

Dear Readers,

We are pleased to share with you an edition themed on 'Reinventing Concrete for a Greener Tomorrow, edited by Dr Vaishali Sahu.

Dr Vaishali Sahu is an engineering professional with an overall experience of 14 + years in academics and research in the field environmental engineering. Currently, she is Deputy Director, Internal Quality Assurance Cell (IQAC) and Associate Professor and Associate Head, Department of Multidisciplinary Engineering at the NorthCap University, Gurgaon, Haryana. She has obtained her bachelor's degree in civil engineering from Shri Govindram Seksaria Institute of Technology and Science (SGSITS), Indore and master's in environmental Engineering from Indian Institute of Technology (IIT) Roorkee. She has done her PhD from the NorthCap University, Gurgaon, Haryana.

Her area of specialization is solid and liquid waste management, recycle and reuse, waste and resource management, sustainable waste management, water and waste water treatment processes. She has published several research papers in national and international journals, and in conference proceedings. She has also authored a book. She is serving as a reviewer to various reputed international journals and extensively supporting students in the area of sustainable waste management, water resource management, pollution and control, environmental geotechnology.

We thank her for guest-editing the ICJ March 2024 edition and sharing with readers about sustainable concrete through researched papers.

Production Editor
Indian Concrete Journal



Dear Readers,

I am pleased as a guest editor of this edition, to be able to present to you these papers related to sustainable concrete for Greener tomorrow. This issue showcases selected and extended versions of exceptional research papers originally presented at the international conference on smart and AI-enabled technology for sustainable development (SAIT for SD 2023), held on September 12-13, 2023, in the NorthCap University, Gurgaon, Haryana, India. The conference brought together scholars, researchers, and experts from diverse fields to discuss and explore the latest advancements in concrete technology and their applications for sustainable development.

The research papers included in this volume reflect a rich diversity of topics, ranging from use of waste material in concrete to the mechanical attributes of the binders and the sustainability potential.

Our first paper is on coal bottom ash from research scholar Kiruthiga P. and others that aimed to understand how the addition of coal bottom ash affects the fresh properties of binder, providing insights into the potential benefits or challenges associated with using this material in binary binders. The findings may have implications for the development of construction materials with improved characteristics and sustainability by utilizing coal bottom ash as a supplementary material in binary binders^[1].

The second paper is the extensive study by Choudhary *et al.*, that explores the development of high-strength and sustainable ternary geopolymers concrete, focusing on its mechanical attributes. The study has provided optimized materials and proportions to enhance the properties of ternary geopolymers concrete.^[2]

The research by Dave and Kiruthiga on submicron ceramic waste powder on the standard consistency and setting properties of binary binders have explored on how the

addition of submicron ceramic waste powder influences the performance of binary binders in terms of their workability and setting characteristics. The use of ceramic waste powder suggests a focus on sustainable or recycled materials in the context of binders^[3].

The research by Ghosh *et al.*, aimed to assess how the combined use of coconut fiber and recycled concrete aggregates affects the overall mechanical attributes of pervious concrete. The findings reported here offers insights into the potential enhancement of both the structural and sustainable aspects of pervious concrete for various construction applications^[4].

Our fifth paper by Dave *et al.*, has garnered interest of utilizing industrial by-products like, pulverized ceramic waste powder as a partial cement replacement in mortar due to its potential environmental and economic benefits. By utilizing waste materials instead of traditional cement, the industry can contribute to reducing the consumption of natural resources and energy required for cement production, which is known to be a significant source of carbon emissions. The incorporation of pulverized ceramic waste powder as a partial cement replacement in cement paste and mortar applications offers promising environmental benefits and has the potential to improve certain properties of construction materials^[5].

As we stand at the precipice of a new era, the promise of sustainable concrete beckons us forward. It offers a pathway to a greener tomorrow—a future where concrete stands not as a symbol of environmental degradation, but as a testament to our commitment to sustainability.

It is a pleasure to be able to present this short summary of the state of the art in aspects of utilizing various industrial by-products in concrete and other binders.

Dr Vaishali Sahu

The NorthCap University Gurgaon, Haryana

REFERENCES

- [1] Kiruthiga, P., Dave N., and Guduru R. (2024). "Effects of coal bottom ash on the standard consistency and setting time of binary binders", *The Indian Concrete Journal*, Vol. 98, No. 3, pp. 16-24.
- [2] Choudhary, L., Sahu V., and Dongre, A. (2024). "Mechanical investigation of high strength sustainable ternary geopolymer concrete", *The Indian Concrete Journal*, Vol. 98, No. 3, pp. 25-35.
- [3] Dave, N., and Kiruthiga, P. (2024). "Effect of submicron ceramic waste powder on the standard consistency and setting properties of binary binders", *The Indian Concrete Journal*, Vol. 98, No. 3, pp. 36-42.
- [4] Ghosh, S., Bansal, S., Choudhary, L., and Sahu, V. (2024). "Effects of coconut fiber on mechanical properties of pervious concrete incorporating recycled concrete aggregates", *The Indian Concrete Journal*, Vol. 98, No. 3, pp. 43-52.
- [5] Dave, N., Kiruthiga, P., and Asnani, V. (2024). "Effect of pulverized ceramic waste powder as a partial cement replacement in cement paste and mortar application", *The Indian Concrete Journal*, Vol. 98, No. 3, pp. 53-63.

CALL FOR GUEST EDITORS

Call for Proposals on Special (Thematic) Edition of the Indian Concrete Journal (ICJ)

The Indian Concrete Journal (ICJ) strives publishing high-quality papers on advancements in various broader disciplines of concrete materials and structures, covering technical developments both from the academia and profession. The ICJ calls proposal from researchers and practicing engineers to serve as Guest Editor for publishing special (thematic) edition on some latest topics within the scope of the journal. Those interested in serving as Guest Editors are requested to contact the Production Editor at info@icjonline.com for more details.

- Editorial Board, ICJ.