Dear Readers,

Greetings of the New Year, 2025.

It is my privilege to present the January-2025 edition of the Indian Concrete Journal (ICJ) as we continue the legacy of excellence established since 1927. Over the past 98 volumes, the ICJ has been a cornerstone in disseminating state-of-the-art knowledge, bridging the gap between academic research and industrial practices, and contributing significantly to infrastructure development. Our mission remains steadfast in addressing pressing global challenges, with sustainability and climate action at the forefront of our efforts. Reflecting on the achievements of the past year, the 12 editions of ICJ in the year 2024 featured total of 54 papers, which have focused on the development of sustainable materials, achieving resiliency of structures, and taking affirmative actions on climate change issues. These contributions of significance reaffirm the dedication of the ICJ fraternity to advancing environmental consciousness within the construction industry.

As we move forward in 2025, building further upon the tradition being followed since recent years, the ICJ's focus will delve deeper into emerging frontiers. The emphasis of the ICJ fraternity on minimizing carbon and water footprints perfectly aligns with India's ambitious Net Zero targets for 2070. Reflecting this commitment, the journal has begun promoting bio-based deep technologies, combining sustainability with innovative construction practices. These technologies hold immense potential for transforming our built environment while adhering to the principles of resource efficiency and environmental stewardship.

Continuing the strides made in sensitizing the construction community towards sustainability, this year's editions will feature studies that expand the conversation to new domains. We envision further providing platform for findings in the cutting-edge areas such as the integration of artificial intelligence (AI) in concrete technology, the development of circular economy frameworks, and advancements in climate-resilient construction materials. These themes resonate with the ICJ's enduring mission of catalyzing research and fostering its practical application in industry.

This inaugural issue of 2025 presents a collection of five articles that address experimental and numerical studies conducted on concrete materials and structures. Shah and Tantray [1] examined the effect of different dosages of graphene nanoplatelets (GNPs) on various concrete properties. A microstructural analysis was conducted to determine the optimal GNP dosage required to achieve desired concrete properties. In another study, Hamsavathi *et al.* [2] investigated the shear capacity of steel-reinforced engineered cementitious composite beams with a short shear span using a strut-and-tie model in finite element analysis. Deshamukh, and Manjunatha [3] conducted mechanical and durability tests on geopolymer concrete made with fly ash and ground granulated blast furnace slag (both industrial byproducts) in varying proportions to identify the optimal mix for achieving target concrete strength.

Sairam *et al.* [4] explored the use of graphene oxide to improve the durability of concrete mixes incorporating ultrafine slag. The study found that small dosages of graphene oxide accelerated strength gain and filled voids with nanoparticles, while higher dosages led to nanoparticle agglomeration, adversely affecting the mix, as observed through microstructural analysis and X-ray diffraction tests. Jadon and Singh[5] presented a critical review of the guidelines outlined in the latest version of the Indian standard (IS) code (IS: 1641 (2013)) for fire load density in compartments. They highlighted the necessity for comprehensive, country-level surveys to accurately represent Indian demographics in relation to fire load data, underscoring a significant need for updated and region-specific research in this domain.

On behalf of the editorial team, I extend our heartfelt gratitude to our authors, reviewers, and readers for their unwavering support and valuable contributions. In the forthcoming editions of the ICJ this year, we are committed to delivering enriched knowledge generated within the concrete industry, ensuring our readership stays well-informed about the latest scientific developments and innovative construction practices in the domains of advanced materials and structural systems. We earnestly invite you to share your suggestions and constructive critiques, not only regarding the articles featured but also on the overall functioning of the ICJ. Your feedback is invaluable in helping us further elevate our standards and evolve to meet emerging challenges. Thank you, and wishing you a wonderful and impactful year ahead.

With Best Regards,
Vasant Matsagar
Editor-in-Chief (ICJ)

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