

National Conference on Futuristic Structural Engineering
StructE NatCon 2024
8-10 November, 2024 | PHD House, New Delhi

INAUGURAL SESSION PROGRAM
Friday, November 08, 2024

14:30 – 15:00	Registration of Delegates (LPS Audi)
15:00 – 16:00	Inauguration
15:00	Setting the house in order & starting the program
15:05 – 15:10	About IAStructE
15:10 – 15:15	Welcome
15:15 – 15:25	Opening Remarks and About the Conference Mr. Manoj Mittal , <i>Conference Chairman</i>
15:25 – 15:35	Welcome Address by President Prof. R. Pradeep Kumar , <i>President, IAStructE</i>
15:35 – 15:45	Address by Guest of Honour Mr. Krishna S. Vatsa , <i>Member, NDMA</i>
15:45 – 15:55	Address by Chief Guest Shri Mr. Shailesh Kumar Singh , <i>Secretary, Ministry of Rural Development</i>
15:55 – 16:00	Vote of Thanks Dr Ajay Chourasia
15:55 – 16:30	HIGH TEA

National Conference on Futuristic Structural Engineering
StructE NatCon 2024
8-10 November, 2024 | PHD House, New Delhi

PROGRAM | DAY-1 | Friday, November 08, 2024

14:30 – 15:00	Registration of Delegates (LPS Audi)
	Inauguration
15:00 – 16:00	Chief Guest: Mr. Shailesh Kumar Singh, Secretary, Ministry of Rural Development Guest of Honour: Dr. Krishna S. Vatsa, Member, NDMA, New Delhi
16:00 – 16:30	HIGH TEA
16:30 – 17:00	State of the Art Lecture: Sustainability in Buildings and Built Environment Mr. Sanjay Pant , DDG, Bureau of Indian Standards (BIS), New Delhi
17:00 – 17:30	State of the Practice Lecture: High Rise Buildings using Precast Technology Mr. Yogesh Kajale , VP, B.G. Shirke Construction Tech. Pvt Ltd, Pune
17:30 – 19:00	Technical Session 1:- Global Innovations in Structural Engineering Session Chair: Mr Vinay Gupta, MD, Tandon Consultants Pvt Ltd
17:30 – 18:00	Keynote Lecture: Global Innovation in Seismic and Wind Protection for Buildings and Bridges Dr. Agostino Marioni , Chairman, Hiron International
18:00 – 19:30	Paper Presentation <i>Influence of Interface Gap on Compressive Behaviour of Axially Loaded Square CFST Stub Columns</i> Manoj Kumar , Birla Institute of Technology & Science, Pilani <i>Cut and Cover Tunnel Segment - Nagpur Mumbai Expressway</i> Yash Shah , Force Structural Engineers Pvt Ltd, Navi Mumbai <i>Design of Network Arch Bridge</i> Harshal Chandna , Force Structural Engineers Pvt Ltd, Navi Mumbai <i>Leveraging State-of-the-art Technologies in the Construction of buildings at Chandigarh</i> Vamsi Krishna M. , Larsen & Toubro Construction, Chennai <i>Stress Flow in Railway Pier Based on Tilt Behavior</i> Chintan Jangam , Vidyavardhini's College of Engineering and Technology, Mumbai <i>Design & Construction of pre tensioned U beam in highway structure - Ethiopia Expressway</i> Rakesh Kumar Mehta , Kalpataru Project International Ltd, Mumbai <i>Design of 60m UHPFRC Composite Bridge: Application and Working Example</i> Dr.Himanshu Sawhney , Force Structural Engineers Pvt Ltd, Mumbai <i>Futuristic Structures and Metamaterials through Origami Engineering</i> Dr. Phanisri Pradeep , IIT, Madras, Chennai <i>Study of variation of forces in piles and piers by changing pier height of a balanced cantilever bridge under an action of a pre-defined compensation force applied externally</i> Dibakar Saha , Ayesa India Pvt Ltd, Noida
19:30 – ONWARDS	ICE BREAKING DINNER

National Conference on Futuristic Structural Engineering StructE NatCon 2024

8-10 November, 2024 | PHD House, New Delhi

PROGRAM | DAY-2 | Saturday, November 09, 2024

9:00 – 11:30	<p>Technical Session 2:- Sustainability in Built Environment Session Chair : Dr. Shailesh Kr Agrawal, Executive Director, Building Materials & Technology Promotion Council</p>
09:00 – 9:40	<p>Keynote lecture:- Race to Net Zero: Role of Structural Engineers in Reducing Embodied Carbon Mr. Vijay Kulkarni, Founder Director, Low Carbon Construct, Forum (LCCF)</p>
9:40 – 11:30	<p>Paper Presentation</p> <p><i>Study of Sustainable Tunnel Construction by Evaluating Usage of Fibre Reinforced Concrete for Enhanced Efficiency and Safety under Various Geological Conditions</i> Isan Dey, Ayesa India Pvt. Ltd., Noida</p> <p><i>Introduction of Monopile foundation system for Marine piers in Mumbai Coastal Road Project</i> Mayank Bajaj, Bridges Jacobs Solutions India Pvt. Ltd.</p> <p><i>Innovative Utilization of Plastic Waste in Sustainable Construction: Development of Interlocking Plastic Bricks</i> Raj Sameer Nahar, Mukesh Patel School of Technology Management & Engineering, Mumbai</p> <p><i>Construction of Signature bridge between Okha And Beyt Dwarka in Gujarat State-A Case Study</i> Rajiv Ahuja, S.P.Singla Constructions Pvt. Ltd., Gurgaon</p> <p><i>Climate-Conscious Design: Rethinking Building Design for the Future in Hot and Dry Region of Rajasthan</i> Dr. Anish Kumar, CSIR-CBRI, Roorkee</p> <p><i>A Study of Earthquake and Fire Safety of Residential Buildings in Delhi, India</i> Dr. Deepak Bansal, HUDCO, Southwest Delhi</p> <p><i>Bacterial concrete way towards sustainability concrete technology</i> Rupali Rajaram, Dr. Babasaheb Ambedkar Technological University, Lonere</p> <p><i>Smart Villages and Rural Development Index of YEIDA Region</i> Arvind Kumar, Galgotias University, Greater Noida</p> <p><i>Analyzing the Impact of Tip Speed Ratio on Vertical Axis Wind turbine modeling in 2D and 3D Environments using the Computational Fluid Dynamics</i> Bharat Singh Chauhan, CSIR - Central Building Research Institute, Roorkee</p>
11:30 – 11:45	TEA
11:45 – 14:15	<p>Technical Session 3:- AI&ML Application in Structural Engineering Session Chair : Prof. Dulal Goldar, Adjunct Professor, DTU</p>
11:45 – 12:15	<p>Keynote Lecture: Mr. Anand Ghaisas, Dean, In-house Engineering Academy, L&T-Energy Hydrocarbon</p>

12:15 – 14:05	<p>Paper Presentation</p> <p><i>New Empirical Equation for Fundamental Time Period of RC Moment Resisting Frame Buildings using Machine Learning Algorithms</i> G Gunavanth, National Forensic Sciences University, Gujarat</p> <p><i>Development of a Novel ANN Model for Earthquake Resistant Design of RC Buildings in Hilly Terrain</i> Abhishek Kumar, NIT Durgapur, Gaya</p> <p><i>Machine learning approaches in prediction of bridge dynamic response</i> Rajat Abhay Sirsikar, IIT, Roorkee</p> <p><i>Optimizing Wind-Induced Interference on Mono-Slope Roofs: Insights from CFD Modeling and Machine Learning Validation</i> Deepak Sharma, Delhi Technological University, New Delhi</p> <p><i>Application of Advance Machine Learning Models on Predicting Compressive Strength of UHPC</i> K Akhilendra, Visvesvaraya National Institute of Technology, Nagpur</p> <p><i>Machine-Learning-Based Flood Vulnerability Assessment of Riverine Bridges Incorporating Scouring Effects</i> Divesh Sharma, Divesh Sharma, IIT Mandi</p>
14:05– 14:15	CORPORATE PRESENTATION: Assetsu India Pvt Ltd.
14:15– 15:00	LUNCH & POSTER SESSION
15:00– 15:30	<p>Keynote lecture: Pathways to Community Resilience through Earthquake Resistant Design in Future Prof. C. V. R. Murty, IIT Madras</p>
15:30 – 17:30	<p>Technical Session 4: Structural Resilience - Vision for the Future Session Chair : Dr Ajay Chourasia, Chief Scientist and Head, CSIR-CBRI</p>
15:30 – 16:00	<p>Keynote Lecture: Risk assessment of built environment Prof. Ravi Sinha, Professor, IIT Bombay</p>
16:00 – 17:20	<p>Paper Presentation</p> <p><i>Effect of Stiffness Modifier on Predicted Seismic Performance of RC Buildings</i> Nishant Kumar, IIT Roorkee</p> <p><i>3D Numerical Analysis and Optimization of Piled-Raft Foundations</i> Vishal Kumar Mourya, IIT (BHU) Varanasi</p> <p><i>Study of Performance of NSE Subject to Seismic Movements Using Shake Table Test</i> Shounak Mitra, Hilti India Pvt. Ltd., Gurugram</p> <p><i>Seismic base shear analysis for multi-storeyed buildings using base isolation and dampers</i> Ms Agamoni Das, Jadavpur University, Gurgaon</p> <p><i>Design of multistory code exceeding building through performance-based seismic design</i> Vasudev Tulsi Patel, Vidyavardhini's College of Engineering and Technology, Mumbai</p>

	Paper Presentation
	<i>Blast performance and residual strength of concrete-filled cold formed built-up (CFCFST) & RC columns</i> Dr. Md Muslim Ansari , CSIR-Central Building Research Institute, Roorkee
16:00 – 17:20	<i>Performance of exterior fascade on reinforced concrete frame under cyclic loading</i> Devyani Tewatia , IIT Roorkee
	<i>Thermal behaviour of different types of concrete subjected to elevated temperature</i> Dr. Nawal Kishor Banjara , CSIR-Central Building Research Institute, Roorkee
	<i>Evaluation of in-plane shear response in textile-strengthened masonry walls</i> Deekshitha M. K. , AcSIR, CSIR-CBRI, Roorkee
17:20–17:30	Corporate Presentation: Kirby Building Systems & Structures India Pvt Ltd
17:30– 19:00	TEA & Model Making Activity (Modi Hall)
19:00	CONFERENCE DINNER

National Conference on Futuristic Structural Engineering StructE NatCon 2024

8-10 November, 2024 | PHD House, New Delhi

PROGRAM | DAY-3 | Sunday, November 10, 2024

9:00– 11:15	Technical Session 5:- Health Monitoring, Forensic Structural Engineering Session Chair : Mr. Rajiv Ahuja , <i>Independent Consultant</i>
9:00– 9:30	Keynote Lecture: Health Assessment & Retrofitting of Bridge Infrastructures Dr. Kamyab Zandi , <i>Founding Director & CEO, Timezyx, Canada</i>
	Paper Presentation
	<i>Robust unsupervised multi-scale structural damage detection from vibration video</i> Dr. T. Jothi Saravanan , <i>IIT, Bhubaneswar</i>
	<i>Non-destructive detection of bond slip failure in fiber reinforced concrete using piezo sensors</i> Dr. Ramesh Gomasa , <i>Mahindra University, Hyderabad</i>
9:30–11:05	<i>Piezo sensor-based detection of damage in fiber-infused epoxy bamboo composites</i> Prof. Visalakshi Talakokula , <i>Mahindra University, Hyderabad</i>
	<i>Integrating forensic investigation with risk assessment for flyover bridges: A Case Study</i> M. Sarat Chandra , <i>Mahindra University, Hyderabad</i>
	<i>Seismic performance evaluation of high-rise rc building with shear wall using AI</i> Rohit Patel , <i>NIT, Durgapur</i>
	<i>Advancements in structural health monitoring with PZT sensors: A Comprehensive Review</i> Avinash Diwakar Jakate , <i>Government College of Engineering Amravati</i>
11:05– 11:15	CORPORATE PRESENTATION: CYPE Ingenieros
11:15 – 11:30	TEA
11:30– 13:45	Technical Session 6:- Advances in Construction Materials and Technologies Session Chair : Mr. Yogesh P. Kajale , <i>VP, B.G. Shirke Construction Tech. Pvt Ltd,</i>
11:30– 12:00	Keynote Lecture:- Emerging Construction Technologies : Prospects & Challenges Dr. Shailesh Agrawal , <i>Executive Director, BMTPC</i>
	Paper Presentation
	<i>Influence of Interfilament Bond Characteristics on the Load Deflection Behaviour of 3D Printed Beam-A Numerical Study</i> Dr. Biswajit Pal , <i>CSIR-Central Building Research Institute, Roorkee</i>
12:00–13:35	<i>Sustainable design using bamboo: case study of bamboo research & Training Centre</i> Md Mueez Khan , <i>Skeleton Consultants Pvt Ltd</i>
	<i>The Impact of Accelerators on Compressive Strength and Setting Time of Cement and Agro-Industrial Ash Blended Cement for Achieving High Early Strength in 3D Concrete Printing</i> Ashish Kapoor , <i>CSIR-Central Building Research Institute, Roorkee</i>

	<p>Paper Presentation</p> <p><i>Investigation of Bamboo-Reinforced Concrete Structures: Field Insights from Ground-Level Building Project</i> Harishita Alishetty, IIT, Bombay</p> <p><i>Axial behaviour of reinforced concrete filled steel tube stub columns with perforations exposed to fire</i> Lokesh S., AcSIR, Roorkee</p> <p><i>Investigating Bond Characteristics and Structural Efficiency of High-Density Polyurethane Foam Infill in Aluminum and Light Gauge Steel Tubes</i> Dr. Padmaja Gokaraju, Kirby Building Systems & Structures India Pvt.Ltd, Hyderabad</p> <p><i>Transverse Impact on Beams of different materials</i> Prof. Dulal Goldar, Delhi Technological University, New Delhi</p> <p><i>Behaviour of concrete-filled cold-formed steel columns under axial loading</i> Dr. Chanchal Sonkar, CSIR-Central Building Research Institute, Roorkee</p>
12:00–13:35	
13:35– 13:45	CORPORATE PRESENTATION: B.G. Shirke, Const. Tech. P. Ltd., Pune
13:45 – 14:30	LUNCH - Poster session & Speed Networking for YE and Students
14:30 – 15:00	Book Launch: Vidyasagar Setu across Hooghly: A Unique Engineering Feat
15:00 – 16:00	Structural Engineers Day and Mahendra Raj Memorial Lecture by Prof.Sudhir Jain, Vice-Chancellor, Banaras Hindu University, Varanasi
16:00 – 17:25	Awards Ceremony & Summing up
17:25 – 17:30	Vote of thanks
17:30 – 17:35	HIGH TEA

<p>STRUCTURAL ENGINEERS' DAY, MAHENDRA RAJ MEMORIAL LECTURE & IASTRUCTE AWARDS CEREMONY On November 10, 2024 3:00 PM to 5:30 PM at <i>LPS Auditorium, PHD House, New Delhi</i> <i>4/2 Siri Institutional Area, August Kranti Marg, New Delhi 110016</i></p>	
15:00 – 15:10	<p>About the significance of the Structural Engineers' Day Prof. R. Pradeep Kumar, President, IAStructE</p>
15:10 – 16:00	<p>3rd Mahendra Raj Memorial Lecture: Structural Engineering Education and Practice in India: A Silent Crisis Prof. Sudhir K. Jain, Vice-Chancellor, Banaras Hindu University</p>
16:00 – 17:25	<p>Presentation of IAStructE Annual Awards Prof. Prem Krishna, GC member, IAStructE</p>
17:25 – 17:30	<p>Vote of thanks Dr. Shilpa Pal, Honorary Secretary, IAStructE</p>
17:30	HIGH TEA