

Programme Brief

26 th Nov	Day 1 27 th November 2024	Day 2 28 th November 2024	Day 3 29 th November 2024	
Early Registration at 12.00 to 18.00 hrs	Registration till 9.30 am	3 Parallel Technical Sessions Technical Session III A: Net Zero Emissions, Carbon Capture, Utilisation & Storage (CCUS) Technical Session III B: Productivity Enhancement & Process Optimization - I Technical Session III C: Performance-Based Design & Durability of Concrete Palash Hall GBR 9:00 to 10:30 hrs	3 Parallel Technical Sessions Technical Session VI A: Special Session for Cement Chemistry-II Technical Session VI B: Low Carbon Cement-II & Cement Plant Machinery & Project Engineering –III Technical Session VI C: Productivity Enhancement & Process Optimisation -III Palash Hall GBR 9:00 to 10:30 hrs	
	Inaugural Session Palash Hall GBR ABC and Inauguration of Technical Exhibition Exhibition Hall 1C 09:30 to 10:45 hrs	Networking, High Tea Exhibition Hall 1C 10:45 to 11:30 hrs	Networking, Tea & Poster Session IV Exhibition Hall 1C 10:30 to 11:30 hrs hrs	Networking, Tea & Poster Session VII Exhibition Hall 1C 10:30 to 11:30 hrs
	Plenary Session I Prof S P Shah “Carbon Conscious Concrete and Nanotechnology” and Dr A K Chatterjee “‘Automated’ to ‘Autonomous’ Process for Cement Production: How Distant is the Destination?” Palash Hall GBR ABC 11:30 to 13:00 hrs	Plenary Session II Prof Karen Scrivener “The role of cement hydration in decarbonising cement-based materials” & Prof Dr-Ing. Thomas Matschei “Binding the Future – From Calcined Clays to Extrusion” Palash Hall GBR 11:30 to 13:00 hrs	3 Parallel Technical Sessions Technical Session VII A: Environment Management, Sustainable Development and Safety Technical Session VII B: Instrumentation, CSR Initiatives & Project Management Technical Session VII C: Sustainable Aggregates, Binders & Geopolymer Concrete Palash Hall GBR 11:30 to 13:00 hrs	
	Networking, Lunch & Poster Session No I Exhibition Hall 1C, 13:00 to 14:00 hrs	Networking, Lunch & Poster Session V Exhibition Hall 1C, 13:00 to 14:00 hrs	Networking, Lunch & Poster Session VIII Exhibition Hall 1C, 13:00 to 14:00 hrs	
	3 Parallel Technical Sessions Technical Session IA: Low Carbon Cements Technical Session IB: Cement Plant Machinery & Project Engg. -I Technical Session IC: Concrete Durability, Distress Investigation, Repair & Rehabilitation –I Palash Hall GBR 14:00 – 15:15 hrs	3 Parallel Technical Sessions Technical Session IV A: Special Session for Cement Chemistry-I Technical Session IV B: Application of AI/ML Technical Session IV C: Cement Plant Machinery & Project Engg-II and Advances in Grinding Systems –II Palash Hall GBR 14:00 – 15:30 hrs	Plenary Session – III Mr Christophe Levy “Progressively tackling the challenges for cementitious materials players: reaching Zero CO ₂ emissions and Zero natural resources” Palash Hall GBR 14:00 – 14:45 hrs	
	Networking, Tea & Poster Session II Exhibition Hall 1C 15:15 to 16:00 hrs	Networking, Tea & Poster Session – VI Exhibition Hall 1C 15:30 to 16:30 hrs	Panel Discussion II on Transforming Indian Standards to Performance - Based Durability Design of Concrete Structures Palash Hall GBR 14:45 – 15:40 hrs	
	3 Parallel Technical Sessions Technical Session II A: Alternate Fuels and Raw Materials Technical Session II B: Advances in Grinding Systems –I Technical Session II C: Latest Innovations & Trends Palash Hall GBR 16:00 – 17:15	3 Parallel Technical Sessions Technical Session V A: Energy Conservation Systems Technical Session V B: Productivity Enhancement & Process Optimization - II Technical Session V C: Alkali Activated Concrete, 3D Printing & High - Performance Concrete Palash Hall GBR 16:30 – 18:00 hrs	Concluding Session Palash Hall GBR 15:40 to 16:30 hrs	
	Networking, Tea & Poster Session III Palash Hall GBR, 17:15-18:00		Farewell Get-together Exhibition Hall 1C 16:30 onwards	
	Panel Discussion – I on Cementing the Net Zero by 2070: Leadership Perspectives from Indian Cement Industry 18:00 to 19:00 hrs (Palash Hall GBR C)			
	Special Session at 19.00 hrs (Palash Hall GBR AB)			
	Dinner at 20:30 hrs (Exhibition Hall 1C)			

18th NCB International Conference & Exhibition on Cement, Concrete & Building Materials
Theme: "Cementing the Net Zero Future"

27-29 November 2024
YashoBhoomi Convention Centre, IICC Dwarka, New Delhi, India

PROGRAMME

(Plenary Sessions, Technical Sessions, Poster Sessions, Panel Discussions & Special Sessions)

Tuesday, 26 November 2024

1200 h to 1800 h

EARLY REGISTRATION

Wednesday, 27 November 2024

0800 h to 0930 h

REGISTRATION

0930 h to 1045 h

INAUGURAL SESSION

Palash Hall, Grand Ballroom ABC

Invocation

Lighting of Lamp

Welcome Address by **Dr L P Singh**, Director General-NCB

Address by **Shri Neeraj Akhoury**, Chairman-NCB & President – Cement Manufacturers' Association & Managing Director, Shree Cement Ltd.

"Indian Cement Industry - Challenges and Opportunities"

Address by **Shri K C Jhanwar**, Managing Director, UltraTech Cement Ltd.

"Cement Industry - Global Perspective"

Address by Guest of Honour, **Shri Sanjiv**, Joint Secretary, DPIIT, Ministry of Commerce & Industry, Government of India

Inaugural Address by Chief Guest, **Shri Amardeep Singh Bhatia**, Secretary, DPIIT, Ministry of Commerce & Industry, Government of India

Release of Publications by Chief Guest:

- Conference Souvenir
- Conference Proceedings (Digital Copy)
- Short Film on
 - NCB Conference Journey
 - NCB Corporate Video

Vote of Thanks by **Dr S K Chaturvedi**, Organising Secretary, 18th NCB International Conference & Exhibition

1045 to 1100 h

Inauguration of Technical Exhibition by Chief Guest

Exhibition Hall 1C

Shri Amardeep Singh Bhatia

Secretary, DPIIT, Ministry of Commerce & Industry, Government of India

1045 h to 1130 h

WELCOME GET TOGETHER

Exhibition Hall 1C

High Tea Sponsored by Fornnax Technology Pvt. Ltd

1130 h to 1300 h

PLENARY SESSION - I

Palash Hall, Grand Ball Room ABC

1130 h to 1215 h

Prof SP Shah

Presidential Distinguished Professor, University of Texas at Arlington, USA, Walter P Murphy, Professor (Emeritus) Northwestern University, USA

"Carbon Conscious Concrete and Nanotechnology"

1215 h to 1300 h

Palash Hall, Grand Ball Room ABC

Dr AK Chatterjee

Fellow, Indian National Academy of Engineering & Chairman-Conmat Technologies

"Automated' to 'Autonomous' Process for Cement Production: How Distant is the Destination?"

1300 h to 1400 h

Networking, Lunch & Poster Session I

Exhibition Hall 1C

Lunch Sponsored by Shree Cement Ltd.

1300h to 1400 h

POSTER SESSION I

Exhibition Hall 1C

Alternate/Waste Fuels & Raw Materials and Productivity Enhancement and Process Optimization

1. **Efficient RDF Feeding for Cement Plants- A Comprehensive Guide**, Bjoern Fahle. Westeria GmbH, Germany [P-140]
2. **Waste Glass - A Supplementary Cementitious Material in Cement Production**, Amit Singh. JK Lakshmi Cement Ltd. [P-150]
3. **Prepol® Step Combustor Technology for Sustainable use of Solid Alternate Fuel**, Anup Kumar Das and Uwe Mass. TKIL Industries and ThyssenKrupp Polysius, Beckum, Germany [P-243]
4. **Chemical Resistant Coatings: A Key to Unlocking Alternative Fuel and Raw Material's (AFR) full Potential in Cement Plants**, Pankhuri Sinha. Henkel Adhesives Tech. India Pvt Ltd. [P-287]
5. **Control of Refractory Properties to Improve Refractory Lining- in Scenario of AFR use in Cement Industry**, A Kumar, A K Rai and N Akhoury. Shree Cement Ltd. [P-230]
6. **Process Optimization Without HSD**, Rajneesh Sharma, Prachi Sharma and Manish Vaishnav. JK Cement Works [P-268]
7. **Clinker Production Enhancement by 2500 TPD**, Man Singh Chouhan and Anshul Mishra. JK Cement Ltd. [P-277]
8. **Calde® 360: A Breakthrough in Cement Plant Refractories Wear Management**, Santosh Upadhyay. Calderys India Refractories Ltd. [P-301]
9. **Sustainable Modernization Solutions for Cement Plant Productivity Enhancement: Case Studies**, Vikram Kancharidasu and Sitaram Sharma. Humboldt Wedag, India Pvt Ltd. [P-219]
10. **Adoptation of Technology to Enhance Refractory Life & Cost Optimisation**, Vivekkumar V K, Shyamal Roy, Sanjeev Srivastava and Raju Goyal. UltraTech Cement Ltd. [P-211]

1400 h to 1515 h

TECHNICAL SESSION – I A

Palash Hall, Grand Ballroom A

Low Carbon Cements

1. **Processed Ladle Furnace Slag-Based Composite Cement: A Comparative Evaluation (Session Keynote)**, *Jyoti and S K Singh*. Academy of Scientific and Innovative Research, CSIR-Central Building Research Institute [P-115]
2. **Employing Fly Ash in High-Volume Limestone-Calcined Clay Blends for Improved Engineering Performance**, *Abhishek Kumar, Anjaneya Dixit, Hongjian Du and Sze Dai Pang*. IIT-Roorkee & National University of Singapore [P-130]
3. **Belite Calcium Sulfoaluminate Ferrite Cement: Synthesis, Performance Evaluation & Hydration Studies**, *K Suresh, Manish Kuchya, Mohan Medhe, Bhavik Patel and Raju Goyal*. UltraTech Cement Ltd. [P-225]
4. **C/Clay – Calcined Clay and Grinding**, *A Trümer, M Reformat and L F de Pinho*. LOESCHE GmbH, Germany and Dynamis Engenharia e Comércio Ltda., Brazil [P-133]
5. **Enhancing Sustainability of OPC with Supplementary Cementitious Material**, *Dharmendra Kumar Shukla*. Jaypee University of Engineering and Technology, Guna [P-299]
6. **Studies on Development of Portland Dolomite Cement (PDC) using High MgO Limestone and Dolomitic Limestone**, *Varsha Liju, Pinky Pandey, Diksha Rana, Mamta Pawar and S K Chaturvedi*. National Council for Cement and Building Materials [IP-23]
7. **Being Sustainable Yet Competitive - Comparative Analysis of Limestone Calcined Clay Cement and Portland Pozzolana Cement**, *Neha Gupta and Shashank Bishnoi*. IIT Delhi [P-309]

1400 h to 1515 h

TECHNICAL SESSION – I B

Palash Hall, Grand Ballroom B

Cement Plant Machinery & Project Engineering -I

1. **How Feeding and Dosing Technologies Contribute to Reducing Carbon (Session Keynote)**, *Robert Krist*. FLSmidth Cement [P-204]
2. **Shutdown Maintenance Management in the Cement Industry in Project Management Way**, *Nitin Jangid, Pankaj Mathur and Tushar Khandhadia*. Udaipur Cement Works Ltd [P-127]
3. **Replacement of Old Grate Cooler with New Pendulum Type Cooler to Reduce Specific Heat Consumption and Improve Reliability**, *Hari Shankar Sharma, Vikas Kumar Singh, Amarkant Pandey, Rajiv Deshmukh, Praveen Shrivastava, Dinesh Kumar and Manish Kumar Singh*. Prism Johnson Limited [P-222]
4. **Predicting System Reliability in Cement Industry by Using Data Analysis**, *Umesh Kumar, Sagar Gulawani, Neeraj Dalal and Sanjeev Srivastava*. Aditya Birla Science and Technology Company Pvt Ltd. and UltraTech Cement Ltd. [P-229]
5. **Maximizing Solid Alternative Fuel Quality by the A TEC Rocket Mill and A TEC Flash Dryer**, *S Kern*. A TEC Production & Services GmbH, Austria [P-236]
6. **Upgradation (Revamp) of Cement Plants**, *Thomas Rajasekaran A and Shashikumar Todkar*. TKIL Industries [P-242]
7. **Sustainable Explosion Protection Concepts for Explosive Bulk Solids by Means of Explosion Venting**, *Berthold Bussieweke and Manoj Thakur*. Thorwesten Vent GmbH. Beckum, Germany and TECHCONS Consulting and Engineering [P-248]

1400 h to 1515 h

TECHNICAL SESSION – I C

Palash Hall, Grand Ball Room C

Concrete Durability, Distress Investigation, Repair & Rehabilitation

1. **Impedance Matched Cure-Monitoring and In-Situ Strength Monitoring in Concrete Structures using the Embedded Smart PZT Sensor (Session Keynote)**, *Murali Duddi and Kolluru VL Subramaniam*. IIT-Hyderabad [P-250]
2. **Potential Solution of Biogenic Sulphate Attack in Water Infrastructure Development in India**, *Nikita Majhi and Shashank Bishnoi*. IIT-Delhi [P-167]
3. **Passivation and Corrosion Properties of Passive Films Formed on Reinforcing Steels in Simulated Concrete Pore Solution**, *Malladi Bhanuprakash, V. Naveen Kumar and Prasanna Kumar Behera*. IIT-Tirupati [P-278]
4. **Effect of Period of Exposure to Fire on Mechanical Properties of TMT Bars**, *Brijesh Singh, Amit Trivedi, Amit Sagar, P N Ojha, Rohit Kumar and Amit Prakash*. National Council for Cement and Building Materials [IP-1]
5. **Effectiveness of Sacrificial Anode Cathodic Protection in Carbonation Induced Corrosion Control**, *P N Ojha, Arup Ghatak and Sanjay Mundra*. National Council for Cement and Building Materials [IP-10]
6. **High-Performance Concrete Shrinkage and Creep Properties using Industrial Waste By-Products and Their Prediction by Standard Material Models**, *Banti A Gedam*. NIT Surat [P-124]
7. **Autogenous Shrinkage in Limestone Calcined Clay Cement and Concrete, High or Low? – A Review**, *Isteeda Ikbali, Shashank Bishnoi, Vinh Dao and Vasant Matsagar*. The University of Queensland, Australia and IIT-Delhi [P-216]

1515 h to 1600 h

Networking, Tea & Poster Session II

Exhibition Hall 1C

POSTER SESSION II

Exhibition Hall 1C

Cement Plant Machinery, Project Engineering, Productivity Enhancement & Process Optimization and Energy Conservation Systems in Cement Plants & CPP

1. **In-House Development of Oversize Raw Material Extractor from Running Conveyor Belt in Vertical Raw Mill Circuit**, *Pankaj Mathur and Sanjay Singh Rathore*. Udaipur Cement Works Ltd. India [P-147]
2. **Importance of Feasibility Study for an Alternate Fuel Feeding System**, *Mitesh Bhosle, Biswajit Dhar, Milind Chande and Manoj Thakur*. Techcons Consulting and Engineering Pvt. Ltd. [P-247]
3. **Improving Turbine Heat Rate Through Steam Flow Path Modification**, *Pawan Mathur, Sunil Shah and Raju Goyal*. UltraTech Cement Ltd. [P-191]
4. **Innovative Boiler Feed Water Treatment for Energy Conservation and Boiler Reliability in TPP/WHRS**, *Pawan Mathur, Sunil Shah and Raju Goyal*. UltraTech Cement Ltd. [P-193]
5. **CFD Analysis of AQC Boiler Deduster & Ducts of Waste Heat Recovery System**, *Sachin Pawar, J V Joshi, Shyamal Roy, Sanjeev Srivastava and Raju Goyal*. UltraTech Cement Ltd. [P-209]
6. **Use of Arranging the VFD for CPP#3 Cooling Tower Fan (Initiative on saving the Energy to Wealth)**, *V Saravanan, G Sai Nitishram and D Ranga Rao*. My Home Industries Private Ltd. [P-269]
7. **Lubrication Excellence in the Cement Industry Through Total Lubrication Management**, *Nitin Jangid, Tushar Khandhadia and Pankaj Mathur*. Udaipur Cement Works Ltd. [P-126]

8. **Total Productivity Enhancement and Cost Reduction Techniques "Reduction in Preheater Dust Losses Through Modification in Twin Cyclone Inlet Area,** *Tushar Khandhadia and Kanish Kumar Singh.* Udaipur Cement Works Ltd. [P-131]
9. **Influence of Cement Grinding Temperature on Material Characteristics and Performance of Cement,** *A Kumar, D Sen, A K Rai and N Akhoury.* Shree Cement Ltd. [P-190]

1600 h to 1715 h

TECHNICAL SESSION – II A

Palash Hall, Grand Ballroom A

Alternate/Waste Fuels and Raw Materials

1. **Case Study on Alternative Fuels Utilization,** Fornnax Technology Pvt Ltd. [P-315]
2. **Alternative Fuel and Raw Material Co-Processing Experiences in Cement Plant with High Cl in Limestone,** *Keshav Katare and Chetan Raval.* Ambuja Cement Ltd., Marwar Cement Works [P-151]
3. **Innovative Interventions for Enhanced Alternative Fuel Combustion in Cement Plants,** *Sumit Nalawade, Ramesh Kunuku, Mohan Medhe and Raju Goyal.* UltraTech Cement Ltd. [P-195]
4. **A Sustainable Milestone in Cement Manufacturing by Achieving 35% Thermal Substitution Rate (TSR),** *Ujjwal Awasthi.* Aditya Cement Works (UltraTech Cement Ltd.) [P-214]
5. **Increasing Consumption of Calcium Hydroxide Sludge as an Alternative Material for Limestone,** *Vivek Gupta and Ashok Agarwal.* Shriram Cement Works: Kota [P-290]
6. **Gasifier Design for Co-processing Refuse Derived Fuel in Cement Industry,** *Prateek Sharma, K P K Reddy, Moon Chourasia, Choubey Raghav Shivkumar and Geetanjali.* National Council for Cement and Building Materials and Guru Gobind Singh Indraprastha University [IP-17]
7. **Overcoming Barriers to Alternative Fuels in the Indian Cement Industry Technology and Solutions for Enhanced Thermal Substitution Rates,** *Kiranmai Sanagavarapu* FLSmidth Cement A/S, Green Innovation [P-164]
8. **Advanced Materials Handling Solutions for Co-processing of Alternate Solid Fuels in Cement Plants,** *Luc Rieffel and Indrendra Singh.* ATS Conveyors India Pvt. Ltd. [P-120]

1600 h to 1715 h

TECHNICAL SESSION – II B

Palash Hall, Grand Ballroom B

Advances in Grinding Systems –I

1. **Optimization of Nozzle Ring in A Vertical Roller Mill by CFD-DPM Simulations and Analysis of Particle Travel,** *Sachin P, Mithun Pazhanivelu and Yubaraj Das.* UltraTech Cement Ltd. [P-197]
2. **Process & Maintenance Optimization of VRM Cement Mill for Improving Energy Consumption & Clinker Factor,** *Nagesh More and Shyamal Roy.* UltraTech. Cement Ltd. [P-213]
3. **Re-evaluating the Specific Grinding Force: An Empirical Model for Predicting Grinding Forces in Roller Press Systems,** *Niko Hachenberg and Alexander Knoch.* Humboldt Wedag GmbH, Germany [P-158]
4. **Next Generation Planetary Gearbox for VRM with Reduced Power Consumption. A Game Changer for New Builds and Retrofits,** *Daniel Gmeinwieser.* RENK GmbH, Germany [P-143]
5. **Energy-Efficient MVR Vertical Roller Mill Systems,** *Caroline Woywadt and Kunal Jain.* Gebr. Pfeiffer SE, Germany & Gebr. Pfeiffer Private Ltd., Noida, India [P-107]
6. **Slow-Speed Rollers Bearing Fault Identification and Energy Loss By Machine Doctor™ In Roller Presses,** *Smruti Sambit Mohapatra.* Nanoprecise Data Services Pvt. Ltd., Bengaluru, India [P-111]

1600 h to 1715 h

TECHNICAL SESSION – II C

Palash Hall, Grand Ballroom C

Latest Innovations & Trends

1. **A Step Ahead Towards Decarbonisation Through Blended Cement-Limestone Calcined Clay Cement (Session Keynote)**, *A Kumar, N Mishra, A K Rai and N Akhoury*. Shree Cement Ltd. [P-185]
2. **Development of Activated Biochar and its Application in Concrete**, *Sahana C M and Souradeep Gupta*. IISc Bangalore [P-251]
3. **Influence of Solid and Liquid Activators on The Performance of LD Slag-Based Composite Binder**, *S K Singh, Jyoti and Himanshu Chouhan*. CSIR-Central Building Research Institute, Academy of Scientific and Innovative Research [P-113]
4. **Innovative Utilization of Industrial Byproducts: Production of Synthetic Gypsum using Kota Stone Slurry Waste and Phospho-Gypsum**, *Sunil Sachan, P R Chaudhary, P K Bansal, Nilesh Patidar and Neelesh Soni*. Mangalam Cement Ltd. [P-245]
5. **S/Crete – Selective Concrete Recycling**, *M Reformat and A Trumer*. LOESCHE GmbH, Germany [P-134]
6. **Replacing A Hazardous Radioactive PGNAA Analyzer with A State of the Art Spectraflow NIR Online Analyzer at Tabuk Cement Plant, Saudi Arabia**, *Petra Muehlen*. SpectraFlow Analytics, Switzerland [P-171]
7. **Advancements in Shotcrete Application Technology-Cement Industry**, *Trevor Staton, Joseph Staton, Julian Gray and C Natarajan*. Sheffield Refractories Limited, Sheffield, South Yorkshire, England [P-173]

1715 h to 1800 h

Networking, Tea & Poster Session III

Palash Hall, Grand Ballroom ABC

POSTER SESSION III

Exhibition Hall 1C

Environmental Management & Sustainable Development

1. **How Predictive Maintenance Can Help Achieve Net Zero Emission Goals for Cement Manufacturers**, *Sunil Vedula Prashant Verma and Rohan Goel*. Nanoprecise Data Services Pvt. Ltd. [P-112]
2. **Low Carbon Cement: CO₂ Reduction Through Floating Solar Power Plant in Limestone Mines**, *Kanish Kumar Singh and Vikas Garg*. Udaipur Cement Works Ltd. [P-123]
3. **Reduction of Lime from Mines by Optimizing Raw Mix Design at UCWL**, *Tushar Khandhadia, D S Chundawat, Manish Kumar Samdani and Vishal Rajawat*. Udaipur Cement Works Ltd. [P-138]
4. **From Cement-Based Plasters to Gypsum-Based Plasters: Shifting Paradigms In Plaster Materials – A Life Cycle Assessment-Based Approach**, *Mathangi Lakshmi Muralidharan, Sreekavya Vadapalli and Gurulingamurthy M*. Saint-Gobain Research India [P-161]
5. **Steering Course to Net Zero Aspiration Through Key Levers Acceleration in RE, AFR & Adaption of Advance Technology – A Case Study**, *Gopal Butley, Tej Prakash Sharma, Rajiv Deshmukh, Om Prakash Verma, Dinesh Kumar and Manish Kumar Singh*. Prism Johnson Ltd. [P-208]
6. **Environment Management, Sustainability in Managing Stage of Development of Groundwater Through Artificial Recharge Techniques and Identifying Potential Recharge Zones by Using Remote Sensing and GIS**, *Vinod Shrivastava, Pravin Tiwari, G P Pandey, Rajesh Prusty, Vikky Das Manikpuri and Divyanshi Mishra*. Prism Johnson Limited [P-223]
7. **Total Productivity Enhancement and Process Optimization**, *Tanmoy Ghosal*. Mines, Aditya cement works (UltraTech Cement Ltd.) [P-271]

8. **Composite Cements. How Low Can We Go?**, *Anwesa Satapathy, Shashank Bishnoi, Martin Cyr and Thomas Wattez*. IIT Delhi, Laboratoire Matériaux et Durabilité des Constructions (LMDC), Toulouse, France and ECOCEM Materials Ltd., Paris, France [P-272]

1800 h to 1900 h

PANEL DISCUSSION – I:

Palash Hall, Grand Ballroom C

Cementing the Net Zero by 2070: Leadership Perspectives from Indian Cement Industry

Moderator:

Sh Raju Goyal, *Chief Technology and Sustainability Officer, UltraTech Cement Ltd*

Distinguished Panellists:

1. **Shri Sanjiv**, *Joint Secretary, DPIIT, Govt. of India*
2. **Shri Neeraj Akhoury**, *MD, Shree Cement Ltd.*
3. **Shri Mahendra Singhi**, *Strategic Advisor to MD & CEO, Dalmia Cement (B) Ltd*
4. **Shri M S Gilotra**, *MD, Saurashtra Cement*
5. **Shri Sukuru Ramarao**, *CEO Sanghi Industries Ltd., COO Manufacturing - Adani Cement (Ambuja & ACC)*
6. **Dr Katarina Malaga**, *RISE Research Institutes of Sweden, Sweden*
7. **Dr L P Singh**, *Director General, NCB*

1900 h to 2015 h

SPECIAL SESSION

Palash Hall, Grand Ballroom AB

Welcome Address by **Dr L P Singh**, Director General-NCB

Address by **Shri Neeraj Akhoury**

Chairman-NCB, President – Cement Manufacturers' Association, MD, Shree Cement Ltd.

Address by Guest of Honour

Shri Sanjiv

Joint Secretary, DPIIT, Ministry of Commerce & Industry, Govt. of India

Release of NCB Publications by Chief Guest:

- Compendium "The Cement Industry - India 2024"
- Publication on Alternative Fuels & Raw Materials
- Short Film on 200 Years of Journey of Cement Industry

NCB Lifetime Achievement Award for contribution in the field of Cement and Concrete Sector

Address by Chief Guest

Hon'ble Minister **Shri Piyush Goyal**

Hon'ble Minister of Commerce & Industry, Govt. of India

Vote of Thanks by **Dr S K Chaturvedi**

Organising Secretary

18th NCB International Conference & Exhibition

2030 h onwards

DINNER

Exhibition Hall 1C

Sponsored by UltraTech Cement Ltd.

Thursday, 28 November 2024

0900 h to 1030 h

TECHNICAL SESSION – III A

Palash Hall, Grand Ballroom A

Net Zero Emissions, Carbon Capture, Utilization & Storage (CCUS)

1. **Climate Neutrality for Cement and Concrete Industries in Sweden (Session Keynote)**, *Katarina Malaga and Jan Suchorzewski*. RISE Research Institutes of Sweden, Sweden [P-295]
2. **Mineral Carbonation of Artificial Lightweight Aggregates Developed from Municipal Solid Waste Incinerated Ashes Through Autoclaving Process**, *Humaira Athar, Deepika Saini, Kishor S Kulkarni, L P Singh, Usha Sharma, Srinivasarao Naik B and Madhusudhan Bolla*. CSIR-Central Building Research Institute, National Council for Cement and Building Material and IIT-Roorkee [P-144]
3. **CO₂ Sequestration Potential of Various Industrial Waste and By-Products**, *Richa Mazumder, Pinky Pandey, Giasuddin Ahamed, Sandip Gupta, Kalpana Sharma, A K Dikshit and S K Chaturvedi*. National Council for Cement and Building Materials [IP-11]
4. **Mineral Materials as Carbon-Sinks and Secondary Materials for Construction: Flipping Environmental Catastrophe to Massive Opportunities**, *J Suchorzewski, A Oliva Rivera, P Atongka Tchoffor and K Malaga*. RISE Research Institutes of Sweden, Sweden [P-294]
5. **Indian Cement Industry: Addressal to Net Zero Targets**, *Ashok Kumar Dembla and Deepti Varshney*. Humboldt Wedag India [P-155]
6. **Evaluating the Feasibility of Acceleration Carbonation Curing for Sustainable Construction**, *Akarsh Padmalal, Kishor S Kulkarni, Pradeep Rawat, and Srinivasa Rao Naik B*. CSIR-Central Building Research Institute [P-163]
7. **Carbon Capture Utilisation and Storage for Cement Industry, Considerations in Business Case Development**, *David Jayanth and Haoxin Xu*. Department of Waste-to-Energy & Carbon Capture, Ramboll [P-254]

0900 h to 1030 h

TECHNICAL SESSION – III B

Palash Hall, Grand Ballroom B

Productivity Enhancement & Process Optimization - I

1. **Future Go Green (Session Keynote)**, *Matthias Mersmann, Andre Sybon*. KHD Humboldt Wedag International AG, Germany [P-156]
2. **Clinker Cooler Analysis for Solving Chronic Problems using CFD Simulations**, *Yogesh Mirage, Jayateerth Joshi, Shyamal Roy, Sanjeev Srivastava and Raju Goyal*. UltraTech Cement Ltd. [P-205]
3. **Compressed Air & False Air Leakage Audit - A Systematic Approach for Optimization in Large Scale Integrated Cement Plants**, *K K Sharma and Ketan Goel*. Invotech Industrial Solutions Private Limited [P-145]
4. **Raw Meal Beneficiation Silica Removal from Cement Raw Meal Resulting in LSF Increase**, *Farah Diab*. Fives FCB, France [P-198]
5. **Retrofit Gas Conditioning System – Improvements by Modifications in Gas Distribution**, *Rajendran Nair*. NASEQUIP Systems Pvt. Ltd., Mumbai [P-152]
6. **Performance Improvement of Cyclone Separator Through Design Optimization using CFD Modelling**, *Shital Mone, Sagar Gulawani, Jayateerth Joshi and Sanjeev Srivastava*. Aditya Birla Science and Technology Company Pvt Ltd and UltraTech Cement [P-228]
7. **Decarbonize the Cement Industry Through Proven and Innovative Combustion Methods**, *Louis Ricci, T Suresh, Loic Giaconia and Nouredine Mechaal*. Fives Pillard / Fives Combustion System [P-175]

8. **Independent Business Review**, *Ahmar Siddiqui and Shalini Chauhan Negi*. Holtec Consulting Private Limited [P-257]

0900 h to 1030 h

TECHNICAL SESSION – III C

Palash Hall, Grand Ballroom C

Performance-Based Design & Durability of Concrete

1. **Effect of Carbonation on Properties of Red Mud Incorporated Portland Cement (Session Keynote)**, *Saranyadevi Duraisamy and Piyush Chaunsali*. IIT-Madras [P-249]
2. **Comparison of Modulus of Elasticity for Structural Light Weight Concrete using Compressometer, Linear Variable Displacement Transducer and Extensometer**, *Brijesh Singh, Shamsher Bahadur Singh, S K Barai, P N Ojha, Rohit Kumar and Puneet Kaura*. National Council for Cement and Building Materials and Birla Institute of Technology Pilani [IP-2]
3. **Condition Assessment and Strengthening of Distressed Major Bridge**, *Rajeev Goel*. CSIR-Central Road Research Institute [P-293]
4. **Influence of Cement Type and Water Cement Ratio on Performance of Nominal Mix Concrete**, *R Manikandan, A Sofi, Shaik Shakeer Ahamed and Abhishek Singh*. Dalmia Cement (Bharat) Limited and VIT, Vellore [P-142]
5. **Comparative Performance Study of Water Repellent PPC and Normal PPC in Cement Mortar and Concrete**, *Satyendra Kumar, Pravesh Kumar Sharma, Dinesh Kumar and Manish Kumar Singh*. Prism Johnson Limited [P-184]
6. **Investigation of Mechanical and Durability Performance of Concrete Made with Flyash Limestone Composite Cement**, *Puneet Kaura, P N Ojha, Brijesh Singh and Amit Trivedi*. National Council for Cement and Building Materials [IP-3]
7. **Sustainable High Performance Concrete by using Ground Granulated Blast Furnace Slag**, *JK Sharma, Dinesh Kumar, A K Rai and N Akhoury*. Shree Cement Ltd. [P-192]

1030 h to 1130 h

Networking, Tea & Poster Session IV

Exhibition Hall 1C

POSTER SESSION IV

Exhibition Hall 1C

Safety & Latest Innovation Trends and Sustainable Construction Practices

1. **Environmental Management, Sustainability, Safety and Circular Economy**, *Md Shafi and Abdul Raheem*. Baitak Cement, Kuwait [P-104]
2. **Exploring the Potential of Stubble Waste Biochar as Cementitious Composite for Sustainable Construction and Carbon Sequestration**, *Sarmad Rashid, Arpit Goyal, A B Danie Roy and Manpreet Singh*. Thapar Institute of Engg. and Technology [P-203]
3. **Green Cement Solution**, *Ondrej Kozel and Sreenadh*, Jeneč. Czech Republic, Qtar [P-232]
4. **Investigation of Formulated Chemical Admixture using by Product Lignosulfonate from Indian Paper and Pulp Industry in Concrete to Promote Circular Economy**, *Asok K Dikshit, Giasuddin Ahamed, Varsha Liju, Umashankar Soni, Sandeep Gupta and Sanjeev K Chaturvedi*. National Council for Cement and Building Materials [IP-22]
5. **β -Belite Polymorph Doped with H_3BO_3 : High Volume Synthesis & Characterization**, *Rajesh Kumar, Shashank Bishnoi and N Gopalakrishnan*. IIT-Delhi, CSIR- Central Building Research Institute [P-180]
6. **Alpha Active Radioactive Pollutants in Coal & Fly Ash**, *Krishan Kant*. Aggarwal PG College Ballabgarh, Faridabad [P-305]
7. **Innovative Concrete Solutions: Integrating Plastic Bottle Waste for Sustainable Construction**, *Sandeep S V Keskar, Vijay A S Morbale and Raju Goyal*. Central R&D, UltraTech Cement Ltd. [P-196]

8. **Effect of Silica Fume on Compressive Strength, Pore Structure and Microstructure of Foam Concrete for Non-Structural Applications**, *Arvind Vishavkarma and Kizhakkumodom Venkatanarayanan Harish*. IIT-Kanpur [P-281]
9. **Advancement in Geopolymer Concrete: A Comprehensive Study on Optimization and Design**, *BJ Arpitha and Pavithra Parthasarathy*. IIT-Kharagpur [P-170]

1130 h to 1300 h

PLENARY SESSION-II

Palash Hall, Grand Ballroom AB

1130 h to 1215 h

Prof Karen Scrivener

Professor & Head, Laboratory of Construction Materials, Department of Materials, Swiss Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland

"The role of cement hydration in decarbonising cement-based materials"

1215 h to 1300 h

Palash Hall, Grand Ballroom AB

Prof Dr-Ing. Thomas Matschei

Chair of Building Materials, Institute of Building Materials Research, RWTH Aachen University, Germany

"Binding the Future – From Calcined Clays to Extrusion"

1300 h to 1400 h

Networking, Lunch & Poster Session – V
Lunch Sponsored by Dalmia Cement (Bharat) Ltd.

Exhibition Hall 1C

POSTER SESSION V

Exhibition Hall 1C

Instrumentation, Methods and Sustainability

1. **Western Kutch, Gujarat: A Potential Future Cement Hub**, *Arun K Sharma and Pankaj Saran*. Gujarat Mineral Development Corporation Ltd. [P-117]
2. **Simple Test Methods for Calcined Clay Testing- The Need of the Hour**, *Mehnaz Dhar and Shashank Bishnoi*. IIT-Delhi [P-166]
3. **Advanced Nanomaterial Techniques for Strengthening Cement Composites**, *Mainak Ghosal*. All India Valuers Association, West Bengal Centre [P-168]
4. **Quantification of Kaolinite Content: Correlation Between Muffle Furnace and TGA Based Method**, *Rakhi Tyagi and Shashank Bishnoi*. IIT-Delhi [P-252]
5. **Economic Evaluation of Sustainable Ternary Blended Cement for a Clinker Importing Country**, *Akash Mishra, Shashank Bishnoi, Kishan Sami, Paul Rougers, Vinh Dao and Daniel M Franks*. University of Queensland, IIT-Delhi, Pacific Cement Private Limited, Suva Fiji and Collage of Science Engineering & Technology, Fiji National University, Nausori Fiji [P-265]
6. **Quantification of SCMSs in Compound Cements by XRD using the Ponkcs Method Implemented in Profex Software**, *Abhijit Sen and S Welzmilller*. Thermo Fisher Scientific, India & Switzerland [P-288]
7. **Machine to Perform Mechanical Activation of the Fly Ash and Have Required Control on Particle Size Distribution**, *SP Arya and RM Sahu*. Avadh Microfines Company [P-292]
8. **A Study on Immersion Depth Behavior of Thermal Sensors**, *P Srikanth, V Naga Kumar, Bharat Ram and Amit Trivedi*. National Council for Cement and Building Materials [IP-29]
9. **Review on Treatment Methods for Recycled Concrete Aggregate**, *Anila C Shaju, E S Poojalakshmi, Praveen Nagarajan and Blessen S Thomas*. NIT Calicut [P-194]
10. **Fourier Transform Infrared Spectroscopy of Fly Ash based Geopolymer Mixes Admixed with Iron Ore Tailings**, *Nisha M, Kanupriya Dhiman, B P Sharath and B B Das*. NIT-Surathkal and NIT-Trichy [P-280]

1400 h to 1530 h

TECHNICAL SESSION – IV A

Palash Hall, Grand Ballroom A

Special Session for Cement Chemistry - I

1. **Correlation Between Transport Properties and Permeable Pore Volume Before and After Carbonation for Blended Cements (Session Keynote)**, *Lupesh Dudi and Shashank Bishnoi*. IIT-Delhi [P-169]
2. **Phase Quantification, CO₂ Uptake in Sustainable Binders Subjected to Accelerated Carbonation**, *Shiv Sai Trivedi, B B Das and Salim Barbhuiya*. NIT Surathkal and University of East London, UK [P-136]
3. **Investigation on GGBFS-Derived Mix by using CCUs Based Accelerated Carbonation Curing**, *Himanshu Guleria, Harvir Singh and Shweta Goyal* Thapar Institute of Engineering & Technology [P-172]
4. **Reactive Potential Assessment for Efficient Utilization of Fly Ash in Alkali-Activated and Cementitious Binders**, *G V P Bhagath Singh and Kolluru V L Subramaniam*. SRM University-AP and IIT-Hyderabad [P-176]
5. **Synthesis and Characterization of High Volume M3- Alite Polymorph**, *Rajesh Kumar, Shashank Bishnoi and N Gopalakrishnan*. IIT-Delhi and CSIR-Central Building Research Institute [P-179]
6. **Impact of Silica Nanoparticles on Silicate Structure of Calcium Silicate Hydrate Gel During Early Age of Hydration** *Usha Sharma*. CSIR - Central Building Research Institute [P-235]
7. **Utilization of Low-Grade Limestone for Producing Calcium Sulfoaluminate-Belite Cement**, *Bipina Thaivalappi and, Piyush Chaunsali*. IIT-Madras [P-273]
8. **Synergistic Effects of Fiber Reinforcement and Admixture Dosage on Hydration Kinetics, Rheology and Microstructure Properties of Blended Cementitious Mortar**, *Sanjeet Kumar Mishra, Divya Waghmare, B B Das, Rajasekaran C and Salim Barbhuiya*. NIT Surathkal and University of East London, UK [P-137]

1400 h to 1530 h

TECHNICAL SESSION – IV B

Palash Hall, Grand Ballroom B

Application of AI/ML

1. **Increasing Alternative Fuel Utilization for Clinker Production by using AI/ML Algorithms (Session Keynote)**, *Prateek Sharma, KPK Reddy, Gopal Krishan Sharma, Avnish Kumar, Rajpal Singh Shekhawat and Neerav Panchal*. National Council for Cement and Building Materials, LivNSense GreenOps Pvt Ltd. and JK Lakshmi Cement [P-284]
2. **Application Of Artificial Intelligence (AI) / Machine Learning In Sustainable Cement Manufacturing**, *Amit Kumar Kanojia*. Ambuja Cement Ltd. India [P-110]
3. **Latest Innovation Trends (Use of AI for Vertical Roller Mill's Productivity Improvement)**, *Tushar Khandhadia and Kanish Kumar Singh*. Udaipur Cement Works Ltd. [P-122]
4. **The Digital Cement Plant**, *Rizwan Sabjan* FLSmidth Cement [P-233]
5. **Reducing Carbon Footprint: AI in Cement Manufacturing**, *OP Verma, Dinesh Kumar, Praveen Shrivastav, N Muthukumar and M Guruprasath*. Prism Johnson Limited and Ramco Industrial & Technology Services Limited [P-297]
6. **Artificial Intelligence for Cement Supply Chain Decision Making**, *Sanjeev Kumar*. Expansive Solutions Pvt. Ltd. [P-279]
7. **Application of AI and ML in Cement Industry for Net Zero Target**, *Shafi Ahmed Mohammed*. Baitak Cement, Kuwait [P-103]

1400 h to 1530 h

TECHNICAL SESSION – IV C

Palash Hall, Grand Ballroom C

Cement Plant Machinery & Project Engineering – II and Advances in Grinding Systems –II

1. **Clinker Cooler Efficiency & Future Cooler Technology for CO₂ Capture**, *Michael Janzer and Aqueel Ansari* CemProTec – Smart Clinker Cooling [P-260]
2. **First Success Story of National Council for Cement and Building Materials as PMC: Commissioning of Tyre Co-Processing System in Cement Plant at Oman**, *Anil Kumar Popuri, Kapil Kukreja, V Nagakumar and D K Panda*. National Council for Cement and Building Materials [IP-19]
3. **Pioneering Technology: Polysius – Clinker Cooler with Remarkable Efficiency Polytrack® Eco – Clinker Cooler with Outstanding Operating Characteristics**, *Bert Benski, Virendra Kulkarni and Ali Asgar*. Thyssenkrupp Polysius GmbH, Germany & TKIL Industries Pvt. Ltd. [P-308]
4. **Grinding and Separation Technology Advancements with Selected Case Studies**, *Tim Nowack, Manuel Muehlbacher, Rajeev Manchanda, Rishi Kumar Mishra, Veshank Tyagi and Manohar Swapnil* Christian Pfeiffer Beckum, Germany and Christian Pfeiffer New Delhi, India [P-246]
5. **Rolling out Reliability Success of Polycom (High Pressure Grinding Roll) with Studded and Compound Cast Roll Tyres**, *Stefan Diedenhofen, Vinod Wadile and Prakash Wagh*. TKIL Industries Pvt. Ltd., Pune [P-300]
6. **KHD Pyro Process: Moving Ahead with Green Steps**, *Jens Breidenbach and Anurag Johari*. KHD Humboldt Wedag, Germany and Humboldt Wedag, India Pvt Ltd. [P-218]
7. **Roller Press Technology a boon for Existing Plants to Transform into Efficient and Greener** *Venkatesh Vanam, Prakash Patil and Ashok Kumar Dembla*. Humboldt Wedag India Pvt. Ltd., India [P-314]

1530 h to 1630 h

Networking, Tea & Poster Session – VI

Exhibition Hall 1C

POSTER SESSION VI

Exhibition Hall 1C

Low Carbon Cement and Carbon Capture, Utilisation and Storage (CCU&S)

1. **Driving Decarbonization Through Adoption of High-Impact, New-Age Chemical Additives**, *Anant Pokharna, Gopala Rao Dhoopadahalli and S P Pandey*. Unisol Chemtech Ltd. [P-119]
2. **An Alternative for Low Cost Structural Concrete –An Investigation of Bentonite Clay as Partial Replacement of Cement**, *D Kumar, N Mishra, A K Rai and N.Akhoury*. Shree Cement Ltd. [P-186]
3. **Experimental Study of Phosphogypsum on Limestone Calcined Clay Cement**, *Swapnil Raj Singh, Lupesh Dudi, Neha Gupta and Shashank Bishnoi*. IIT-Delhi [P-267]
4. **Preliminary Investigation on use of Raw Marl as Partial Replacement of Cement**, *Amitkumar R Chauhan and Manu Santhanam*. IIT Madras [P-311]
5. **Green Steps to Reduce Carbon Footprint by Operational Excellence in Grinding Circuits**, *Anand Singh, Ranjeet Desai, Shyamal Roy and Raju Goyal*. UltraTech Cement Ltd. [P-212]
6. **Impact of CO₂ Injection on Fresh and Hardened Properties of Concrete**, *Brijesh Singh, Mantu Gupta, Anand Bohra, Manish Mandre, P N Ojha and Sanjay Mundra*, National Council for Cement and Building Materials [IP-5]
7. **Studies on Utilization of Industrial Waste for Carbon Capture**, *Varsha Liju, Diksha Rana, Gaurav Bhatnagar and SK Chaturvedi*, National Council for Cement and Building Materials [IP-13]
8. **Carbon Capture by Electrification of Calciner in the Cement Industry**, *Prateek Sharma, Ashish Gautam, Vinaykant and K P K Reddy*. National Council for Cement and Building Materials [IP-26]

1630 h to 1800 h

TECHNICAL SESSION – V A

Palash Hall, Grand Ballroom A

Energy Conservation Systems

1. **Indian Carbon Market – An Overview (Session Keynote)**, Sourabh Diddi. Bureau of Energy Efficiency [P-316]
2. **Energy Audit & Process Optimisation of Captive Power Plant for a Cement Plant - A Case Study**, Prateek Sharma and K P K Reddy. National Council for Cement and Building Materials [IP-16]
3. **Integrating Waste Heat Recovery with Maximum Recuperation Efficiency**, Arpan Dilipkumar Parekh, Amit Gopal, Dhuwarakesh R and Praveena Kosuri. JK Cement Ltd., IKN Engineering India Pvt Ltd. [P-146]
4. **Chasing for Every Kilowatt - A Case Study of In-House Fan Inlet Design Improvement Through CFD**, Mohammad Fazil, J V Joshi, S M Vala, Shyamal Roy and Sanjeev Srivastava. UltraTech Cement Ltd. [P-215]
5. **Combating Erosion in Cement Preheater Inline Calciner Through CFD-Driven Design Optimization**, Mohammad Fazil, Jayateerth V Joshi, Shyamal Roy, Sanjeev Srivastava and Raju Goyal. Aditya Birla Group, UltraTech Cement Ltd. [P-210]
6. **Energy Conservation and Condition Monitoring Through Innovative Ultrasound Technology**, Pawan Mathur, Sunil Shah and Raju Goyal. UltraTech Cement Ltd. [P-188]
7. **Rolling Back to Captive Power from Grid Power in Indian Cement Industry: Issues, Opportunities and Challenges**, Prateek Sharma, Kapil Kukreja, Anand Bohra and Moon Chourasia. National Council for Cement and Building Materials [IP-27]

1630 h to 1800 h

TECHNICAL SESSION – V B

Palash Hall, Grand Ballroom B

Productivity Enhancement & Process Optimisation -II

1. **Optimizing Raw Mill Operation (Session Keynote)**, Mukul Srivastava, Rajpal Singh Shekhawat and Binay Yadav. J K Lakshmi Cement Ltd. [P-259]
2. **Customized Refractory Solution of Calderys for Cement CPP and Boilers**, Somnath Pal, Rahul Mishra and Pitamber Adhikari. Calderys India Refractories Ltd. [P-302]
3. **Calderys' AFR Ready Refractories for New Age Cement Plants**, Saumen Sinha, Kaushik Das, Satwinder Singh Kalsi, Ankur Bose and Narayan Samanta. Calderys India Refractories Ltd. [P-303]
4. **Ceramic Vortex Finder: A Promising Alternative to Increase the Lifetime of Dip Tubes in the Preheater Tower when Utilizing Alternative Fuels**, Simon Kofoed-Dam, Friedemann Georg Albrecht, Lars Andersen and Pankaj Gupta. Hasle Refractories, Denmark [P-109]
5. **Development of Refractory for Lining for Burning and Transition Zone of Cement Rotary Kiln**, P Sengupta, A K Sharad and S K Agarwal. SKG Refractories Ltd. [P-129]
6. **Engineered Special Pre-Cast Refractory Solutions from Wahl-Fosbel for Critical Cement Plant Applications**, Gilles Mercier and Dipankar Banerjee. Fosbel India Pvt. Ltd. / Wahl Refractory Solutions [P-153]
7. **Evaluating the Impact of Oxygen Enrichment on Kiln Burner Flame Stability**, Basavaraj Kamanakeri, Sagar Gulawani and Sanjeev Srivastava. Aditya Birla Science and Technology Co. Pvt. Ltd. and UltraTech Cement Ltd. [P-226]

1630 h to 1800 h

TECHNICAL SESSION – V C

Palash Hall, Grand Ballroom C

Alkali Activated Concrete, 3D Printing & High Performance Concrete

1. **Performance of Structural Concrete using Electric ARC Furnace (EAF) Slag as a Fine Aggregate (Session Keynote), P N Ojha, Puneet Kaura, Brijesh Singh and Arup Ghatak.** National Council For Cement and Building Materials [IP-4]
2. **Efflorescence Free Carbonated Geopolymer Aggregates, Mohd Hanifa, Supriya, Usha Sharma, Srinivasarao Naik B, P C Thapliyal and L P Singh.** CSIR-Central Building Research Institute, Academy of Scientific & Innovative Research and National Council for Cement and Building Materials [P-128]
3. **Influence of Mix Proportions on the Engineering Properties of One-Part Alkali-Activated Composite, S K Singh, Yasmeen Qureshi, and Biswajit Pal.** CSIR-Central Building Research Institute [P-148]
4. **Fracture in Layered 3D Printed Beams: Influence of Joint Adhesion Strength, Prashant R. Singh, Spandana Paritala, Navaneeth P and K V L Subramaniam.** IIT-H, Balfour Beatty Infrastructure India Pvt. Ltd. [P-266]
5. **Production of Ready Mix Geopolymer Concrete for Construction of Demo Structure, Amit Trivedi, Rajeev Goel, Rohit Kumar, Brijesh Singh, Arup Ghatak and Rakesh Kumar.** National Council for Cement and Building Materials [IP-7]
6. **Enhancing SLS and ULS Performance of Concrete Precast Structures and Impact of Next Generation High Performance Steel Fibers in Fiber Reinforced Concrete Design and Suitable Applications, D Di Giacinto, A Kamtekar, S Desaiand, and A Kotalwar.** Bekaert Mukand Wire Industries Pvt Ltd., Pune, India [P-108]
7. **Enhancing Composite Behaviour of 3D Reinforced EPS Core Sandwich Panels in Flexure, Sohanth Tej Maganty and K V L Subramaniam.** IIT-Hyderabad [P-258]

Friday, 29 November 2024

0900 h to 1030 h

TECHNICAL SESSION – VI A

Palash Hall, Grand Ballroom A

Special Session for Cement Chemistry-II

1. **Properties of 3D-Printed Geopolymer Mortar Using Industrial Wastes (Session Keynote)**, *Srajan Prakash, Biranchi Panda, R Ganesh Narayanan and Romanbabu M Oinam*. IIT-Guwahati [P-174]
2. **Modeling of Water Absorption with an Approximate Analytical Solution For Fractal Richards Equation with Power Law Diffusivity Function**, *Mahesh Kumar, Korakuti Hanumanthu, and Kaustav Sarkar*. IIT Mandi and Bonam Venkata Chalamayya Engineering College, Odalarevu, Andhra Pradesh [P-286]
3. **Why is Calcium Carbonate Required for LC³?**, *Anuj Parashar and Vineet Shah*. Wiss, Janney, Elstner Associates, Inc., USA & Callaghan Innovation, New Zealand [P-289]
4. **Recycled Concrete Fines as a Sustainable Alternative for Cement Mortar**, *Vislavath Haripan, Ravindra Gettu, and Manu Santhanam*. IIT Madras [P-306]
5. **Estimation of Kaolinite Phase for the Quality Control of Clay by using Loss of Ignition, XRD, and DTA/TG Methods – A Comparative Study**, *Giasuddin Ahamed, G Jayachndra Naidu, Asesh Das, Ajay Kujur, Toney Moses Rajan, Richa Mazumder, Sanjeev K Chaturvedi and Lok Pratap Singh*. National Council for Cement and Building Materials [IP-25]
6. **Reaction Kinetics and Performance of High-Volume Biomass Ash-Based Binder**, *Nilakanmani Manimaran, Manu Santhanam and Piyush Chaunsali*. IIT-Madras [P-275]
7. **Influence of Fly Ash-Based Aqueous Nano-Silica on Strength and Phase Evolution in Cement Paste**, *Mude Sivaramnaik, Shubham Raj and Kolluru V L Subramaniam*. IIT-Hyderabad [P-256]

0900 h to 1030 h

TECHNICAL SESSION – VI B

Palash Hall, Grand Ballroom B

Low Carbon Cement-II and Cement Plant Machinery & Project Engineering -III

1. **Steel Making Slags - A Potential and Sustainable Raw Material for Clinker Making (Session Keynote)**, *J Suresh, Priyapratim Patra, Dilip Makhija, Jagabandhu Kole and Manoj Rustagi*. JSW Cement Ltd. [P-149]
2. **Sustainable Solutions for Cement Industry by Mitigating Carbon Emissions and Utilization of Low-Grade Limestone**, *Supriya, P Rawat, R Chaudhury, Mohd. Hanifa, U Sharma, B Srinivasarao, L P Singh and P C Thapliyal*. CSIR-Central Building Research Institute, Academy of Scientific and Innovative Research, National Council for Cement and Building Materials & Dalmia Cement (Bharat) Ltd. [P-154]
3. **Utilization of Municipal Solid Waste Incinerated Bottom Ash: A Sustainable Approach for Resource Recovery**, *Rajdeep Singh, Arshdeep Singh and Surender Kumar Verma*. Punjab Engineering College [P-106]
4. **Disaster to Success – Recovery of Opportunity Losses: A DMAIC Approach**, *Pradeep Agrawal, Pinaki Dutta, Sachin Gandhi and Rajesh Kumar*. UltraTech Cement Ltd. [P-244]
5. **An Overview on World Cement Low Carbon Practices**, *Balakrishna G and V Madhusudana Rao*. KCP Ltd. [P-231]
6. **7-Stage Preheater Working in Cement Industry: New Innovation**, *Sarada Yasarapu, Amar Kant Pandey, Dinesh Kumar and Manish Kumar Singh*. Prism Johnson Ltd. [P-221]
7. **Numerical Modelling of Reactivity and Strength Evolution of Fly Ash Based Blended Cement**, *Biswajit Pal and SK Singh*. CSIR-Central Building Research Institute [P-121]

8. **Does Less than 40% Kaolin Work for LC³**, *Rashmi Sharma, Neha Gupta and Shashank Bishnoi*. IIT-Delhi, [P-263]

0900 h to 1030 h

TECHNICAL SESSION – VI C

Palash Hall, Grand Ballroom C

Productivity Enhancement & Process Optimisation -III

1. **Distribution of Sulphur in Clinker Fired with Different Fuel Mix and Impact on its Reactivity (Session Keynote)**, *A K Singh, K Suresh, Amit Shah, Manish Kuchya and Raju Goyal*. UltraTech Cement Ltd [P-206]
2. **Enhancing Thermal Efficiency: Process Optimization of Coal Mill and Hag with Dump Slag Utilization**, *B Rama Swamy*. My Home Industries Pvt. Ltd. [P-178]
3. **Modelling of Alkali-Sulphur, Chloride Ratio Monitoring: A Key for Smooth Kiln Operation and Product Quality**, *DD Choube, A K Rai and N Akhoury*. Shree Cement Ltd. [P-187]
4. **Use of Alkanolamines as Strength Enhancer in Cement Manufacturing**, *Hardik Jain, Prakash Chandra Mathur, Ramasubramanian N and Raju Goyal*. Aditya Birla Science and Technology Co. Pvt. Ltd. and UltraTech Cement Ltd. [P-200]
5. **An Unorthodox Method to Reduce Pressure Drop by 27% in Preheater Third Cyclone**, *Mohammad Fazil, Jayateerth V Joshi, Shyamal Roy and Sanjeev Srivastava*. UltraTech Cement Ltd. [P-207]
6. **Delivering SCM_s with Large-Scale Potential in the Context of the Indian Market**, *Lars Kuur*. FLSmidth Cement, Denmark [P-182]
7. **Diagnostic Study for Corrosion of Ducts/Stacks of a Cement Plant**, *Anil Popuri, Anand Bohra, KPK Reddy, KRP Nath, Suresh Vanguri, D K Panda, V Madhusudana Rao and A V R G Bhavanarayana*. National Council for Cement and Building materials & KCP Ltd. [IP-34]

1030 h to 1130 h

Networking, Tea & Poster Session-VII

Exhibition Hall 1C

POSTER SESSION VII

Exhibition Hall 1C

Low Carbon Cement and Carbon Capture, Utilisation and Storage (CCU&S); Performance and Durability of Concrete and Smart Concrete

1. **Assessment of Cost, Energy Consumption, And CO₂ Emissions of Ultra-High Performance Geopolymer Concrete**, *Salmabanu Luhar, Maurizio Guadagnini, Kypros Pilakoutas and Ismail Luhar*. University of Sheffield, UK and Shri Jagdishprasad Jhabarmal Tibrewala University, Rajasthan [P-118]
2. **Valorisation of Hemp Biochar as a Building Material**, *Madhu Sudhan Bolla, Aakanksha Pundir and Anjaneya Dixit*. IIT-Roorkee [P-125]
3. **Creep In LC³ vs OPC : Effect of Pore Refinement**, *Amit Kumar and Shashank Bishnoi*. IIT-Delhi [P-160]
4. **Evaluation of the Influence of Aggregate Type and Paste Rheology on Concrete Printability**, *Spandana Paritala, Prashant R Singh, Sudhanshu Yadav, Shubham Raj and K V L Subramaniam*. IIT-Hyderabad [P-181]
5. **The Complex Phenomenon of Thermal Decomposition of Concrete and Why it is Important for Blended Cement?**, *Suyash Bhandaree and Shashank Bisnoi*. IIT-Delhi [P-183]
6. **Durability Concerns in Alkali Activated Low Calcium Fly Ash: Influence of Sodium Content on Chloride Ion Penetration**, *Mude Hanumananaik and K V L Subramaniam*. IIT-Hyderabad [P-202]
7. **Mechanical Properties of High-Performance Concrete Utilizing Steel and Polypropylene Fibers**, *Aditya Milmile, Rajesh Kumar and Banti A Gedam*. CSIR-Central Building Research Institute, VNIT-Nagpur, Academy of Scientific and Innovative Research and NIT Surat [P-224]

8. **Durability Study of Rice Husk Biochar Incorporated CO₂ Sequestered Cementitious Materials**, *Rachit Agarwal, Shweta Singh, Kanak Mishra, Humaira Athar, Srinivasarao Naik B.* CSIR - Central Building Research Institute [P-240]
9. **Comparative Study Between the use of Conventional Retarders and Slump Extenders in Self-Compacting Concrete using Limestone Calcined Clay Cement**, *Ashirbad Satapathy, Shashank Bishnoi, Pascal Boustingorry, Marie Teinturier and Vanessa Kocaba.* IIT-Delhi and Chryso Saint-Gobain, France [P-255]

1130 h to 1300 h

TECHNICAL SESSION – VII A

Palash Hall, Grand Ballroom A

Environmental Management, Sustainable Development & Safety

1. **Advancing Sustainability in Mining: Innovative Approaches and Practices for A Greener Future** *M R Raja Ranjith Singh, D Johnson, B Bharathi, K Vinayagamurthi and Jai Prakash Vрати.* Dalmia Cement (Bharat) Ltd. [P-162]
2. **Utilization of By-Product Phosphogypsum as an Alternative Source of Mineral Gypsum in Cement Manufacturing in Favour of Circular Economy**, *Giasuddin Ahamed, Diksha Rana, G Jayachandra Naidu, Asok Kumar Dikshit, Toney Moses Rajan, Sanjeev K Chaturvedi and Lok Pratap Singh.* National Council for Cement and Building Materials [IP-24]
3. **Unlocking Long-Term Value in Cement Operations: A Comprehensive Approach to Plant Health Assessments**, *VVGK Gokhale, Shyam S Chaurasia, Raj Shekher Janapareddy, Ashwani Pahuja, PVR Murty and Sharad Nema.* NextCem Consulting [P-310]
4. **A Complete System Solution for a Kiln Baghouse in a Cement Plant**, *Dilip Sakhpara, Rushabh Sakhpara and Rahul Virkar.* Maxtech Industries LLP [P-135]
5. **Successful Conversion of Electrostatic Precipitator into Bag Filters**, *Mansi Garg.* Intensiv-Filter Himenviro Technology GmbH, Velbert, Germany [P-270]
6. **NO_x and Energy Reduction Plan Through Plant Optimization & Innovation**, *NS Rao and Jitendra Kumar Nayak.* My Home Industries Private Ltd. [P-237]
7. **Best EHS Initiatives & Best Practices in Safety, Environment and Health**, *N Srinivasa Rao, N Venu Naidu, P Suryanarayana and A Nagaraju.* My Home Industries Private Ltd. [P-238]

1130 h to 1300 h

TECHNICAL SESSION – VII B

Palash Hall, Grand Ballroom B

Instrumentation, CSR Initiatives & Project Management

1. **Empowering the Future: How India's Startup Ecosystem is Shaping the Innovation Landscape in India (Session Keynote)** StartUp India, DPIIT [P-317]
2. **Analytical Approach on NCR and its Nearby Zone Fly Ash by Mineralogical and Physico-Chemical Characterization**, *J Singh, D Sen, N Mishra, A K Rai and N Akhoury.* Shree Cement Ltd. [P-189]
3. **Role of Development of Plant Specific Secondary Standards for XRF Analysis of Materials in Cement Industry**, *Suresh Vanguri, G Prasad, A Sushmitha, P Janardhan, V Rama, B Panduranga Rao and SK Chaturvedi.* National Council for Cement and Building Materials [IP-12]
4. **Strategy to Establish an Incubation Centre in 100 Days: A Case Study of National Council for Cement and Building Materials**, *Kapil Kukreja, Giasuddin Ahamed, Arup Ghatak and L P Singh.* National Council for Cement and Building Materials [IP-20]
5. **Development of Clinker Standard Materials Through X-Ray Diffraction Methodology for Calibration using Samples from Different Regions of India**, *Asok K Dikshit, Giasuddin Ahamed, Jitendra Singh and Sanjeev K Chaturvedi.* National Council for Cement and Building Materials [IP-21]

6. **Development of Ground Granulated Blast Furnace Slag CRM for Scientific and Industrial Application**, *S K Shaw, V Naga Kumar, A Agnihotri and Amit Trivedi*. National Council for Cement and Building Materials [IP-28]
7. **Project Management & Execution Challenges for Setting up a Cement Plant in Emerging African Countries**, *Saurabh Bhatnagar, Kapil Kukreja, D K Panda, P R Rao, Kunal Reddy, Gabriel ITOUA*. National Council for Cement and Building Materials, Promac Engineering Industries Limited, India and Embassy of The Republic of Congo in India [IP-30]
8. **Property Assessment During the Early Age Hydration of Alkali Activated Binders Using Embedded PZT Sensors**, *Murali Duddi¹, Amarteja Kocherla and Kolluru V L Subramaniam*. New York University Abu Dhabi, UAE and IIT Hyderabad [P-313]

1130 h to 1300 h

TECHNICAL SESSION – VII C

Palash Hall, Grand Ballroom C

Sustainable Aggregates, Binders and Geopolymer Concrete

1. **Load Test of an In-Situ Reinforced Alkali Activated Concrete Structure – A Case Study (Session Keynote)**, *Amit Trivedi, Brijesh Singh, P N Ojha, Arup Ghatak, Rohit Kumar, Lopamudra Sengupta and Abhijeet Landage*. National Council for Cement and Building Materials, Research Scholar RCGSIDM-IIT Kharagpur and JSW Cement Limited [IP-8]
2. **Use of Indian Municipal Solid Waste Incineration Ash for High-Volume Fine Aggregate Replacement in Cement-Mortar**, *Anvi Agarwal and Anjaneya Dixit*. IIT-Roorkee [P-132]
3. **Enhancing Performance of Lightweight Expanded Clay Aggregates using Fly Ash and Silica Fume Coatings**, *Sandeep Kumar, Sze Dai Pang and Anjaneya Dixit*. IIT-Roorkee and National University of Singapore [P-141]
4. **Performance Evaluation of High-Volume Fly Ash Concrete Mixes Prepared with Construction and Demolition Waste Aggregates**, *Someen Khute, Supriya More, K Suresh and Raju Goyal*. UltraTech Cement Ltd. [P-201]
5. **Durability Performance of Carbon-Cured Cementitious Materials with Different Pre-Curing Durations**, *Vootukuri Charitha and Meenakshi Sharma*. IIT Hyderabad [P-312]
6. **Evaluation of Biochar as a Potential Additive in Concrete to Lower its Carbon Footprint**, *K S T Chopperla, R Akhil, K Bharadwaj, A Kumar, A K Jha and R Susmita*. IIT Gandhinagar, IIT Delhi, IISc Bangalore, NIT Trichy and NIT Jamshedpur [P-296]
7. **Investigation of Early Compressive Strength of LD-Slag Based Geopolymer Concrete**, *Daud Ahmad, Jyotirmoy Mishra, Syed M Mustakim, Indu Siva Ranjani Gandhi*. CSIR-IMMT-Bhubneshwar, IIT Guwahati and Veer Surendra Sai University [P-282]

1300 h to 1400 h

Networking, Lunch & Poster Session-VIII

Exhibition Hall 1C

Lunch Sponsored by Adani Group (Cement Business)

POSTER SESSION VIII

Exhibition Hall 1C

Performance and Durability of Concrete and Use of Alternate Aggregates & Geopolymer Concrete

1. **Efficacy of Co-Calcined Red Mud with Kaolin Clay to Develop Low Carbon Cementitious Material**, *Nikhil Sanjay Nighot, Rajesh Kumar and Srinivasarao Naik B*. Central Building Research Institute, Academy of Scientific and Innovative Research [P-261]
2. **Mixing Protocols for Ternary Cement Blends to Assess the Strength Property**, *Vikash Kushawah, Neha Gupta and Shashank Bishnoi*. IIT Delhi [P-264]
3. **Correlating Early Age Strength of Various LC³ Compositions with Heat of Hydration**, *Aastha Singh, Suhail Ahmed Baba, Shashank Bishnoi, Mehran Movahedrad and Amith Kalathingal*. IIT Delhi and Holcim Innovation Centre, Lyon, France [P-276]

4. **Influence of Prolonged Curing on the Strength Characteristics of Binary and Ternary Blended Reinforced Cementitious Concrete**, *Sumukh E P, Sharan Kumar Goudar, Naresh K, Jagadeeswara Reddy C and B B Das*. NIT Surathkal and NIT Calicut [P-283]
5. **Factors Affecting Slump - An Important Property of Concrete**, *R P Shinde*. Manikgarh Cement and Ultratech Cement Ltd. [P-304]
6. **Comparison of Internally Applied Vs Externally Applied Waterproofing Approaches for Concrete Structure**, *P N Ojha, Rizwan Anwar, Puneet Kaura, Arup Ghatak, Nikhil Kaushik and Nitin Chowdhary*. National Council for Cement and Building Materials [IP-6]
7. **Influence of Green Reagent on Enhancing Recycled Aggregate Mortar Properties**, *Santha Kumar G, S K Singh, P K Saini*. CSIR-Central Building Research Institute [P-114]
8. **Rheological Characterization and Structural Recovery of LC³ Mortars for 3D Printing Applications: A Comparative Study with OPC**, *A K Khare, A Satapathy, S Bishnoi and P Vangla*. IIT Delhi [P-274]
9. **Effect of Silica Fume, Flyash and Viscosity Modifying Admixture on Properties of 3D Printable Concrete**, *Amit Trivedi, Brijesh Singh, Manish Mandre, Rohit Kumar and P N Ojha*. National Council for Cement and Building Materials [IP-9]

1400 h to 1445 h

PLENARY SESSION-III

Palash Hall, Grand Ballroom A

Mr Christophe Levy

Scientific Director, Holcim Innovation Center, Lyon, France

"Innovation at Holcim, an industrial point of view about progressively tackling the challenges for cementitious materials players: reaching Zero CO₂ emissions and Zero natural resources"

1445 h to 1540 h

PANEL DISCUSSION – II

Palash Hall, Grand Ballroom A

Transforming Indian Standards to Performance Based Durability Design of Concrete Structures

Moderator

Prof Shashank Bishnoi, Professor, Department of Civil Engineering, IIT Delhi

Distinguished Panellists:

1. **Dr V Ramachandra**, *President, ICI & UltraTech Cement Ltd*
2. **Dr S K Agrawal**, *Executive Director, BMTPC*
3. **Prof K V L Subramaniam**, *IIT-Hyderabad*
4. **Dr Jagabandhu Kole**, *Head (R&D), JSW Cement*
5. **Prof S K Singh**, *Chief Scientist, CSIR-CBRI*
6. **Shri Shailendra Sharma**, *Ex-DG, CPWD*
7. **Shri P N Ojha**, *Joint Director, NCB*

1540 h to 1630 h

CONCLUDING SESSION

Palash Hall, Grand Ballroom A

Address & Highlights of 18th NCB International Conference by **Dr L P Singh**, Director General-NCB

Address by **Shri Mahendra Singhi**

Strategic Advisor to MD & CEO, Dalmia Cement (Bharat) Ltd.

Industry Feedback

Address by Guest of Honour **Shri Sanjiv**

Joint Secretary, DPIIT, Ministry of Commerce and Industry, Govt. of India

Valedictory Address by Chief Guest

Ms Arti Bhatnagar

Additional Secretary & Financial Adviser, DPIIT, Ministry of Commerce & Industry, Government of India

Release of BND and NCB Guide Norms by **Chief Guest**

Distribution of National Awards and Best Paper Awards by **Chief Guest**

Vote of Thanks by **Dr S K Chaturvedi**

Organising Secretary, 18th NCB International Conference & Exhibition

1630 h onwards

High Tea and Farewell Get-together

Sponsored by J K Cement Ltd. and Star Cement Ltd.