Programme Brief

26th Nov	Day 1 27th November 2024	Day 2 28th November 2024	Day 3 29th 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**
			Panel Discussion II on Transforming Indian Standards to Performance - Based Durability Design of Concrete Structures ***Palash Hall GBR*** **14:45 – 15:40 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**	**Concluding Session** ***Palash Hall GBR*** **15:40 to 16:30 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**	**Farewell Get-together** ***Exhibition Hall 1C*** **16:30 onwards**
	Networking, *Tea* & Poster Session III ***Palash Hall GBR ,*** **17:15-18:00**		
	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 S P 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 A K 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 Ikbal, 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: CO_2 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. **CO_2 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 Noureddine 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,** *J K 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,** *B J 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 **Exhibition Hall 1C**
Lunch Sponsored by Dalmia Cement (Bharat) Ltd.

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 Welzmiller.* 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,** *S P Arya and R M 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, CO_2 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 CO_2 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 CO_2 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 S K 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 LC^3?**, *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 Lossess: 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 S K Singh.* CSIR-Central Building Research Institute **[P-121]**

8. **Does Less than 40% Kaolin Work for LC^3**, *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**, *D D 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 CO_2 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 LC^3 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 CO_2 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 Vrati.* 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 Jayachnadra 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, P V R 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. **NOx and Energy Reduction Plan Through Plant Optimization & Innovation,** *N S 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 S K 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, Giassuddin 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 LC^3 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 LC^3 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 CO_2 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.