

Third International Conference on Construction Materials and Structures on Synergy of Materials and Structures



TIRUPATI		on Synergy of Materials and Structures									ICCMS
Time		Day 2, 4th July 2025									
8:00-9:00		Registration									
Session-1 (09:00-10:20) 09:00-09:40	Plenary Talk 4	Plenary Talks (4 & 5): LHC CR 211; Prof. Balthasar Novak - Chair Prof. Gianluca Ranzi, Topic : The role of advanced analysis for the service design of concrete and composite structures									
09:40-10:20	Plenary Talk 5	Prof. Ravindra Gettu, Topic: The fole or advanced analysis for the service design or concrete and composite structures Prof. Ravindra Gettu, Topic: Challenges in the implementation of new structural materials in the field									
10:20-10:40	Platinum Speaker	1. Mr. Janakiraman A - General Manager Smart Build, The Ramco Cements Ltd & Ramco Industries Ltd., Topic: Sustainable Products in Construction Industry 2. Mr. Anil Kumar Pillai, Sr.General Manager - Technical services, The Ramco Cements Ltd & Ramco Industries Ltd. Topic: Ramco Construction Chemicals an overview									
10:40-11: 10		High Tea									
Session-2 (11:10-12:10)		Plenary Talks (6): LHC CR 211									
11:10-11:50 11:50-12:10	Plenary Talk 6 Platinum Speaker	Prof. Venkatesh Kodur, Topic: Development of Ultra High-Performance Concrete for Fire Resistance Applications Presentations by Platinum Sponsors: JSW IP Holdings Pvt Ltd.									
12:10-12:20	r iacinum speaker	Photo Session (LHC Ground Floor)									
12:20-13:40		Lunch									
Session-3 (13:40-15:45)		LHC CR002	LHC CR003	LHC CR004	LHC CR103	Keynote Lectures and Technical Session 3 LHC CR104	LHC CR105	LHC CR201	LHC CR202	LHC CR203	LHC CR204
13:40-14:15	Keynote Lectures	Mr. K. Senthilnathan, Topic: Bridging innovative technologies for structural excellence (LHC CR001)		Dr. Kasi Viswanadh, Topic: Recent trends in lean and sustainable design	Mr.Damodar R. Katti, Topic: Offsite construction, simplified	Mr. Rajeev Goel, Title: Role of coatings in protecting structures	Dr. Vaibhav Singhal, Topic: Confined masonry: A resilient and affordable solution for earthquake-resistant Housing	Prof. Suresh Jain, Topic: Life Cycle Assessment (LCA) as a strategic tool for sustainable construction: methodological advancements and practical applications	Mr. Chandrasekar Srinivasan, Topic: Optimizing composite and concrete structures with HBK's new light fiber Optic Technology	Dr. Satish Jain, Topic: Prestressing and UHPC - A symbiotic relationship	Dr. Sree Nanukuttan, Topic: Transitioning concrete precast sector to a net-zero future: Materials, Methods and Manufacturing
	Themes	Theme 1: Construction technique and automation	Theme 1: Construction technique and automation/Special concrete	Theme 1: Innovations in materials processing/New age construction materials	Theme 2: Advancements in structural systems / Design advancement	Theme 1: New age construction materials /special concrete	Theme 2: Structural performance under Hazardous loadings	Theme 1: New age construction materials /special concrete	Theme 3: Smart sensors	Theme 1: Special concrete	Theme 1: Innovations in materials processing/Special concrete
	Session Chairs	Dr. Ann Francis, IIT Delhi	Dr. Sudharshan N. Raman, Monash University, Malaysia	Dr. Aysha Zeneeb Majeed, Rajagiri School of Engineering and Technology, Kerala	Dr. Govardhan Bhatt, NIT Raipur	Dr. Hridya	Dr. R Senthil Kumar, NIT Trichy	Dr Aparup Biswal, AGM, Engineering Lead, Precast Works Competency Center	Dr. Prasanna Kumar Behera, IIT Tirupati	Dr. Indu Geevar, Rajagiri School of Engineering and Technology, Kerala	Dr. Vishwajith Anand, IIT BHU
14:15-14:28		Abstract ID: 9776 (A Critical review on suitability of non-destructive testing techniques for brick masonry structures)	Abstract ID: 3868 (3D Concrete Printing: A Review on the Effect of Material Proportioning and Mix Design in Rheology and Mechanical Properties)	Abstract ID: 3715 (Evaluating the influence of metakaolin based concrete reinforced with glass fiber)	Abstract ID: 6601 (Effect of concrete slab gradation on the shear Carrying Capacity of the CPS1, CPS2 and CPS3 Shear Connectors: FEM Simulation Approach)	Abstract ID: 6102 (Development of an optimum one-part geopolymer concrete mix with high mechanical strength)	Abstract ID: 4219 (Comprehensive Evaluation of Stiffness Irregularities in Buildings for Advancing Building Code Provisions)	Abstract ID: 6462 (Life cycle assessment of sugarcane bagasse ash and copper slag used sustainable concrete)	Abstract ID: 8744 (An IoT based Glacial Dam Monitoring and Early Warning System)	Abstract ID: 0074 (Influence of Multi-Component Binder on Shrinkage in High-Performance Concrete: A Packing density perspective)	Abstract ID: 7785 (Mechanical properties of self-compacting concrete using micro steel fiber)
14:28-14:41		Abstract ID: 4886 (Optimization of Concrete 3D Printed Beams with Nature-inspired Voronoin Patterns for Symmetrical and Unsymmetrical Loading Conditions)	Abstract ID: 5477 (A Review on the detail study about Waste Consultation and Management during Construction of Residential Building.)	Abstract ID: 7381 (Adaptive Neuro-Fuzzy Inference System for Steady-State Chloride Diffusivity in Mortar Containing Nano Titanium Dioxide)	Abstract ID: 7664 (Structural Performance of Optimized Lightweight Hollow Core Slabs with Treated LECA, Perlite Powder and Flax Fiber)	Abstract ID: 8970 (A study on the mechanical behaviour of algae-based bio concrete block)		Abstract ID: 6934 (Life cycle assessment of concrete fabricated with cupola slag as aggregate)	Abstract ID: 5911 (Prospect and future of Al application on online real-time structural health monitoring of railway infrastructure: A review)	Abstract ID: 7956 (Recent Development of Ultra High-Performance Concrete and Its Scope in the Future)	Abstract ID: 7859 (A Study on the influential properties of Latex Modified Concrete incorporated with Fly ash)
14:41-14:54		Abstract ID: 3107 (PropTech: A Smart IoT-Based Health Monitoring System for Enhancing Prop Safety in Construction)	Abstract ID: 8684 (Risk Management in Construction Supply Chain Management using Lean Six Sigma Principles)	Abstract ID: 7481 (Comparison of the Load-Bearing Capacity of Tetrapod and Pentapod using Fiber Reinforced Geopolymer Concrete: An Experimental and Numerical Approach)	Abstract ID: 7676 (Nonlinear Pushover Analysis of Reinforced Concrete structure with and without infill walls using simplified macro-models)	Abstract ID: 1798 (The behavior of the masonry sub-assemblage under varying material properties)	Abstract ID: 4164 (Analysis of Buried Reinforced Concrete Pipelines Subjected to Blast Load)	Abstract ID: 5653 (Life cycle assessment of sugarcane bagasse ash and ground granulated blast furnace slag blended binary concrete: A comparative environmental study)	Abstract ID: 7446 (Finite element analysis of CFST columns under differential temperature conditions)	Abstract ID: 1842 (Flexural Fatigue behavior of Steel Fiber Reinforced Pavement Quality Geopolymer Concrete (SFPQGC))	Abstract ID: 9874 (The Impact of Fibers on the Performance of 3D-Printed Concrete: A Systematic Literature Review)
14:54-15:07	Technical Session 3	Abstract ID: 6009 (Time history analysis of G+20 building using STAAD Pro and ETAB: A comparative study)	Abstract ID: 8833 (An Approach to Achieve High Strength Concrete Using Particle Packing Models: A Review)	Abstract ID: 2416: Study on Mechanical Properties of Bituminous Mixture using Titanium-dioxide,	Abstract ID: 8155: (Analysis of flexural behavior of built-up stainless steel members using the continuous strength method)	Abstract ID: 6513 (Performance Assessment of Self-Healing Mortar: Unveiling Biomineralization and Structural Enhancements)	Abstract ID: 2432 (Efficacy of base isolation system in mitigating seismic response of irregular buildings with and without re-entrant corners)	Abstract ID: 8352 (Life Cycle Assessment and Rehabilitation Strategies for a Seashore Bridge in Mumbai)	Abstract ID: 6986 (Experimental investigation on self-sensing performance of different grades of concrete using MWCNT)	Abstract ID: 1995 (Experimental investigation on the production of geopolymer concrete by blending cinder and fly ash aggregates)	Abstract ID: 8984 (Experimental Study of the Thermal Properties of admixtures based Fibre Reinforced Concrete (TPABFRC))
15:07-15:20		Abstract ID: 9945 (Implementation of the last planner system in urban housing projects a case study)	Abstract ID: 8891 (Parameter weighting for 3D concrete printing using AHP and Fuzzy AHP)	Abstract ID: 3388 (Scientometric Review on Geopolymer Concrete using egg shell powder)	Abstract ID: 9147 (A Critical Review of Cold-Formed Light-Gauge Steel Lateral Load Resisting Systems)	Abstract ID: 6835 (Rubberized GeoPolymer Concrete)	Abstract ID: 2054 (Numerical Simulations of Load-Deformation Behaviour in Bolted Lap Joints Under Fire and Post-Fire Conditions)	Abstract ID: 125 (Optimization of DNA shaped steel fiber for enhanced mechanical properties in concrete)	Abstract ID: 2936 (Damage Evaluation of Reinforced Concrete Beams of Various Concrete Grades using a Piezoelectric-Based EMI Technique)	Abstract ID: 0273 (Development and Characterization of Sustainable Geopolymer Concrete Using Fly Ash and GGBFS)	Abstract ID: 3836 (Influence of calcium lactate and Bacillus subtilis bacteria on properties of self-healing concrete)
15:20-15:33		Abstract ID: 0442 (Mechanical and Microstructural Studies of Plastic in Municipal Solid Waste with Graphene Oxide Reinforcement)	Abstract ID: 1072 (Experimental Insights and Predictive Modelling of Uniaxial Compressive Behaviour of HFRC Columns)	Abstract ID: 2715 (Influence of TRC Wrapping on the Load-Carrying Capacity of Concrete Columns)	Abstract ID: 9407 (Performance Assessment of Trapezoidal-Profiled Cold-Formed Steel-Concrete Composite Shear Walls Under Monotonic Lateral Loading)	Abstract ID: 6853 (Assessing the Effects of Superplasticizer Dosage and NaOH Molarity on Self-Compacting Alkali Activated Concrete)	f Abstract ID: 0501 (Seismic fragility assessment of shear failure dominated columns supporting a tank)	Abstract ID: 6469 (Innovative Permeable Concrete Paver Block for Sustainable Urban Development)	Abstract ID: 5533 (Steel Material Behavior in Blast-Resistant Structures)	Abstract ID: 6844 (Effect of Waste Plastic on the Flexural Fatigue Performance of Pavement Quality Concrete)	Abstract ID: 3807 (A Review on 3D Concrete Printing: Technologies, Applications, and Sustainability)
15:33-15:45		Abstract ID: 2783 (Conceptual Framework for Construction Material Management using Construction 4.0 Technologies)	Abstract ID: 7013 (A Study on the Rheological Behaviour of Cement Paste in High-Strength Concrete Mixes)	Abstract ID: 1332 (Influence of fibers on mechanical and shrinkage behavior of seawater concrete)	Abstract ID: 2397 (Enhancing Tunnel Construction Efficiency through Construction-Stage Analysis and Formwork Optimization)	Abstract ID: 5343 (Development and Performance Assessment of Non-Conventional Mortar Using Quarry Dust and GGBS in Masonry Applications)	Abstract ID: 0562 (Seismic Performance Evaluation of Irregular Low, Mid, and High-Rise Buildings: Indian Standards vs. Site-Specific Spectra)	Abstract ID: 1744 (Mapping Industrial Waste Sources in Telangana Using QGIS : Strategies for Sustainable Waste Management)	Abstract ID: 9441 (UAV-Driven Structural Health Monitoring: A Comprehensive Review of Technologies and Applications)	Abstract ID: 0491 (Durability and Microstructural Analysis of Pumice Lightweight Aggregate based Concrete)	Abstract ID: 2231 (Experimental investigations on fresh and hardened properties of concrete by incorporating urea)
15:45-16:15	High Tea										
Session-4 (16:15-17:30)	Technical Session 4										
	Themes	Theme 1: Construction technique and automation	Theme 1: Construction technique and automation	Theme 1: Innovations in materials processing/New age construction materials	Theme 2: Advancements in structural systems / Design advancement	Theme 1: New age construction materials /special concrete	Theme 2: Structural performance under Hazardous loadings	Theme 1: New age construction materials /special concrete	Theme 3: Structural health monitoring	Theme 1: Special concrete	Theme 1: Innovations in materials processing/Special concrete

16:15-16:27		Abstract ID: 1266 (Optimization and Performance Evaluation of Recycled Fine Aggregate Replacement for 3D Concrete Printing)	Abstract ID: 2075 (Optimizing Material Waste Management in Construction: Insights and Practices for the Indian Construction Industry)	Abstract ID: 7875(Efficacy of Ferrochrome Slag Sand in M40 and M100 Concrete Eventually in Long-Term Curing)	Abstract ID: 7170 (Experimental and Numerical Study on the Behaviour of Ultra-High-Performance Reinforced Concrete (UHPRC) Rectangular Slender Columns Subjected to Uni-axial Loading and Biaxial Bending)	Abstract ID: 7124 (Sustainable Construction: Enhancing Concrete Performance with Rice Husk Ash, Copper Slag, and Basalt Manufactured Sand)	Abstract ID: 1494 (Effectiveness of Tuned Mass Dampers for Wind Response Control of Tall Chimneys)	Abstract ID: 5065 (Advancing Concrete Technology by Two-Step CO2 Mineralization for Enhanced Performance and Sustainability)	Abstract ID: 6884 (Influence of Electrode Placement on Conductivity Measurement in Self Sensing Concrete : A review)	Abstract ID: 3997 (A Review on High Performance Alkali Activated Concrete With Hybrid Fibres)	Abstract ID: 3712 (Development and Performance of One-Part Alkali-Activated Concrete for M40 Grade Applications)
16:27-16:39		Abstract ID: 1268 (A review on the investigation and comparative study of industrial by-products in geopolymer brick production)	Abstract ID: 653 (Bridging the Gap: Maturity Meters vs. Traditional Compressive Strength Tests)	Abstract ID: 5016 (Characteristics study on Fiber-Reinforced Mortars for Masonry Application)	Abstract ID: 7872 (Inelastic reserve strength of cold formed steel lipped Zee sections - A Direct strength method approach)	Abstract ID: 7568 (Impact of Waterproofing Admixtures on the Properties of Artificial Lightweight Aggregates)	Abstract ID: 1517 (Dynamic Behavior of Multi-Storey Buildings with Various Bracing Systems)	Abstract ID: 8058 (Sustainable Porous Concrete Solutions for Groundwater Recharge and Stormwater Management)	Abstract ID: 70 (GEOFREQ@-2020 TM an instrument management system for real time structural health monitoring)	Abstract ID: 2691 (Flexure and Fracture Characterization of UHPC: Experimental and DIC-based Investigation)	Abstract ID: 8140 (influence of single and hybrid activators on the performances of high-volume fly ash cement pastes)
16:39-16:51		Abstract ID: 2945 (A comprehensive review of the durability characteristics of eco-friendly geopolymer concrete derived from various precursors)	Abstract ID: 7484 (Influence of Sugarcane Bagasse Ash Integrated With Rice Husk Ash on the Mechanical Properties of Concrete)	Abstract ID: 4114 (Graphene Oxide Dispersion Problem and Its Solution for the Development of Nano-Alkali-Activated Binder)	Abstract ID: 8573 (Seismic performance evaluation of buildings with steel moment-resisting frames designed with different capacity ratios)	Abstract ID: 7592 (Performance Optimization of M30 Grade Self-Compacting Concrete Incorporating Slag Aggregates: A Multi-Code Analysis of Mechanical Properties.)	Abstract ID: 2479 (Evaluating Earthquake Performance of RC Buildings with Large Span Transfer System)	Abstract ID: 0651 (Sustainable Geopolymer Mortar: Strength and Durability Enhancement Using Copper Slag)	Abstract ID: 5720 (Single frequency filtering analysis of dynamical systems with breathing cracks)	Abstract ID: 6923 (Development of a novel cool concrete pavement for mitigating urban heat island effect)	Abstract ID: 8648 (Investigation on the effect of Coffee Husk Ash as activator in one-part Geopolymer System)
16:51-17:03	Technical Session 4	Abstract ID: 2599 (One-Part Geopolymerization: A Step Towards Sustainability)	Abstract ID: 4748 (Effect of temperature on concrete with different types of coarse aggregate)	Abstract ID: 6921 (A Particle Packing Approach for High Strength Concrete: A Comprehensive Review)	Abstract ID: 5697 (Exploring the Evolution and Applications of Ultra-High Performance Concrete (UHPC) in Modern Construction)	Abstract ID: 7810 (Estimation of CO2 Footprint and Embodied Energy of Alkali-Activated Concrete)	Abstract ID: 8188 (Studies on Synergistic Effects of Steel Sludge Powder and Other Industrial By-Products in Foam Concrete)	Abstract ID: 7569 (Enhancing Mechanical Properties of Recycled coarse Aggregate with Graphene oxide: A Sustainable Approach)	Abstract ID: 2791 (Assessing Sand and Gravel Demand in India: Trends, Forecast, and The Need for Alternatives)	Abstract ID: 8576 (Advancing Precast Construction: A Comprehensive Analysis of Benefits, Challenges and Pathways for its Adoption)	Abstract ID: 2675 (Temperature-Dependent Mechanical Properties of Cold-Formed Steel Sections of Varying Thicknesses)
17:03-17:15		Abstract ID: 3053 (Investigations on printability of alkali-activated 3D printable mixtures with concrete demolition waste as aggregates)		Abstract ID: 3883 (Polypropylene Fiber Reinforced High Performance Cementitious Composites: Insights into Strength, Microstructure and Durability)	Abstract ID: 3901 (Advances in the Strut-and-Tie Model for Structural Analysis and Design)	Abstract ID: 9184 (Long-Term Shrinkage and Creep Properties of High-Performance Concrete: Experimental Studies and Existing Material Modeling)	Abstract ID: 0853 (Experimental Investigations on the Flexural Behaviour of Steel Square Hollow Section (SHS) Beams Subjected to Elevated Temperatures)	Abstract ID: 2328 (Sustainable Concrete Innovation: Granite Waste Powder as a Sustainable Fine Aggregate Alternative)	Abstract ID: 1215 (Damage studies in laminated composite plates using AE Technique)	Abstract ID: 4191 (Experimental investigation on Mechanical Properties of Lightweight Concrete Using Pumice Aggregate as Partial Replacement of Coarse aggregates)	Abstract ID: 9229 (Experimental investigation on geopolymer concrete using recycled fine aggregate)
17:15-17:27		Abstract ID: 7699 (Modular structural crane mounted platform technology for jetty or berth superstructure)		Abstract ID: 2205 (Production of Rice husk Ash Cement- A Sustainable Approach)	Abstract ID: 7048 (Evaluation of Building Code Requirements for Earthquake Performance of RC Buildings with Mass Irregularity)	Abstract ID: 3090 (Study of durability and mechanical properties for utilization of manufactured geopolymer fly ash aggregate as a coarse aggregate in concrete)	Abstract ID: 2423 (Assessment of lateral capacity and ductility of corroded RC structures using pushover analysis)	Abstract ID: 5579 (Evaluating the Pozzolanic Reactivity of Natural Pozzolans)	Abstract ID 1138 (Al-Based Image Recognition for Crack Pattern Detection in Structural Health Monitoring)	Abstract ID: 9866 (Optimization studies on Improving Specialized Concrete Properties for Nuclear Facilities)	Abstract ID: 7125 (A study on foundry sand as a partial replacement of fine aggregate for corrosion resistance in concrete)
19:00-21:00					Gala Dinner a	and Cultural Programme (Sports Co	mples IITT)				