



Dear Readers,

Globally, national leaders have set very aggressive targets to achieve net zero carbon emissions by 2050 or 2070. In order to realize this, the engineering community needs to deliver on several fronts. Perhaps no other stream of engineering will be more impacted than civil engineering, in this quest to adapt to low carbon strategies, because building construction is possibly the single largest contributor to carbon emissions. Further, within civil engineering, the major burden of this must be borne by concrete construction. Researchers around the world have already woken up to this fact and are working on a variety of strategies, including low carbon cements and alternative aggregates from industrial and construction and demolition waste streams. While several possible alternatives are emerging, a comprehensive understanding of the availability of such materials, the need for their processing, and their impact on the properties of concrete is necessary. On the design front also, it is time to start looking at innovative and efficient structural designs that take into account the full potential of the materials used. It will take a concerted effort by researchers and practitioners to bring about the massive change that is required to realize the low carbon goal.

The papers in this issue are in one way or another linked to these aspects.

The first paper deals with the use of high strength steel in transverse reinforcement for enabling better shear performance of concrete beams with low shear span-to-depth ratios. The paper reports an extensive experimental investigation and comparison of the results with several codal provisions. The results from the study can lead to sustainability and economy in high rise concrete structures.

The second paper deals with semi-dry pressed concrete prepared with high pressure pressing, which is an innovative strategy to produce concrete with high quality geometric and operational control. The paper reports on the use of basalt fibers and superplasticizer to overcome the negative elastic after-effects of the pressed concrete. This study would be of specific interest to Indian readers, who would not be very familiar with the technology.

The final paper is a review of strength, durability and microstructural properties of geopolymer concrete. While this subject has been dealt with by several authors in the past, the current paper presents a well-curated review that provides a comprehensive treatment of the subject. The descriptions in the paper and the citations within would be very useful to researchers who have an interest in geopolymers.

Happy reading!

Manu Santhanam
Associate Editor

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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.