

**National Council for Cement and Building Materials
Centre for Construction Development and Research**

**Research Papers Published/Presented in Journal/Book Chapter/Seminars/Conferences/
Workshops**

Papers Presented in Journals, Workshops, Seminars and Conferences (1 April 2022 - 31 March 2023)

The following papers were contributed / presented by NCB experts to / in different National and International Journals, Conferences, Seminars and Workshops:

A. Papers Published in Journal

1. P N Ojha, Sumit Kumar, Puneet Kaura, Brijesh Singh and Pranay Singh, Experimental Investigation On Effect Of Corrosion On Curvature-Ductility Relationship Of RCC Member In Flexure, Journal of Building Materials & Structures, **April 2022**
2. P N Ojha, Puneet Kaura and Brijesh Singh, Durability Design of Reinforced Concrete Structures- National & International Scenario, CE&CR Magazine, **April 2022**
3. Amit Trivedi, P N Ojha, Abhishek Singh, Brijesh Singh, Shivang Bansal and Lopamudra Sengupta, Experimental Investigations On Mechanical Properties Of Normal And High Strength High Calcium Geopolymer Concrete, Journal of Asian Concrete Federation, **June 2022**
4. Sanjay Mundra, TVG Reddy, Nitesh Kumar, Shivang Bansal & P N Ojha, A Case Study on Condition Assessment of Fire-Damaged RC Members of Turbo- Generator, Journal of Asian Concrete Federation, **June 2022**
5. P N Ojha, Brijesh Singh, Pranay Singh, Abhishek Singh and Manish Kumar Mandre, Study on effect of fly ash and limestone powder on compressive strength of roller compacted concrete for dam construction, Journal of Asian Concrete Federation, **June 2022**
6. Manjunath Pagadala, Sanjay Mundra & Shivang Bansal, Corrosion monitoring techniques for concrete in corrosive environments, Corrosion Reviews, **July 2022**
7. Brijesh Singh, P N Ojha, V V Arora, Pramod Narayan & Vikas Patel, Assessment of Material Properties of Concrete Gravity Dam-An Indian Case Study, Dam Engineering Journal, **August 2022**
8. P N Ojha, Pranay Singh, Brijesh Singh, Abhishek Singh, Amit Prakash, Amit Sagar, Stress-strain characteristics and energy absorption analysis of Construction and demolition waste recycled aggregate concrete in compression, **August 2022**
9. P N Ojha, Puneet Kaura, Suresh Kumar, Hardik Jain, Brijesh Singh, Piyush Mittal, Design Of Low Carbon High Performance Concrete Incorporating Ultrafine Materials, Sustainable Structures and Materials, **September 2022**
10. Abhishek Singh, Brijesh Singh, P N Ojha, Amit Trivedi and Pranay Singh, Flexural And Fracture Performance Of Geopolymer Concrete Cured Under Ambient Condition, CE&CR Magazine, **September 2022**

11. P N Ojha, Pranay Singh, Brijesh Singh, Abhishek Singh, Amit Sagar and Ravi Yadav, Statistical Characteristics of compressive strength of Normal & High strength concrete and concrete made with recycled aggregate, Revista Ingeniería de Construcción RIC Chillee, **December 2022**
12. P N Ojha, Brijesh Singh, Pranay Singh, Abhishek Singh, Piyush Mittal, Experimental Determination Of Stress-Strain Characteristics Of Very High Strength Unconfined Concrete In Compression Including Comparison With Normal And High Strength Concrete, Revista Ingeniería de Construcción RIC Chillee, **December 2022**
13. R Anwar, P N Ojha, Arup Ghatak, Brijesh Singh & V P Chatterjee, Investigation Of Overburden Causing Rock Fall Near Nathpa Dam And Bhaba Tail Race Diversion Tunnel Pump House– A Case Study, Dam Engineering, **December 2022**
14. P N Ojha, Pranay Singh, Brijesh Singh, Empirical Equations For Prediction Of Split Tensile And Flexural Strength Of High Strength Concrete Including Effect Of Steel Fiber, Research on Engineering Structures and Materials, **February 2023**
15. P N Ojha; Pranay Singh; Brijesh Singh; Abhishek Singh, Fracture behavior of hybrid fiber reinforced Normal strength and High strength concrete: comparison with Plain and steel fiber reinforced concrete, Research on Engineering Structures and Materials, **February 2023**
16. PN Ojha, Puneet Kaura, B N Mohapatra & Brijesh Singh, Management And Classification Of Construction And Demolition Waste In India, Sustainable Structures and Materials, **February 2023**
17. P N Ojha, Abhishek Singh, Brijesh Singh, Subhadra Sen, Studies on PSC made with composite slag (mix of BF and LD slag), ACI Materials Journal, **February 2023**
18. B N Mohapatra, P N Ojha, Suresh Palla, S K Chaturvedi, GJ Naidu and Brijesh Singh, Investigation And Optimization Of Cement Properties For Lower Water Demand And Higher Workability, CE&CR Magazine, **February 2023**
19. P N Ojha, Pranay Singh, Brijesh Singh, Abhishek Singh, Ajay, Amit Sagar, Experimental and FEM analysis for Fracture performance evaluation of Concrete made with recycled construction and demolition waste aggregates, Periodica Polytechnica Journal, **March 2023**
20. Puneet Kaura, P N Ojha & Brijesh Singh, Performance of High volume fly ash concrete in structural application, Journal of Building Materials & Structures, **March 2023**

B. Papers Presented in Workshops, Seminars and Conferences

1. P N Ojha, Brijesh Singh, Abhishek Singh, Puneet Kaura, B N Mohapatra, Valorization Strategy For Utilisation Of Ash Generated From Thermal Power Plants In India, "Valorisation of Fly Ash and Steel Slag: Challenges, Innovations, and Future Trends"22-23 Sept 2022 at Beldih Club, Jamshedpur, India
2. P N Ojha, Abhishek Singh, Brijesh Singh, Puneet Kaura, B N Mohapatra, Current Trends and future utilization potential of iron and steel slag in cement and construction industry, "Valorisation of Fly Ash and Steel Slag: Challenges, Innovations, and Future Trends"22-23 Sept 2022 at Beldih Club, Jamshedpur, India

3. P N Ojha, Brijesh Singh, Abhishek Singh & Suresh Kumar, Material Selection & Quality Requirements for Repair of Abrasion And Erosion Damaged Hydraulic Structure, International Conference on Dam Safety being organized by INCOLD at Jaipur, 10-12 October, 2022 Jaipur, India
4. P N Ojha, Brijesh Singh, Abhishek Singh, Amit Sagar, Amit Prakash & Ravi Yadav, Comparison Of Creep Coefficient Of Normal, High And Ultra-High Performance Concrete, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India
5. Brijesh Singh, P N Ojha, Amit Sagar, Abhishek Singh, Pranay Singh & Ravi Yadav, Effect Of Curing Regime On Compressive Strength Of Ultra-High Strength Concrete, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India
6. Manish Mandre, Brijesh Singh, Amit Trivedi, P N Ojha, B N Mohapatra, Mix Optimization For Development Of 3D Printed Concrete, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India
7. Amit Trivedi, Brijesh Singh, Abhishek Singh, P N Ojha, Dinesh Kumar, Shear Behaviour of Reinforced Alkali Activated Slag and Fly ash Concrete under Ambient Curing: Comparison with OPC based concrete, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India
8. Rizwan Anwar, P N Ojha, Nitin Chowdhary, Brijesh Singh, Adarsh Kumar NS, Condition Assessment Of Reinforced Concrete Members Of A Fire Damaged Structure – A Case Study, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India
9. P N Ojha, Abhishek Singh, Brijesh Singh, Amit Trivedi & Puneet Kaura, Recent Research On Iron, Steel, Copper And Ferrochrome Slag For Utilization In Construction Industry, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India
10. B N Mohapatra, S K Chaturvedi, P N Ojha, Brijesh Singh, Anand Bohra, Role of carbon capture and utilisation (CCU) for decarbonisation of Cement Industry, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India
11. Puneet Kaura, P N Ojha & Hardik Jain, Mechanical And Durability Performance Of Portland Limestone Cement (PLC) Made With Intergrinding Having High Fineness Limestone In Concrete, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India
12. Arup Ghatak, P N Ojha, Sanjay Mundra & Rizwan Anwar, Review Of Design Considerations For Cathodic Protection & Case Study Of Design Of CP With Galvanic Anodes For Reinforced Concrete, 17th NCB International Conference on Cement, Concrete and Building Materials, 6-9 December 2022, Manekshaw Centre, New Delhi, India

13. Brijesh Singh, P N Ojha & Puneet Kaura, Assessment Of Mechanical Properties And Microstructural Investigation Of Concrete For Aged Dams, CSIR-CBRI: National Workshop and Exhibition on Innovative & Sustainable Construction Materials & Technologies (ISCMT2023), New Delhi, 6 January 2023, India
14. Brijesh Singh, P N Ojha, Amit Sagar & Abhishek Singh, Influence Of Mixing Procedure And Curing Regime On Compressive Strength Of Normal Strength And Reactive Powder Concrete, CSIR-CBRI: National Workshop and Exhibition on Innovative & Sustainable Construction Materials & Technologies (ISCMT2023), New Delhi, 6 January 2023, India
15. Puneet Kaura, P N Ojha & Brijesh Singh, Impact of mechanical treatment on properties and performance of coarse recycled aggregate, CSIR-CBRI: National Workshop and Exhibition on Innovative & Sustainable Construction Materials & Technologies (ISCMT2023), New Delhi, 6 January 2023, India.

(Financial Year 1 April 2021 to 31 March 2022)

A. Papers Published in Journal

1. Vikas Patel, Brijesh Singh, P N Ojha & Sahara Adhikari: *Mechanical Properties of Polypropylene Fiber Reinforced Concrete under Elevated Temperature*, **Journal of Architectural Environment & Structural Engineering Research**, April 2021
2. P N Ojha, Suresh Kumar, Abhishek Singh, Brijesh Singh & B N Mohapatra: *Alkali Aggregate Reactivity Evaluation of Aggregates for Application in Indian Concrete Dam*. **Dam Engineering Journal**, May 2021
3. P N Ojha, Amit Trivedi, Brijesh Singh, Adarsh Kumar NS, Vikas Patel & R K Gupta: *High Performance Steel Fiber Reinforced Concrete – for Repair in Spillways of Concrete Dams*. **Research on Engineering Structures & Materials**, May 2021
4. P N Ojha, Brijesh Singh, Puneet Kaura & Abhishek Singh: *Light Weight Geopolymer Flyash Sand; an Alternative to Fine Aggregate for Concrete Construction*. **Research on Engineering Structures & Materials**, May 2021
5. P N Ojha, Abhishek Singh & Brijesh Singh: *Experimental Investigations on Substitution of Natural Sand in Concrete with Copper Slag and Blast Furnace Slag*, **Asian Concrete Federation Journal**, June 2021
6. P N Ojha, Brijesh Singh, Adarsh Kumar NS, Abhishek Singh & Vikas Patel: *A Case Study on Deterioration Assessment and Rehabilitation of Fire Damaged Reinforced Concrete Structure*. **Journal of Building Materials & Structures**, May 2021
7. Satish Sharma, V V Arora, P N Ojha, Brijesh Singh, Vikas Patel, Adarsh Kumar NS: *Use of Bottom ash as Part Replacement of Sand for making Concrete Blocks*. **Journal of Building Materials & Structures**, June 2021
8. Arup Ghatak, P N Ojha, Brijesh Singh, Abhishek Singh, T V G Reddy & B N Mohapatra: *Assessment of a Fire Damaged Reinforced Concrete Building*, **Asian Concrete Federation Journal**, June 2021.
9. P N Ojha, Brijesh Singh & Ashok Kumar Behera: *Sintered Fly Ash Light Weight Aggregate-its Properties and Performance in Structural Concrete*. **Indian Concrete Journal**, June 2021
10. V V Arora, Brijesh Singh, Vikas Patel & Amit Trivedi: *Evaluation of Modulus of Elasticity for Normal and High Strength Concrete with Granite and Calc-Granulite Aggregate*. **FIB Structural Concrete Journal**, July 2021

11. P N Ojha, Abhishek Singh, Vikas Patel, Brijesh Singh, Rahul Das, B N Mohapatra: *Experimental Investigation on Thermal Properties of Mass Concrete for Dam Construction*. **Dam Engineering Journal**, July 2021
12. Amit Trivedi, P N Ojha, V V Arora, Brijesh Singh, Abhishek Singh, Shivang Bansal & Vaibhav Chawla: *Design and Construction of Low Traffic Volume Concrete Roads using Construction and Demolition Aggregates*. **Sustainable Structures and Materials**, November 2021
13. Vikas Patel, Brijesh Singh, P N Ojha & Amit Sagar: *Case Study on Quality Assurance System in Construction*. **Sustainable Structures and Materials**, November 2021.
14. P N Ojha, V V Arora, Amit Trivedi, Abhishek Singh, Brijesh Singh & Nikhil Kaushik: *Experimental Investigations on Use of C&D Waste as an Alternative to Natural Aggregates in Concrete*. **Sustainable Structures and Materials**, November 2021
15. Brijesh Singh, P N Ojha, Amit Trivedi, Vikas Patel and V V Arora: *Development of Empirical Equations for Prediction of Flexural and Split Tensile Strength for Normal and High Strength Concrete with Granite and Calc-Granulite Aggregate*. **Indian Concrete Journal**, November 2021
16. Brijesh Singh, P N Ojha, Vikas Patel, Amit Trivedi, & Abhishek Singh: *Empirical equation and experimental validation of shear parameters for high strength concrete (HSC)*. **Journal of Asian Concrete Federation**, December 2021
17. P N Ojha, Puneet Kaura, Brijesh Singh, Y N Daniel & Nitesh Kumar: *Evaluation of Polymer Modified Mortar and Bonding Agent for Structural Repair*, **Journal of Asian Concrete Federation**, December 2021
18. P N Ojha, Suresh Kumar, Manish Mandre, Piyush Mittal, Brijesh Singh, V V Arora: *Empirical Equation for Concrete Made With PPC or OPC with Fly Ash by Accelerated Mix Design Method*. **Journal of Building Materials & Structures**, December 2021
19. Vikas Patel, Brijesh Singh, P N Ojha, B Pandu Ranga Rao and Amit Sagar: *Impact of ISO: 17020 for Quality Assurance System in Construction Sector*. **Journal of Building Materials & Structures**, December 2021
20. P N Ojha, Abhishek Singh, Brijesh Singh and Vikas Patel: *Mechanical and durability properties of cement mortar and concrete reinforced with glass micro fibre*. **Research on Engineering Structures & Materials**, December 2021
21. Brijesh Singh, Vikas Patel, P N Ojha, Amit Trivedi, VV Arora: *Experimental Shear Study on Reinforced High Strength Concrete Beams Made Using Blended Cement*. **Journal of Architectural Environment & Structural Engineering Research**, January 2022
22. P N Ojha, Pranay Singh, Brijesh Singh, Abhishek Singh & Piyush Mittal: *Fracture behavior of plain and fiber-reinforced high strength concrete containing high strength steel fiber*. **Research on Engineering Structures & Materials**, February 2022
23. P N Ojha, Brijesh Singh, Shivam Prakash, Pranay Singh, Manish K Mandre and Suresh Kumar: *Effect of high ratio fly ash on roller compacted concrete for dam construction*. **Research on Engineering Structures & Materials**, February 2022
24. P N Ojha, Amit Sagar, Brijesh Singh, Harish Sharma and Pranay Singh: *Temperature Control and Monitoring For Mass Concrete in Raft under Hot Weather Condition – An Indian Case Study*. **Sustainable Structures and Materials Journal**, March 2022

B. Book Chapter

1. P N Ojha, Brijesh Singh, Puneet Kaura & Rajeev Satyakam (NTPC NETRA): *As utilization strategy in India Away forward*. (**Advances in Sustainable Materials and Resilient Infrastructure**) **Springer Transactions in Civil and Environmental Engineering**, PP-145-151, March 2022.

2. T V G Reddy, P N Ojha, Brijesh Singh, Rizwan Anwar & Vikas Patel: *Condition Assessment and Repair Strategy for RCC Chimney of Thermal Power Plant Station located in Semi-Arid Region in India. (Advances in Sustainable Materials and Resilient Infrastructure) Springer Transactions in Civil and Environmental Engineering*, PP-279-296, ISBN-978-981-16-9743-2, March 2022

C. Paper Published in Seminar/Conferences

1. P N Ojha, Puneet Kaura & B N Mohapatra: *C&D Waste Management and Circularity – Policy Framework and R&D Integration in India, 11th International Conference on Sustainable Waste Management & Circular Economy and IPLA Global Forum 2021*, December 2021

(Financial Year 1 April 2020 - 31 March 2021)

A. Papers Published in Journal

1. P N Ojha, Abhishek Singh, Brijesh Singh, Vikas Patel: *Experimental investigation on use of ferrochrome slag as an alternative to natural aggregates in concrete structures. Research on Engineering Structures & Materials, March 2021*
2. P N Ojha, Brijesh Singh, Abhishek Singh & Vikas Patel: *Experimental Study On Creep & Shrinkage Behaviour Of High Strength Concrete For Application In Pre-stressed Concrete And High Rise Buildings. Indian Concrete Journal February 2021*
3. P N Ojha, Brijesh Singh, Abhishek Singh & Vikas Patel: *Comparison of Creep Models and Experimental Verification of Creep Coefficients for Normal and High Strength Concrete. Asian Concrete Federation Journal December 2020*
4. P N Ojha, Amit Trivedi, Brijesh Singh, Abhishek Singh & B N Mohapatra: *Evaluation of Mechanical and Durability Properties of Concrete Made With Indian Bottom Ash as Replacement of Fine Aggregate. Asian Concrete Federation Journal December 2020*
5. P N Ojha, Suresh Kumar, Brijesh Singh: *Pervious Concrete, Plastic Concrete & CLSM-A special Application Concrete Journal of Building Materials & Structures November 2020*
6. P N Ojha, Puneet Kaura, Piyush Mittal: *Performance evaluation of organic bipolar corrosion inhibiting admixture. The Indian Concrete Journal, November 2020*
7. Vikas Patel, Brijesh Singh, P N Ojha and B N Mohapatra: *Effect on mechanical properties and stress strain characteristics of normal and high strength concrete at elevated temperature. Journal of Building Materials & Structures October 2020*
8. Brijesh Singh, P N Ojha, V V Arora, Pramod Narayan & Bikram K Patra: *Material Properties Investigation and Finite Element Analysis of Idukki Dam in India. Dam Engineering Journal August 2020*
9. P N Ojha, Suresh Kumar, Brijesh Singh and B N Mohapatra: *Case Studies on Laboratory Evaluation and Repair of Concrete Dams in Himalayan Regions of India Using High Performance Concrete. Dam Engineering Journal July 2020*
10. Lalit Yadav, Amit Trivedi, V V Arora, B N Mohapatra: *Case Study on Field trials of developed geopolymers (Slag and Flyash Based) Precast Paver Blocks. Indian Concrete Journal July 2020*
11. P N Ojha, Piyush Mittal, Abhishek Singh, Brijesh Singh & V V Arora: *Optimization and Evaluation of Ultra High Performance Concrete. Asian Concrete Federation Journal, June 2020*

12. Brijesh Singh, Vikas Patel, P N Ojha & V.V Arora: *Analysis of Stress Block Parameters for High Strength Concrete*. **Asian Concrete Federation Journal June 2020**
13. VV Arora, Puneet Kaura, Piyush Mittal, B N Mohapatra: *Performance assessment of concrete made with ternary cementitious blends against chloride ingress and CO₂ ingress*, **CE&CR Journal, May 2020**
14. Brijesh Singh, V.V Arora & Vikas Patel: *Experimental Study on Stress-Strain behaviour of Normal and High Strength Unconfined Concrete*. **Indian Concrete Journal April, 2020**
15. Vikas Patel, Brijesh Singh, V.V Arora: *Study on fracture behaviour of High Strength Concrete including effect of steel fibre*. **Indian Concrete Journal April, 2020**

B. Paper Published in Seminar/Conferences

INTERNATIONAL CONFERENCE ON COMMUNITY BASED RESEARCH AND INNOVATIONS IN CIVIL ENGINEERING, MARCH 2021

1. Rizwan Anwar, TVG Reddy, Sanjay Mundra, P N Ojha & Brijesh Singh: Condition Assessment of Induced Draught Cooling Towers Located In Different Climatic Regions of India

88TH INTERNATIONAL COMMISSION ON LARGE DAMS FEBRUARY 2021

1. Brijesh Singh, V.V. Arora, P N Ojha, Vikas Patel & B N Mohapatra from NCB and Pramod Narayan & Bikram K Patra from CWC: Assessment of Concrete Properties of Bhakra Dam in India

35TH INDIAN ENGINEERING CONGRESS DECEMBER 2020

1. P N Ojha, Abhishek Singh, Brijesh Singh, B N Mohapatra: Feasibility study of Ferrochrome slag as an alternative to natural aggregates

(Financial Year 1 April 2019 - 31 Mar 2020)

A. Papers Published in Journal

1. V V Arora, Brijesh Singh and Vikas Patel: *Durability and Corrosion Studies in Prestressed Concrete made with Blended Cement*. **Asian Concrete Federation, June 2019**
2. Vikas Patel, Brijesh Singh, B Pandu Ranga Rao & V V Arora, “*Challenges in quality Assurance in Construction Industry-A Case Study for Delhi*”. **CE&CR Journal**
3. Brijesh Singh, V.V. Arora, Vikas Patel & Nitin Chowdhary, “*Non-Destructive Testing of Bored Piles using the Low Strain Pile Integrity Method*”, **Indian Concrete Journal, May 2019**
4. V. V. Arora, Brijesh Singh, Vikas Patel, Y. N. Daniel, B. N. Mohapatra, “*Stress-Strain behaviour and performance evaluation of high strength steel fibre reinforced concrete (SFRSHC)*”, **Indian Concrete Journal, Dec 2019**
5. V V Arora, Brijesh Singh, Vikas Patel & B N Mohapatra, “*Diagnosis of alkali aggregate reaction in concrete dams (An Indian case study)*”, **Asian Concrete Federation Journal, Dec 2019**

B. Paper Published in Seminar/Conferences

1. VV Arora, Brijesh Singh, Vikas Patel, Amit Trivedi & Lalit Kumar: *Experimental shear study on reinforced high strength concrete beams*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
2. Brijesh Singh, V V Arora, Vikas Patel, Amit Trivedi & Megha Kalra: *Stress strain characteristics of high strength concrete with steel fibres using blended cements*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
3. Vikas Patel, VV Arora, Brijesh Singh, Megha Kalra & Sahara Adhikari *Study on behaviour of polypropylene fiber reinforced high strength concrete exposed to higher temperatures*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
4. Vikas Patel, B. Pandu Ranga Rao, Brijesh Singh & V.V. Arora: *Importance of ISO: 17020 implementation for quality assurance system in construction industry*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
5. Puneet Kaura , V V Arora, Piyush Mittal : *Mechanical and durability properties of concrete made with ternary blends*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
6. Rizwan Anwar, TVG Reddy, Sanjay Mundra: *Condition assessment & remedial measures for rehabilitation of induced draught cooling towers (IDCTs) located in different climatic regions of India-a case study*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
7. D. Pavan Kumar, J. Narsinga Rao, P N Ojha, B. Sreenivasa Rao, Adarsh Kumar NS: *Experimental investigations on fiber reinforced self-leveling pavement quality concrete (PQC) for use in partial depth repairs of cement concrete pavements in urban areas*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
8. Lalit Kumar, Amit Trivedi, VV Arora and Lopamudra Sengupta: *Studies on fly ash and slag based geopolymer concrete*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
9. Puneet Kaura, Y N Daniel, Nitesh Kumar & TVG Reddy: *Performance evaluations of polymer modified mortar and bonding agent for structural repair*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
10. P N Ojha, Amit Trivedi, Suresh Kumar, Nikhil Kaushik, Digvijay Kumar & V.V. Arora: *Characteristics of Indian bottom ash and its feasibility for use as fine aggregate in reinforced concrete*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
11. P N Ojha, Suresh Kumar, Digvijay Kumar & V V Arora: *Case studies on repair of concrete dam in Himalayan region using high performance concrete*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
12. P.N. Ojha, Abhishek Singh, Piyush Mittal, Brijesh Singh, V.V. Arora: *Role of packing density, mixing efficiency and curing regime on development of UHPC*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
13. Puneet Kaura, P.N. Ojha, Piyush Mittal & V.V. Arora: *Laboratory test method for evaluating corrosion inhibiting efficiency of admix type bipolar corrosion inhibitor*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**

14. P N Ojha, Amit Trivedi, Nikhil Kaushik, Vaibhav Chawla: *Experimental investigation of ferrochrome slag as aggregate in concrete*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
15. P.N. Ojha, G J Naidu, Suresh Palla & Piyush Mittal: *Comparative study of characteristics of opc-53 grade cement and its influence on water demand and rheological properties of concrete*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
16. Vaibhav Chawla, Amit Trivedi, V.V. Arora: *Design and construction of low traffic volume concrete roads using C&D aggregates and supplementary cementitious materials*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
17. Brijesh Singh, V V Arora, Shubham Jain, Vikas Patel and Pramod Narayan: *Assessment of mechanical and mineralogical properties of concrete dams in India*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**
18. Sanjay Mundra, TVG Reddy, Naman Agarwal: *Performance analysis of in-service RC members of turbo generator in India - a comparative study of service life assessment*, **16th NCB International Seminar on Cement, Concrete and Building Materials, New Delhi, India, December, 02-06, 2019**

CORCON 2019 ON CORROSION SCIENCE AND ENGINEERING, MUMBAI, SEPTEMBER 23-26, 2019

1. P N Ojha, Puneet Kaura, Piyush Mittal & V V Arora: *Laboratory and Field Investigation of long Term Performance of Bi-polar Corrosion Inhibitor*

2 DAYS NATIONAL CONFERENCE ON USE OF FLYASH IN AGRICULTURE, FORESTRY AND OTHER APPLICATIONS, HYDERABAD, DECEMBER, 17-18, 2019

1. Lalit Yadav, Amit Trivedi & V V Arora: *Field Utilization of Flyash and Slag based Geopolymer Concrete in Precast Products*

15TH INTERNATIONAL CONGRESS ON THE CHEMISTRY OF CEMENT (15TH ICC), SEPTEMBER, 16-20, 2019, PRAGUE

1. V V Arora & Brijesh Singh: *Study on Alkali Aggregate Reaction and Sulphide Attack on Aged Concrete Large Dams*
2. Puneet Kaura, V V Arora and Bibekananda Mohapatra: *Service Life Design of RC Structures Prone to Carbonation using Accelerated Test Methods*

87th ICOLD International Commission on Large Dams / Commission, Ottawa. Canada June 9-14, 2019

1. V.V Arora, Pramod Narayan, Brijesh Singh & Bikram K Patra, *Detailed Investigations and Finite Element Analysis of IDUKKI Dam in India*

(Financial Year 1 April 2018 to 31 March 2019)

A. Papers Published in Journal

1. Brijesh Singh, V V Arora, Vikas Patel & Nitin Chowdhary: *Non-Destructive Testing of Bored Piles using the Low Strain Pile Integrity Method*. **Indian Concrete Journal**
2. V V Arora & Brijesh Singh: *Field and Laboratory Investigation on Ageing Effect in Concrete Arch Dam-Indian Case Study*, **Dam Engineering Journal, UK**
3. Vikas Patel, Brijesh Singh, B P R Rao & V V Arora: *Challenges in quality Assurance in Construction Industry-A Case for Delhi*. **CE&CR Magazine**
4. V V Arora, Brijesh Singh & Vikas Patel: *Study on Flexural Behaviour of Reinforced High Strength Concrete Beams*. **Indian Concrete Journal**
5. Brijesh Singh, V V Arora & Vikas Patel: *Study on Stress Strain Characteristics of High Strength Concrete*. **Indian Concrete Journal**
6. Vikas Patel, Brijesh Singh, B P R Rao and V V Arora: *Quality Assurance in Construction Industry*. **Concrete Update, E-Bulletin, CE&CR**
7. Sh T V G Reddy & Sh Ankit Sharma: *Condition Assessment and Repair of RCC Structures-Case Studies*. *Advanced Research in Civil and Environmental Engineering*

B. Paper Published in Seminar/Conferences

**INTERNATIONAL COMMISSION ON LARGE DAMS / COMMISSION, OTTAWA, CANADA
JUNE 9-14, 2019**

1. V V Arora, Pramod Narayan, Brijesh Singh & Bikram K Patra: *Detailed Investigations and Finite Element Analysis of IDUKKI Dam in India*

**INTERNATIONAL DAM SAFETY CONFERENCE – 2019 BHUBANESWAR, ODISHA,
FEBRUARY, 13-14, 2019**

1. V V Arora and Brijesh Singh (NCB) and Pramod Narayan (CWC): *Detailed Investigation of Large Concrete Dams in India for Finite Element Analysis and Repair Strategy*

**INTERNATIONAL SEMINAR ON CONSTRUCTION AND REHABILITATION OF RIGID
PAVEMENT – CURRENT PRACTICE AND WAY FORWARD, NEW DELHI, JANUARY, 18-
19, 2019**

1. Vaibhav Chawla, Amit Trivedi & V V Arora: *A Sustainable Approach to Construction of Low Volume Concrete Roads using C&D Aggregates and Supplementary Cementitious Materials*

**3RD R N RAIKAR MEMORIAL INTERNATIONAL CONFERENCE & GETTU-KODUR
INTERNATIONAL SYMPOSIUM ON ADVANCES IN SCIENCE & TECHNOLOGY OF
CONCRETE, MUMBAI, DECEMBER, 14-15, 2018**

1. Brijesh Singh & Vikas Patel: *Study on Flexural Behaviour of High Strength Concrete using Granite Aggregate*

**WORKSHOP ON LATEST INVESTIGATIONS, REPAIR AND REHABILITATION
TECHNOLOGIES FOR DAMS, NEW DELHI, OCTOBER, 4-5, 2018**

1. V V Arora and Brijesh Singh (NCB) and Pramod Narayan (CWC): *Importance of Detailed Investigations of Large Concrete Dams in India for Accurate Analysis and Repair Strategy*

2. P N Ojha, Suresh Kumar, P S Rawat & V V Arora: *Laboratory Evaluation and Field Execution of Concrete Repair for Concrete Dams in Himalayan Regions*

**CORCON 2018 ON CORROSION SCIENCE AND ENGINEERING, JAIPUR, SEPTEMBER 30
- 3 OCTOBER, 2018**

1. P N Ojha, Puneet Kaura, Piyush Mittal & V V Arora: *Performance of Evaluation of Corrosions Inhibitors and their Corrosion Inhibiting Efficiency for RCC Structures*

**8TH INTERNATIONAL CONFERENCE ON SUSTAINABLE WASTE MANAGEMENT,
VIJAYWADA, NOVEMBER 22-24, 2018**

1. V V Arora & P N Ojha: *Experimental Studies on Bottom Ash Fine Aggregate in Concrete*

(Financial Year 1 April 2017 to 31 March 2018)

A. Papers Published in Journal

1. Satish Sharma, V V Arora, Suresh Kumar, Y N Daniel and Ankit Sharma: *Durability Study of High Strength Fiber Reinforced Concrete. American Concrete Institute Materials Journal*
2. V V Arora, Satish Sharma, Brijesh Singh & Y N Daniel: *Application and Performance Evaluation of High Strength Steel Fibre Reinforced Concrete for Improving the Abrasion Erosion Resistance of Dam Structures. Dam Engineering Journal, Volume XXVII Issue-3, 2017*

B. Paper Published in Seminar/Conferences

**NATIONAL SEMINAR ON “EMERGING BUILDING MATERIALS AND CONSTRUCTION
TECHNOLOGIES ORGANIZED BY BMPTC**

22-23 February 2018, New Delhi

1. Vikas Patel, Brijesh Singh, B Pandu Ranga Rao & V V Arora: *Challenges and Way Forward for Quality Assurance in Construction Industry –A Case Study for Delhi*

7THINTERNATIONAL CONFERENCE ON SOLID WASTE MANAGEMENT

15-17 December 2017, Hyderabad

1. V V Arora & P N Ojha: *Experimental Studies on Bottom as Fine Aggregate in Concrete*

15TH NCB INTERNATIONAL SEMINAR ON CEMENT AND BUILDING MATERIALS

05-08 December 2017, Manekshaw Centre, New Delhi, India

1. Vikas Patel, Mohd. Ali Saifi, B Pandu Ranga Rao, Brijesh Singh and Pritam Singh Rawat: *Independent Quality Assurance Monitoring System in Construction – A Case Study for Delhi,*
2. V V Arora, and Puneet Kaura: *Service Life Prediction of RC Structures using Short term Durability Testing Methods/Techniques*
3. T V G Reddy, Rizwan Anwar, Ankit Sharma and B S Rao: *Third Party Quality Assurance for Structural Repair of RCC Structures*
4. P N Ojha, Amit Trivedi, Nikhil Kaushik, Nitin Chowdhary and V V Arora: *Bottom Ash as an Alternative to Natural Sand in Concrete*
5. P N Ojha, V V Arora, Vaibhav Chawla and Swapnil Wanjari: *Flyash Based Geopolymer Sand : An Alternative to Fine Aggregate*

6. V V Arora, P N Ojha, Nikhil Kaushik and Manish Kumar Mandre: *Copper Slag and Blast Furnace Slag and Blast Furnace as an Alternative to Natural Sand in Concrete*
7. V V Arora, Brijesh Singh, Lalit Yadav, Shubham Jain and Suhaib Khan: *Experimental Studies on Flexural Behaviour of High Strength Reinforced Concrete Beams*
8. V V Arora, Brijesh Singh and Shubham Jain: *Effect of Aggregate Types and Supplementary Cementitious Materials on Mechanical Properties of High Strength Concrete*
9. V V Arora, Brijesh Singh, Lalit Yadav and Amit Trivedi: *Experimental Studies on High Yield Strength Deformed (HYSD) Bars used in Indian Construction Industry from Seismic Point of View*
10. Lalit Yadav, Amit Trivedi, V V Arora and P Hemasree: *Study on Alkali Activated Slag and Flyash Based Composite Concrete System*

NCB SEMINAR ON DURABILITY AND SERVICE LIFE DESIGN OF CONCRETE STRUCTURES

7th April 2017

1. P N Ojha, Amit Trivedi, Nikhil Kaushik & Manish Kumar Mandre: *Durability studies on concrete made with alternate fine aggregate – bottom ash, copper slag and C&D waste*
2. V V Arora, P N Ojha & Mantu Gupta: *Durability assessment of concrete made using alternate coarse aggregate - sintered fly ash lightweight aggregate*
3. Brijesh Singh & V V Arora: *Durability studies on prestressed concrete made using PPC cement*
4. Satish Sharma, V V Arora, Suresh Kumar & Y N Daniel: *Improvement in abrasion resistance and other engineering characteristics of concrete using low grade aggregate by introducing silica fume and steel fibre*
5. V V Arora, Satish Sharma & Puneet Kaura: *Service life design of concrete structures subjected to carbonation*
6. Satish Sharma, T V G Reddy & Ankit Sharma: *Condition assessment and restoration of distressed RCC structure in coal handling plant*

INTERNATIONAL CONFERENCE ON ADVANCES IN CONSTRUCTION MATERIALS AND SYSTEMS, ICACMS 3-8 September 2017, Chennai

1. V V Arora and Puneet Kaur: *Suitability of Accelerated Test Method as a Tool for Service Life Prediction for RC Structures made of Ordinary Portland and Blended Cement*

(Financial Year 1 April 2016 to 31 March 2017)

A. Papers Published in Journal

1. V.V. Arora, Brijesh Singh and Lalit Yadav: *Flexural and Fatigue Behavior of Prestressed Concrete Beams made with Portland Pozzolana Cement*, **Journal of Asian Concrete Federation**, ISSN 2465-7964 / ISSN 2465-7972, Vol. 2, No. 1, pp.15-23, June 2016
2. V V Arora & Brijesh Singh: *Durability Studies on Prestressed Concrete made with Portland Pozzolana Cement*, **Indian Concrete Journal**, Vol. 2, No. 1, pp. 15-23, August 2016
3. Brijesh Singh & V V Arora: *Condition Assessment of Reinforced Concrete Structures Including Case Studies*, **Conference on Repair, Rehabilitation & Retrofitting of Concrete Structures Concrete 2016**, 09-10 September, 2016, Indian Concrete Institute, New Delhi

4. V V Arora, Brijesh Singh and Shubham Jain: *Experimental Studies on Short Term Mechanical Properties of High Strength Concrete- Indian Concrete Journal*, **Vol. 90, No. 10, pp. 65-75, October 2016**
5. V V Arora, B R K Pillai, Brijesh Singh & V P Chatterjee: *Assessment of Cause of Distress in Concrete Arch Dam” - A Case Study*, **Indian Concrete Journal, Vol. 90, No. 12, pp. 39-47, December 2016**
6. V V Arora & Brijesh Singh: *Use of Fly Ash Concrete and Recycled Concrete Aggregates - A Cost Effective Solution and Durable Option for Construction of Concrete Roads*, **Indian Concrete Journal, Vol. 91, No. 1, pp. 24-33, January 2017**
7. V V Arora, Brijesh Singh and Shubham Jain: *Effect of Indigenous Aggregate Type on Mechanical Properties of High Strength Concrete*, **Indian Concrete Journal, Vol. 91, No. 1, pp. 34-44, January 2017**

B. Paper Published in Seminar/Conferences

1. Brijesh Singh, V.V. Arora & Satish Sharma: *Detailed Investigation of Ageing Effect in Concrete Arch Dam”*, *Workshop on Latest Repair & Rehabilitation Technologies for Dams*, **January 23-24, 2017, Colombo, Sri Lanka**
2. Satish Sharma, V.V. Arora, Y. Daniel and Brijesh Singh: *Application and Performance Evaluation of High Strength Steel Fibre Reinforced Concrete for Improving the Abrasion / Erosion Resistance of Dam Structures*, *Workshop on Latest Repair & Rehabilitation Technologies for Dams*, **January 23-24, 2017, Colombo, Sri Lanka**
3. P N Ojha and V V Arora: *Characteristics and Performance of OPC, Binary and Ternary Blend Composite Cement – A Review–NCB Symposium on Composite Cement 30 September 2016, NCB-Ballabgarh.*
4. P N Ojha, V V Arora, Puneet Kaura and Suresh Vanguri: *Mechanical and Durability Properties of Concrete made with Composite Cement–NCB Symposium on Blended Cement for Sustainable Development, 24 January 2017, NCB-Hyderabad*
5. V V Arora, Puneet Kaura and Satish Sharma: *Durability of Concrete made with Blended Cement against Reinforcement Corrosion - NCB Symposium on Blended Cement for Sustainable Development, 24 January 2017, NCB-Hyderabad*
6. Satish Sharma, T V G Reddy and Ankit Sharma: *Repair, Restoration and Retrofitting of in Service Concrete Structures in Power Plants- International O&M Conference, "Indian Power Stations - 2017", February 13-15, 2017 in New Delhi organized by NTPC Ltd.*