



CARRS 2025

Organized by Department of
Civil Engineering



175 YEARS OF
IIT ROORKEE
ESTD. 1847

2nd International Conference on Condition Assessment Rehabilitation & Retrofitting of Structures

Date: 11-13 December 2025



Organizing Committee

Prof. Umesh Sharma
Convener

Prof. Rajib Chowdhury
Organizing Secretary

Prof. Anjaneya Dixit
Joint Organizing
Secretary

Prof. Tarun Gangwar
Joint Organizing
Secretary

Indian Institute of Technology Roorkee, INDIA

PROGRAM BOOK



DAY 0 | 10 December 2025

Time		Event	Venue
16:00	18:00	Registration	OPJ Auditorium
Venue Details			
OPJ Auditorium	OP Jain Auditorium, Civil Engineering Department		
CED Lawn	Civil Engineering Department Lawn		
SEG Seminar Room	Structural Engineering Group Seminar Room, 1st Floor, Civil Engineering Department		
Conference Room	1st Floor, Civil Engineering Department		
Golden Leaf	Delhi- Haridwar Road, Roorkee 247667		



DAY 1 | 11 December 2025

Day 1 - 11 December 2025							
Time		Event			Venue		
8:30	9:30	Registration			OPJ Auditorium		
9:30	10:15	Inaugration			OPJ Auditorium		
10:15	10:45	High Tea - Exhibition Inauguration			CED Lawn		
10:45	11:30	Plenary Session-1: Akhil Gupta, Shapoorji Pallonji Engineering and Construction			OPJ Auditorium		
11:30	12:15	Plenary Session-2: Nemkumar Banthia, University of British Columbia			OPJ Auditorium		
12:15	12:45	Keynote Session-1 Radhakrishna Pillai, IIT Madras			OPJ Auditorium		
		Keynote Session-2 Shweta Goyal, Thapar Institute of Engineering Technology			Conference Room		
12:45	13:45	Technical Sessions: 1 to 3 Theme: Material Behavior and Structural Degradation					
12:45	13:00	Electrochemical studs on TMT, chromium steel and epoxy coated TMT rebars in concrete exposed to coastal environment: Daniel Ronald Joseph	Towards coupled chloride-carbonation exposure testing and models for realistic corrosion assessment of low-clinker concretes: Nkanga, U., Laskar, E., Pillai, R., Black, L., Dhandapani, Y	Machine learning-based framework for corrosion monitoring of reinforced concrete structures considering carbonation and chloride contamination: Sagar, C., Aulakh, D, Sharma, U	OPJ Auditorium	Conference Room	SEG Seminar Room
13:00	13:15	Piezo impedance based diagnostic of carbonation effect for reinforced concrete structure: Saini, M, Moharana, S., Patel, A	Corrosion propagation and bond-strength degradation in prestressed concrete with ordinary portland cement: Srinivasan, S, Pillai, R.	Evaluating anchorage and flexural bond in corroded reinforced concrete with varying cement types: Kushwah, NDhurvey, P., Kulshrestha, M.			
13:15	13:30	Performance evaluation of two generic compounds combating corrosion of rebar in concrete pore solution employing as preventive and repair technique: Deol, P, Tiwari, A, Aggarwal, S, Goyal, S	Corrosion resistance of steel in limestone calcined clay cement (LC3) with corrosion inhibitor subjected to carbonation: Hule, U, Pichaimuthu, C., Pillai, R.	Impact of building age on internal cracks and wall leakages: a statistical analysis: Bhalerao, V Husain, M, Nikam, N			
13:30	13:45	Assessing the Effectiveness of FRP Laminates for Retrofitting Plastic Fibre-Reinforced Geopolymer Beams: A GANConcrete and NSGA-II Multi-Objective Approach: Vinod M R, G., P. S.	Influence of chloride-induced corrosion on the mechanical behavior of tmt bars: Khuptong, L Kumar, P., Sharma, U.	Determination of tensile properties of individual carbon fiber yarn: Praneeth Kumar, J Kumar, M, Morthala, R S, S.			
13:45	14:30	Lunch			CED Lawn		
14:30	15:15	Plenary Session-3: Subodh Jain (Retd., Member Board), Indian Railways			OPJ Auditorium		
15:15	15:45	Keynote Session-3 Kaizad Engineer, Ushtha Infinity Construction Company Pvt Ltd.			OPJ Auditorium		
		Keynote Session-4 Utkarsh Goyal, Structural Specialities & Projects (India) Pvt. Ltd.			Conference Room		
15:45	16:45	Technical Sessions: 4 to 6 Theme: Condition Assessment of Structures					
15:45	16:00	Durability performance of CFRP shear strengthened RC T-beams exposed to various environmental circumstances: Shinola MF Frederick, F., Sharma, U	Advancing in structural condition assessment: a critical review of non-destructive testing methods enhanced by machine learning tools: Madhumitha SK, A, A.	Advanced acoustic emission indices for real-time corrosion monitoring in prestressed prisms: Singh, M.S., S., Ganguli, A.	OPJ Auditorium	Conference Room	SEG Seminar Room
16:00	16:15	Structural health monitoring based on fiber optic sensors: Remanan, M T. A.	ANN-driven assessment of residual compressive strength in heat-treated concrete: Chaturvedi, A, Gaikwad, M., Banjara, N., Singh, S.	Structural health assessment of an existing highway bridge under strong ground motion: Ravi, R.			
16:15	16:30	SHM of RC bridge girder for damage identification and localization using multi-layer perceptron: Ullegaddi, A, S C, M., Mahmoodian, M.	A framework for the non-destructive evaluation of galvanic cathodic protection in reinforced concrete structures: Thalakkal, K, Pillai, R..	Mechanics-based state estimation of girder bridges using strain measurements: Chathoth, N, Umakanthan, S.			

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16:30	16:45	Non-destructive testing of masonry structures: techniques, applications, and future perspectives: Padalu, P.Nanni, A., Asteris, P., Brzew, S.	Structural health monitoring and performance assessment of a steel railway bridge with negative camber: Ghosh, A., Dutta, A., Chakraborty, A.	A novel Bayesian-optimized Gaussian mixture model classifier for weld damage detection in steel portal frames under limited impedance-based experimental data: Kamal, M., PARIDA, L., Banerjee, S.	OPJ Auditorium	Conference Room	SEG Seminar Room
16:45	17:00	Tea Break				CED Lawn	
17:00	17:30	Keynote Session-5 S. Suriya Prakash, IIT Hyderabad				OPJ Auditorium	
		Keynote Session-6 Sauvik Banerjee, IIT Bombay				Conference Room	
17:30	18:30	Technical Sessions: 7 to 9 Theme: Repair Materials and Sustainability in Structural Rehabilitation					
17:30	17:45	Flexural behavior of ultra-high-performance-concrete (UHPC) beams with web openings in shear span: Thimmalah Garj, A., Angural, S., Pachalla, S.	Acid resistance and environmental impact of lightweight geopolymer and conventional concrete using sintered fly ash aggregate: Rawat R., Pasla, D.	Optimizing geopolymer concrete performance through sustainable valorization of copper slag: Deep, A.	OPJ Auditorium	Conference Room	SEG Seminar Room
17:45	18:00	Effect of adhesive edge debonding on the coupled behavior of pzt patches in PZT-structure interfaces: Patel, A., Moharana, S.	An experimental investigation and guidelines on reinforced concrete jacketing of short-span beams: Unni, V.K. Sengupta, A.	Damage characterization at fiber-matrix interface in UHPC using wavelet entropy and frequency analysis of acoustic emission signals: Ahmed, M., Dutta, S.			
18:00	18:15	Enhancing load bearing performance of building columns under axial load enhancement through carbon fiber reinforcement: ACI 440: Pathare, R.	Experimental study on the role of interface characteristics on the performance of concrete confined with UHPFRC: Merthala, R. S., S..	Durability assurance of production-scale high-performance concrete using surface resistivity measurements: Arunachalam, R., Joseline, D., Thalaimalaisamy, S.			
18:15	18:30	Effect of calcined red mud and calcined clay on physico-mechanical and microstructural properties of composite cement mortar: Singh, J., Nighat, N., Kumar, R.	IRS 350CR stainless-steel core brb for strengthening existing RC frame structures: Tewatia, D., Kumar, P.	Effect of particle size and packing structure on the mechanical strength characteristics of uhpc: Kothari, V., Dave, U.			
Sponsors Presentation							
18:30	18:45	Ushta Infinity Construction Co. Pvt. Ltd.	SSA Techna Construction Pvt. Ltd. 18:00 - 18:35	OPJ Auditorium	Conference Room		
18:45	18:55	Asian Paints	Krishna Conchem Products Pvt. Ltd. 18:35 - 18:40				
18:55	19:05	Structural Specialities & Projects (India) Pvt. Ltd.	The Bhor Chemicals and Plastics Pvt. Ltd. 18:40 - 18:45				
19:05	19:12	Ms. Dynasoure Concrete Treatment Pvt. Ltd.	Sanrachana Structural Strengthening Pvt. Ltd. 18:45 - 18: 50				
19:12	19:19	Vector Corrosion Technologies Ltd.	Cembond Construction Pvt. Ltd 18:50 - 18:55				
19:19	19:26	Pidlilite Industries Limited	Nexcarbon Composite LLP 18:55 - 19:00				
			Kendriya Guniting 19:00 - 19:05				
			FOSROC 19:05 - 19:10				
			Leak Cure Waterproofing Co. 19:10 - 19:15				
			Layher Scaffolding Systems Pvt. Ltd. 19:15 - 19:20				
19:30	22:00	Dinner				CED Lawn	

DAY 2 | 12 December 2025

Day 2 – 12 December 2025							
Time		Event			Venue		
9:30	10:15	Plenary Session-4 Venkatesh Kodur, Michigan State University			OPJ Auditorium		
10:15	11:00	Plenary Session-5 Bishwajit Bhattacharjee, IIT Delhi (Reta)			OPJ Auditorium		
11:00	11:15	Tea Break			CED Lawn		
11:15	11:45	Keynote Session-7 Dipti Ranjan Sahoo, IIT Delhi			OPJ Auditorium		
		Keynote Session-8 Umberto Rico, Mapei			Conference Room		
11:45	12:15	Keynote Session-9 Ananth Ramaswamy, IISc Bangalore			OPJ Auditorium		
		Keynote Session-10 Rajeev Gool, Asian Paints			Conference Room		
12:15	13:15	Technical Sessions: 10 to 12 Theme: Rehabilitation and Retrofitting Techniques					
12:15	12:30	Structural beam strengthening via NSM prestressed CFRP technique: Dhariwal, S,Varma, R.	Retrofitting structural masonry using natural fibre composites: performance, challenges, and prospects: Vashisht, R.Padalu, P., Kodur, V., Banthia, N.	Numerical investigation of effect of elevated temperatures on bending resistance of steel-concrete composite beams designed according to international codes: Jamadar, A Kadam, S.	OPJ Auditorium	Conference Room	SEG Seminar Room
12:30	12:45	Rehabilitation of existing baileys bridge: Gupta, A., Ahuja, P, Saini P., Sharma, A	Microclimate at steel-concrete interface and its link with passivation of steel in low-carbon binder-based mortar: Ajayan, A., Kamde, D., Samson, G., Bertron A.	Impacts of building rehabilitation by horizontal and vertical extensions of framed structures – risks and realities: Goswami, M., Rashid, U., Patel, R., Goswami, M.			
12:45	13:00	Retrofitting of plan-irregular buildings with bracing and shear walls: Kafi, M.,Nanda, R., Roy, P.	Numerical investigation of FRP thickness effects on the flexural performance of steel-concrete composite beams: Devi, S., Kumar, P	Effect of length and position of side externally bonded FRP sheets on the strengthening of RC beams using a progressive damage model: Karmakar, R.,Mandal, B.			
13:00	13:15	Optimum zone for isolation and damping system in RCC regular and irregular buildings using Time history method: Das, A., Bandyopadhyay, D.	Behaviour of RC beams retrofitted using rebar coupler and textile reinforced composite under flexural loading: Lal, M.,Moka, V., R., S.	Enhancing shear strength of deficient concrete members: Mitra, S.,Tewatia, D., Singh, A.			
13:15	14:00	Lunch			CED Lawn		
14:00	14:45	Plenary Session-6 Pang Size Dai, National University of Singapore			OPJ Auditorium		
14:45	15:15	Keynote Session-11 Mitsuo Ozawa, Gunma University			OPJ Auditorium		
		Keynote Session-12 Mangesh V. Joshi, Sanrachana Structural Strengthening Pvt. Ltd.			Conference Room		
15:15	16:15	Technical Sessions: 13 to 15 Theme: Resilience in Structural Rehabilitation					
15:15	15:30	Conditional assessment of concrete specimens and structural element performance under elevated temperature exposure: Banjara, N.,Kumbhoje, R., Ramancharla, P.	Experimental study on shear performance of hybrid fiber reinforced concrete R.C. deep beam: Javheri, S.,Patil, S., Kulkarni, S	Design and development of an experimental setup for real-time evaluation of coupled corrosion-fatigue interaction in reinforced concrete beams: Vishwakarma, V, Ray, S.	OPJ Auditorium	Conference Room	SEG Seminar Room
15:30	15:45	A methodology to find flexibility of members in steel truss railway bridges: Lenka, K, Umakanthan, S.	A review of reflective coating technologies on asphalt pavements for urban heat island mitigation: Amarnath, A Kumar, A., Choudhury, T.	Performance of embedded galvanic anodes in rehabilitation of corroded RC elements – a case study: Rajendran, A			
15:45	16:00	Seismic performance of buildings in hilly areas: role of soil-structure interaction: Mazumdar, N. Kaushik, S	Impact of damper installation on non-ductile reinforced concrete structures: interaction effects and design considerations: Deo, B.	Mechanical characterisation of adobe and masonry walls from high-altitude ladakh: Kumar, S., Ranjan, R., Dixit, A			
16:00	16:15	Analyzing the thermal comfort and carbon footprint of building blocks developed from air lime: Tripathi, A. Yashwanth, L, V S, A., Manohar, S.	Field verification of the filtering algorithm to extract the bridge static load under fast-moving dynamic load: R, S, PARIDA, L	Service life estimation of steel-cementitious system using powder based corrosion inhibiting admixture: Aggarwal, S, Pillai, R., Kunhi Mohamed, A.			

DAY 2 | 12 December 2025

16:15	16:30	Tea Break		CED Lawn			
		Keynote Session-13 Yogendra Singh, IIT Roorkee		OPJ Auditorium			
16:30	17:00	Keynote Session-14 Mehul Parikh, Pidilite Industries Limited		Conference Room			
17:00	18:00	Technical Sessions: 16 to 17: Case Studies in Structural Rehabilitation and Heritage Conservation					
17:00	17:15	Seismic vulnerability assessment of irregular RC buildings using static pushover analysis: a case study: Islam, A., Phookan, A., Gogoi, D., Das, A., Bharadwaj K	Structural Safety Assessment of Historical Residential Building at Indian Veterinary Research Institute (IVRI), Bareilly, Uttar Pradesh, India: kumar, S., Kumar V., Anand, V.	ICI Special Session (Repair TC)	OPJ Auditorium	Conference Room	SEG Seminar Room
17:15	17:30	Prospect and future of health assessment of residential building : a critical study on implementation point of view: Swain, P, Datta, A.	Structural condition assessment and repair strategies for industrial plant buildings affected by fire and blast incidents: a case study in maharashtra, India: Sharma, U Chandra, S., Rai, A., Tiwari, A.,				
17:30	17:45	A study on the present scenario of structural audit of highway concrete road bridges: Kumar Nag, R., Datta, A.	Non-contact based condition assessment of solar arrays: Moondra, D, Rathi, A.				
17:45	18:00	Seismic strengthening of RC hospital building: a case study: Mondal, A., Lalrinngheta, J., Borah, B.	Condition Assessment of Structures by NDT - A case study: Kumar, R, Bhargava, K., Rawlani, B., Choudhary, M.				
18:00	18:10	RILEM Presentation			OPJ Auditorium		
Sponsor Presentation							
18:10	18:17	Mapei	Avantech Engineering 18:10 - 18:15	OPJ Auditorium	Conference Room		
18:17	18:24	Hellfix (India) Pvt. Ltd.	Stanley 18:15 - 18:20				
18:24	18:31	Thermax Limited	Ultratech 18:20 - 18:25				
18:31	18:38	Reinforce by Reliance Industries Limited	Plaksa Group 18:25 - 18:30				
18:38	18:45	MRIDC	VNI Constrotech Pvt. Ltd. 18:30 - 18:35 Dharohar 18:35 - 18:40				
19:30	22:00	GALA Dinner			Golden Leaf, Delhi - Haridwar Rd		



DAY 3 | 13 December 2025

Day 3 - 13 December 2025			
Time	Event		Venue
10:00	10:30	Keynote Session-15 Anil Agarwal, IIT Hyderabad	OPJ Auditorium
		Keynote Session-16 Liao Haixue, Vector Corrosion Technologies Ltd.	Conference Room
10:30	11:00	Keynote Session-17 R. Pradeep Kumar, CSIR-CBRI	OPJ Auditorium
		Keynote Session-18 Sanjay Chikermare, IIT Roorkee	Conference Room
11:00	11:15	Tea break	CED Lawn
11:15	11:45	Keynote Session-19 Wolfgang Schwarz, CAS Composite Anode System GmbH	OPJ Auditorium
		Keynote Session-20 Vedant Pandey, Dynasoure Concrete Treatment Pvt. Ltd	Conference Room
11:45	12:45	Special Session: 18, 19 Theme: Case Studies, Policies in Structural Rehabilitation and Heritage Conservation	
11:45	12:00	Study of durability properties of alkali activated concrete made with flyash-ggbs blend: Trivedi, A, Goel, R., Kumar, R., Kumar, R., Singh, B	Long-term durability of blended CO2 cured systems under acidic exposure: Bolla, M., Dixit, A.
12:00	12:15	Health monitoring of structures using finite element model updating technique: Saurabh, S., Pal, J., Chowdhury, R	Investigation on the buckling response of cfrc composite cylindrical shells incorporating spla imperfections: Pradhan, T, Podder, D., Iqbal, M., Singh, I.
12:15	12:30	Failure analysis of hollow steel parking columns and ballards under vehicular impact: Revaliya, N, Gupta, P.	A comprehensive evaluation of concrete constitutive models using single-element simulations: Kumar, A., Iqbal, M.
12:30	12:45	Characterization of dynamical systems with multiple breathing cracks using time-frequency analysis: B, Radhika, Revuru, S., Dheeraj Reddy, V., Praveen, S.,	Mechanical performance of Corroded IRS-450CR in chloride rich environment: Sharma A., G.P. Chaudhary
12:45	13:00	Utilization of Sugarcane Bagasse Ash as a Sustainable Supplementary Cementitious Material: Processing, Performance, and Applications: B. Gopalakrishna	Clustering-Based Grouping of Corrosion Damage in RCC Structures Using Electrochemical Data: Sankar, V
13:00	13:15	Performance Assessment of Steam-Cured High-Strength Concrete Using Non-Destructive Testing (NDT) Methods: A. Khan	Non-Destructive Identification of M30 Concrete Properties at 28 Days using Hyperspectral Spectral Analysis: Ahmed, I, Sharma, U, Garg, P., Thakur, A
13:15	14:00	Valedictory and Closing Ceremony	
14:00	15:00	Lunch	OPJ Auditorium
			CED Lawn





IIT Roorkee



Indian Institute of Technology Roorkee, INDIA

Contact Us

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