Dear Reader

We are pleased to share that Prof. Dr. Vasant Matsagar has edited this special edition of the ICJ. Prof. Matsagar, well-known in both academia and industry, specialises in Multi-Hazard Protective Structures, and is presently serving as Dogra Chair Professor in the Department of Civil Engineering at Indian Institute of Technology (IIT) Delhi. He has proposed this emerging topic in the concrete industry to deliver through the ICJ, contemporary knowledge on "Elevated Temperature Behaviour of Concrete Materials and Structures".

Production Editor
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Dear Colleagues,

In this special issue of the Indian Concrete Journal (ICJ) we had invited scholarly contributions on the thematic topic of "Elevated Temperature Behavior of Concrete Materials and Structures". As newer construction materials are being researched and employed in construction practice, correspondingly evaluating their performance at elevated temperatures becomes crucial. Furthermore, the structures constructed by using such advanced construction materials are also required to be evaluated for their performance when exposed to fire. Such information becomes significantly important in the design of structures following performance-based fire engineering.

Overwhelming response was received to our call for the special issue with number of quality manuscripts submitted to the ICJ. We followed our standard double-blind review conducted by at least three peer-reviewers for each manuscript, and accepted for publishing those manuscripts as recommended by the reviewers. As we have more number of accepted manuscripts than that could be contained in one issue of the ICJ, we have decided publishing it in two issues on the thematic topic. In this issue, we have included seven such manuscripts that dealt with elevated temperature aspects of both the material and structural levels. The subsequent second issue on the theme will be published in October 2019.

Fire Research Laboratory uniquely established in India by the Central Building Research Institute (CBRI) of the Council of Scientific and Industrial Research (CSIR) facilitates conducting tests on specimens or structures in fire. Appropriate to the topic dealt with herein, a point of view article by the scientist researching in the CSIR-CBRI laboratory is presented. Subsequently, the research works presented herein are based on both the experimental and numerical simulations. Four contributed manuscripts in this special issue have reported effects of elevated temperature on the basalt and polypropylene hybrid fiber reinforced concrete, slurry infiltrated fibrous concrete, and cement mortar containing crushed rock fines and lateritic soil. Three other manuscripts have addressed behavior of structural members built with the reinforced concrete (RC) and steel fiber reinforced concrete (SFRC). Improvement in fire rating of the concrete specimen upon addition of the fibers in the RC has been duly reported. The effects of heating and cooling cycles on the SFRC column are presented. A manuscript herein presents petrographic investigation for condition assessment of concrete exposed to elevated temperature, which is useful in post-fire assessment, residual strength determination, as well as in forensic investigations.

These papers have advanced the state-of-the-art in elevated temperature behavior of concrete materials and structures, and have meaningfully contributed in structural fire engineering to take the research forward.

Vasant Matsagar
Guest Editor for the Special Issue, ICJ.