustainable and High Quality Precast Concrete Production: Case Studies and Lessons*



### Keynote Papers



#### Professor Ehab Ellobody

Sohar University, Oman

**Paper Title :** *Precast Hollow Core Concrete Floors: Analysis and Design for Fire*

#### Andrew P Dix

Managing Director, Charcon Construction Solutions, UK

**Paper Title :** *Health and Safety: The Global Challenge for the Precast Concrete Industry and its Supply Chains*



### Conference 3

Wednesday  
4 November 2015

## Recycled/Secondary Materials for Concrete Construction

Dedicated to Jianzhuang XIAO

Full Professor, University of Tongji, People's Republic of China

### Themes

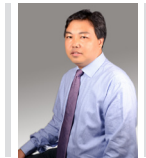
- Various Recycled/Secondary Materials Used in Concrete
- Use as Aggregate, Filler or Cementitious Material
- Availability, Production, Processes and Properties
- Concrete Construction Challenges/Standards and Specifications
- Fresh Concrete, Engineering and Durability Performance
- Developing the Use of Quarry Fines
- Achieving High Performance and Special Concretes
- Performance- Based Specifications as for All Aggregates
- Use in Reinforced and Prestressed Concrete
- Environment Impact and Sustainable Development of RSA Use
- Use in Precast Construction and Structural Elements
- Special Case Studies/Case Histories

### Opening Paper

**Jianzhuang XIAO**

Full Professor, University of Tongji, **China**

**Paper Title :** *Dynamic Mechanical Behaviour of Recycled Aggregate Concrete*



### Keynote Papers



**Dr Ali Akbarnezhad**

University of New South Wales, **Australia**

**Paper Title :** *Identifying the Optimal Concrete Deconstruction Strategy*



**Professor M Etxeberria**

Universitat Politècnica de Catalunya, Barcelona, **Spain**

**Paper Title :** *Low to High Performance Recycled Cementitious Materials: Case Studies*

**Dr Gurmel S Ghataora**

University of Birmingham, **UK**

**Paper Title :** *Utilisation of Quarry Fines in Concrete*

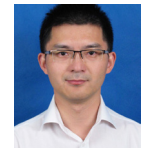


**Professor Jian Yang**

H Su, Shanghai Jiao Tong University, **China**

R K Dhir and G S Ghataora, University of Birmingham, **UK**

**Paper Title :** *Recycled Rubber Concrete and its Use in Construction*



## Glimpses of UKIERI Concrete Congress 2013



**Conference 4**  
Wednesday  
4 November 2015

## New Construction and Novel Design

Dedicated to Enzo Siviero  
Full Professor, University IUVA of Venice, Italy

### Themes

- Long Span Bridges
- Tall Structures
- Wind Farm Elements
- Low Energy Buildings
- Offshore Construction
- Underground Transportation
- Energy Efficient/Intelligent Buildings
- Domestic Housing
- Military Installations
- Coastal Defence Systems
- Terrorist Construction Measures
- Marine Structures

### Opening Paper

#### Enzo Siviero

Full Professor, University IUVA of Venice Italy

**Paper Title :** *Building Harmony with Concrete Bridges*



### Keynote Papers



#### Professor Bruno Briseghella

FY Huang, Fuzhou University, China  
C Nuti, Roma Tre University, Italy

**Paper Title :** *Innovative Seismic Design and Retrofit of Bridges*



#### Professor Gai-Fei Peng

G F Peng, X J Niu, Beijing Jiaotong University, China

**Paper Title :** *Fire Resistance of High and Ultra-High Performance Concrete: A Review*

#### Professor Yuxi Zhao

J F Dong, W L Jin, Zhejiang University, China

**Paper Title :** *Corrosion-Induced Concrete Cracking damage*



#### Professor George R Georgoussis

School of Pedagogical & Technological Education (ASPETE), Greece

**Paper Title :** *Seismic Torsional Behaviour of Building Structures*



## Glimpses of UKIERI Concrete Congress 2013



## Conference 5

Thursday  
5 November 2015

## Construction Techniques

Dedicated to Willie Kay  
Chairman and Managing Director, WAK Consultants, Singapore

### Themes

- Advances on Soil Stabilisation
- Pre and Post Tensioning
- Tilt-up Construction
- Development in Piling
- Site Instrumentation
- Development in Formwork
- Methods of Demolition
- Structural Health Monitoring
- Gunite and Sprayed Concrete
- Tunnel Linings
- Cement Grouting
- Repair Methods

### Opening Paper

#### Willie Kay

Chairman and Managing Director, WAK Consultants, Singapore

**Paper Title :** *Infrastructure Construction Development in Singapore*



### Keynote Papers



#### Professor C T Tam

National University of Singapore, Singapore

**Paper Title :** *Development of Placing Strategy for Thick Raft Foundation – Singapore Experience*



#### Professor Roger P West

K McConnell, Trinity College Dublin, Ireland

**Paper Title :** *Formwork Buildability: Bridging the Designer – Constructor Divide*

#### Professor Lau Joo Ming

Nanyang Technological University, Singapore

**Paper Title :** *Built by Singapore - Housing a Nation*



## Conference 6

Thursday  
5 November 2015

## Novel Concrete for Construction

Dedicated to Saeed Mirza  
Professor Emeritus, McGill University, Canada

### Themes

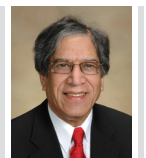
- Lunar Concrete
- Cement Free Concrete
- Novel Fibres
- PCE Developments
- Foamed Concrete
- Admixture Technology
- High and Ultra high Performance Concrete
- Self Compacting Concrete
- Decorative Concrete
- Flexible/Tough Concrete
- Self Cleaning Concrete
- Self Healing Concrete

### Opening Paper

#### Saeed Mirza

Professor Emeritus, McGill University, Canada

**Paper Title :** *Novel Materials, Design and Constructions Methods for Sustainable Infrastructure*



### Keynote Papers



#### Dr Kevin A Paine

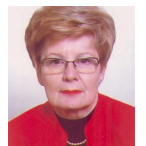
University of Bath, UK; R J Lark, University of Cardiff, UK; Al-Tabba, University of Cambridge, UK

**Paper Title :** *Biomimetic Multi-Scale Damage Immunity for Concrete*

#### Professor Dubravka Bjegovic

University of Zagreb, Croatia

**Paper Title :** *Construction Industry Progress through R&D and Innovation*



## 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 (INR)			
	1 Delegate	2 Delegates	3 or more Delegates
Early bird registration*	6000	5500	5000
Standard registration	9000	8000	7000
Author registration	7000	6000	5000
Student registration	3500	3000	2500

\* On or before 31 August 2015

## 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**  
Bank: **State Bank of Patiala**  
**REC Jalandhar-144011, India**  
IFSC Code: **STBP000841**  
SWIFT Code: **STBPINBB021**

### 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.

## Best Paper and Poster Awards

Three papers and three posters will be selected for these Awards, which will be adjudged by a panel of judges consisting of the following persons:

- Professor Peter C Hewlett, UK (Chairman)
- Professor B Bhattacharjee, India
- Professor Roger P West, Ireland
- Professor S K Kaushik, India

## 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  
t +91 181 2690 453 Extension 2305 (O)  
+91 98140 88475 (M)  
f +91 181 2690 932, 2690 320 (by attention)  
e [ucc@nitj.ac.in](mailto:ucc@nitj.ac.in)

### UKIERI Collaborative Concrete Research Partners



Concrete Technology Unit,  
University of Dundee, UK



Birla Institute of Technology and  
Science, Pilani, India



University of Bath  
UK



Guru Nanak Dev Engineering  
College, Ludhiana, India



Indian Institute of Technology  
Delhi, India



Malaviya National  
Institute of  
Technology, Jaipur, India



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



Sardar Vallabhbhai National  
Institute of Technology  
Surat, India



National Institute of Technology  
Karnataka, Surathkal, India



SRM University  
Chennai, India