



# NEXT FRONTIERS IN CIVIL ENGINEERING: SUSTAINABLE AND RESILIENT INFRASTRUCTURE

30<sup>th</sup> Nov- 1<sup>st</sup> December, 2018

DEPARTMENT OF CIVIL ENGINEERING  
IIT Bombay, Mumbai



## Program Schedule

Conference Venue: Victor Menezes Convention Center (VMCC), IIT Bombay

Friday, 30 <sup>th</sup> November, 2018		Program Venue
08:30-9:30	Registration	
<b>Session theme (F1): Inaugural Ceremony</b>		
09:30-09:40	Welcome ceremony	B. Nag Auditorium
09:40-09:50	Address by Conference Chair	
09:50-10:05	Address by <b>Chief Guest: Dr. Anil Kakodkar</b>	
10:05-10:35	<b>Conference Keynote Lecture: Ushering into New Era of High Speed Railway - Challenges &amp; Opportunities</b> Shri. Achal Khare, MD, National High Speed Rail Corp. Ltd.	
10:35-11:00	<b>High Tea</b>	Ground floor
<b>Session theme (F2): Keynote lecture + Thematic parallel sessions</b>		
11:00-11:35	<b>Keynote Lecture 1: "Mumbai Metro Line-3: A sustainable and resilient underground urban rail infrastructure in making"</b> Shri. S K Gupta, Director, Projects, Mumbai Metro Rail Corp. Ltd.	B. Nag Auditorium
11:35-12:15	<b>Keynote Lecture 2: "Blue economy - Indian perspective"</b> Dr. M.A. Atmanand, Director, National Institute of Ocean Technology	B. Nag Auditorium
12:15-13:15	Technical Session-1	Seminar Halls
13:15-14:00	<b>Lunch break</b>	
<b>Session theme (F3): Keynote lecture + Thematic parallel sessions</b>		
14:00-14:45	<b>Keynote Lecture 3: "Materials and Structures for the Future"</b> Mr. A. P. Mull, Former Chief Executive Officer & Managing Director of Tata Consulting Engineers Limited	B. Nag Auditorium
14:45-16:15	Technical Session-2	Seminar Halls
16:15-16:30	<b>Coffee break</b>	
<b>Session theme (F4): Poster Session + Faculty Commemoration</b>		
16:30-17:30	<b>Poster Session</b>	Ground and 1 <sup>st</sup> floor foyer
17:30-18:30	<b>Felicitations of Retired Faculty</b>	B. Nag Auditorium
19:00-21:00	<b>Conference Dinner</b>	Civil Eng. Building Terrace
Saturday, 1 <sup>st</sup> December, 2018		Venue
08:30-09:00	<b>Breakfast</b>	
<b>Session theme (S1): Keynote lecture + Thematic parallel sessions</b>		
09:00-09:45	<b>Keynote Lecture 4: "Role of Remote Sensing and Geospatial Technology in e-Governance"</b> Mr. Santanu Chowdhury, Director, National Remote Sensing Center, ISRO	B. Nag Auditorium
09:45-11:15	Technical Session-3	Seminar Halls
11:15-11:30	<b>Coffee break</b>	
<b>Session theme (S2): Keynote lecture + Thematic parallel sessions</b>		
11:30-12:15	<b>Keynote Lecture 5: "Bridging water science and policy to address India's water crisis"</b> Dr. Veena Srinivasan, Fellow, Convenor, Centre for Environment and Development, ATREE	B. Nag Auditorium
12:15-13:15	Technical Session-4	Seminar Halls
13:15-14:00	<b>Lunch break</b>	
<b>Session theme (S3): Thematic parallel sessions</b>		
14:00-14:45	<b>Keynote Lecture 6: "Looking at the big picture – bridging the gap"</b> Dr. Chetan Hazaree, Head- R&D, Larsen & Toubro	B. Nag Auditorium
14:45-16:15	Technical Session-5	Seminar Halls
16:15-17:15	<b>Coffee break + Poster Session</b>	Ground and 1 <sup>st</sup> Floor foyer
<b>Session theme (S4): Valedictory Function</b>		
17:15-17:45	Award Distribution, Closing Address and Vote of Thanks	B. Nag Auditorium

***Construction Technology and Management: Session I***

**Seminar Hall 1**

12:15 – 12:30

DJCE59: Utilization of Sugar Industry By-Products in the Manufacture of Sustainable Bricks and Reduction of Excessive Landfilling

12:30 – 12:45

DJCE70: Compressive Strength Development of Fly Ash Concrete

12:45 – 13:00

DJCE77: Influence of Location on the Service Life of Bagasse Ash and Rice Husk Ash Blended Concrete Structure

13:00 – 13:15

DJCE195: Optimum Dosage of Polymer used as an Additive to PMM

***Water Resources Engineering: Session I***

**Seminar Hall 3**

12:15 – 12:30

DJCE106: Entropy as a Surrogate Measure for Water Distribution Network Reliability considering Extended Period Simulations

12:30 – 12:45

DJCE133: Design of Storm Water Drainage Network in Dahanu region, Maharashtra, India

12:45 – 13:00

DJCE193: Shear stress variation along circular and oblong pier

13:00 – 13:15

DJCE200: Experimental study of flow around two in-line circular piers using PIV

***Structural Engineering: Session I***

**Seminar Hall 4**

12:15 – 12:30

DJCE30: Experiments to relate compression toughness and acoustic emission energy of plain concrete

12:30 – 12:45

DJCE207: Experimental investigations of low Velocity Impact behaviour of Self Compacting Concrete with low Fibers reinforced based cement composites

12:45 – 13:00

DJCE42: Nonlocal Gradient Damage Model for Quasi Brittle Materials

13:00 – 13:15

DJCE121: Assessing Failure of concrete using CDP model-A Review

***Ocean Engineering: Session I***

**Seminar Hall 5**

12:15 – 12:30

DJCE144: Spatial expansion of ANN based model update for numerical current prediction

12:30 – 12:45

DJCE159: Static response of berthing structures incorporating SSI

12:45 – 13:00

DJCE156: Application of Artificial Neural Network technique for Performance Analysis of Coastal Vegetation on Wave Attenuation

13:00 – 13:15

DJCE215: Meandering studies on river Vellar in Tamilnadu

**Construction Technology and Management: Session II**

**Seminar Hall 1**

14:45 – 15:00

DJCE92: Project Delivery Options to cope with Rising Air Traffic Demand

15:00 – 15:15

DJCE101: Management of Project by using IoT based Smart Construction

15:15 – 15:30

DJCE122: Effective delivery of Public Private Partnership in infrastructure project

15:30 – 15:45

DJCE36: A Low-cost and Mobile Community Toilet Block Design for Better Rural India

**Geotechnical Engineering: Session I**

**Seminar Hall 2**

14:45 – 15:05

(Invited) Frontier Areas in Geotechnical Engineering by Prof. V.S. Chandrasekharan

15:05 – 15:20

DJCE157: Damping measurement in resonant column using SSV and FVD

15:20 – 15:35

DJCE161: Long-term behavior of EPS geofoam

15:35 – 15:50

DJCE165: Stabilization of swelling soils at higher water content using Deep soil mixing method

15:50 – 16:05

DJCE176: Effect of pore fluid chemistry on engineering properties of marine clay

16:05 – 16:20

DJCE201: Behaviour of laterally loaded pile located at the crest of slope

16:20 – 16:35

DJCE214: Analysis of Axially Loaded Pile Supported Building Frame

**Transportation Systems Engineering: Session I**

**Seminar Hall 3**

14:45 – 15:00

DJCE87: Pedestrian delay estimation at crosswalks of signalised intersections

15:00 – 15:15

DJCE113: Effect of parallel plate gap on rheological properties of binder in road construction

15:15 – 15:30

DJCE114: Evaluation of System Performance Characteristics of Selected Ahmedabad Bus Rapid Transit System Corridor

15:30 – 15:45

DJCE205: Effective utilization of fly ash in alkali enacted slag concrete

**Structural Engineering: Session II**

**Seminar Hall 4**

14:45 – 15:00

DJCE45: Effects of P-Delta on Multi-Storeyed High-rise RC Buildings in Different Seismic Zones

15:00 – 15:15

DJCE88: Soil Amplification of Scaled Ground Motion for Patna

15:15 – 15:30

DJCE83: Interlinked Block Masonry System with Energy Dissipator Links

15:30 – 15:45

DJCE98: Non-linear behaviour of masonry infill RC frame: Influence of masonry mechanical properties

15:45 – 16:00

DJCE166: A Review on Performance of Hill Buildings During Seismic Loading

16:00 – 16:15

DJCE99: Seismic response control of benchmark cable stayed bridge Using Polynomial Friction Pendulum Isolator (PFPI)

**Ocean Engineering: Session II**

**Seminar Hall 5**

14:45 – 15:00

DJCE17: Effect of mooring on inland vessel in port region

15:00 – 15:15

DJCE206: Laboratory investigation of the stability of Toe for Vertical Caisson Breakwater

15:15 – 15:30

DJCE20: Impacts on breakwater due to cyclone induced waves at east coast of India

15:30 – 15:45

DJCE138: Extreme learning machines to predict the stability of semicircular breakwater

**Construction Technology and Management: Session III**

**Seminar Hall 1**

09:45 – 10:00

DJCE24: Rheological study on HS-CP and HS-SCC

10:00 – 10:15

DJCE48: Effect on properties of concrete using steel slag as coarse aggregate

10:15 – 10:30

DJCE29: Effect of admixtures and water binder ratio on rheological behavior of cementitious paste

10:30 – 10:45

DJCE32: Study of properties of concrete using tap water and wastewater

10:45 – 11:00

DJCE37: Reuse of industrial by-product for sustainable construction material

11:00 – 11:15

DJCE40: Performance of Nutmeg Shell as Fine Aggregate in Concrete

**Remote Sensing: Session I**

**B. Nag Auditorium**

09:45 – 10:00

DJCE167: Use of high resolution Sentinel-2B for detection of encroachment on water bodies in Chennai Metropolitan Area

10:00 – 10:15

DJCE103: A Comparative Study of Remote Sensing based Bank Line Delineation Techniques for An Erosion-prone Braided River

10:15 – 10:30

DJCE178: Monitoring of Fractional snow cover in Chandra Basin of Western Himalayas

10:30 – 10:45

DJCE183: Landslide susceptibility mapping using analytical hierarchy process (AHP) in Dharamshala, Himachal Pradesh

**Water Resources Engineering: Session II**

**Seminar Hall 3**

09:45 – 10:00

DJCE72: Infrastructure asset management of water supply scheme in rural area using life cycle costing

10:00 – 10:15

DJCE75: Urban Water Security at local level - A Pilot Study to Itanagar, Arunachal Pradesh, India

10:15 – 10:30

DJCE78: Water Resilience Through Tank Rejuvenation in Semi-Arid Areas

10:30 – 10:45

DJCE79: Integrated Watershed Model for Educational Campus

10:45 – 11:00

DJCE141: Quantifying the impact of rapid urbanization on surface runoff

11:00 – 11:15

DJCE163: Artificial Intelligence: Future in Civil Engineering Applications

**Structural Engineering: Session III**

**Seminar Hall 4**

09:45 – 10:00

DJCE41: Biaxially Loaded L-shaped Reinforced Concrete Walls – a Design Aid

10:00 – 10:15

DJCE43: An Innovative Method for Retrofitting of Channel Beams

10:15 – 10:30

DJCE71: Study of Soil Structure Interaction for Large Diameter Laterally Loaded Monolithic Piles Using IS 2911, Non-Dimensional Method and Broms Methods

10:30 – 10:45

DJCE117: State of the Art FRP Reinforced Precast Concrete Sandwich Panels

10:45 – 11:00

DJCE185: Performance studies on composite slab with profiled deck sheet

10:45 – 11:15

DJCE301: Amphibious Houses: Adaptability to Indian terrain

## Technical Session-4: Saturday, 1<sup>st</sup> December 2018, 12:15-13:15 hrs

### **Construction Technology and Management: Session IV**

**Seminar Hall 1**

12:15 – 12:30

DJCE107: Study of Compressive and Flexural Behaviour of Green Engineered Cementitious Composites Using PPA Fibers

12:30 – 12:45

DJCE108: Development and study of high strength self compacting concrete by using GGBS and micro silica

12:45 – 13:00

DJCE131: Study of Fly ash Geopolymer containing Polypropylene fibers

13:00 – 13:15

DJCE177: The influence of shape of fine aggregates on the flow properties of cementitious mortars

### **Water Resources Engineering: Session III**

**Seminar Hall 3**

12:15 – 12:30

DJCE147: 2D Reactive Transport Simulation in Porous Media using Meshfree Radial Point Collocation Method

12:30 – 12:45

DJCE142: Multivariate statistics for groundwater quality assessment

12:45 – 13:00

DJCE192: Application of Differential Evolution in Inverse groundwater solutions

13:00 – 13:15

DJCE143: Groundwater development in hard rock terrains- A Review

## Technical Session-5: Saturday, 1<sup>st</sup> December 2018, 14:45-16:15 hrs

### **Construction Technology and Management: Session V**

**Seminar Hall 1**

14:45 – 15:00

DJCE188: Influence of packing density on compressive strength of UHPC for binary, ternary and quaternary blends of cementitious materials

15:00 – 15:15

DJCE81: Sustainability Study of Embodied Energy in Electric and Hydrocarbon Vehicles in India

15:15 – 15:30

DJCE53: Application of lean construction to achieve sustainable development

15:30 – 15:45

DJCE14: Sustainable and Affordable Housing in India: Challenges and Prospects

15:45 – 16:00

DJCE187: Life Cycle Environmental and Cost Performance of Steel vs FRP Towers

### **Water Resources Engineering: Session IV**

**Seminar Hall 3**

14:45 – 15:05

(Invited) Network theory for streamflow analysis by Prof. Bellie Sivakumar

15:05 – 15:20

DJCE134: Role of precipitation recycling during summer monsoon rainfall over south Penninsular India

15:20 – 15:35

DJCE110: Climate elasticity of streamflow in Upper Tapi basin, India

15:35 – 15:50

DJCE139: Development of a gridded Reference Crop Evapotranspiration dataset

15:50 – 16:05

DJCE130: A Parallel Framework for Improving Efficiency of Calibration for Hydrological Modelling

16:05 – 16:20

DJCE102: A review on Economic upliftment of Tomato cultivating farmers using Drip Irrigation

16:20 – 16:35

DJCE16: Surface runoff estimation using RS and GIS – A case study