Editorial

Scott T. Smith BE(Hons), PhD, CPEng, RPEQ, FIEAust, FASCE, FHKIE, FIIFC

Foundation Professor of Engineering and Dean of Engineering,
Southern Cross University, Australia

Five papers are presented in this issue of *Structures and Buildings*. They cover the deformation behavior of concrete containing waste glass materials, the behavior of reinforced-concrete (RC) beam–column connections, as well as RC frames with infills, the repair of RC columns with fibre-reinforced polymer (FRP) composites, and finally, the structural health monitoring of structures. The topics addressed relate to issues encountered by practitioners as well as researchers.

In the first article by Lye *et al.* (2017), a comprehensive review is presented that considers the deformation of concrete made with crushed recycled glass cullet for varying amounts of fine aggregate replacement. A collection of 56 articles published over a 43 year period from 1972 to 2015 yields a large 10 000 data matrix. The test results show that the elastic modulus increases by about 10% over control concrete containing natural aggregates, while the creep is similar and the shrinkage is decreased. Deformations are also estimated using Eurocode and ACI models. Overall, concrete containing fine aggregate glass replacement is found to at least maintain and also increase, when compared with traditional concrete, the resistance against deformation due to elastic and creep strain as well as shrinkage.

The second article involves an investigation on the effective width of wide RC beam–column connections. Kuang *et al.* (2017) firstly report a collection of 26 interior wide RC beam–column connections from the open literature that fail in a variety of common failure modes. Parametric studies are then conducted that assess the influence of a range of geometric and material parameters on the effective width determination. These results are also compared with the predictions from Eurocode, ACI and New Zealand codes. An effective beam-width model is then proposed that considers the effects of torsion and flexure, while its predictions are compared with the database results. Finally, a design version of the model is provided.

The third article by Mohammadi (2017) reports a study on engineered infilled frames as well as the influence of openings.

As the strength of infill walls can influence the strength and ductility of frames, the ability to vary the strength of the infill is a valuable property. The infills investigated in this study contain a frictional sliding fuse of variable strength that is located at mid-height. The paper initially reports the results of a sensitivity study on frames containing infill walls where the fuse sliding strength of the infill is varied. Then, the test result of two one-third scale single-storey, single-bay steel frames with a frictional sliding concrete infill were reported. One frame contained a central door opening while the other frame did not. The fuse was found to increase the strength of the frames and also partially compensate for the adverse effects of the opening.

The next article by Kaptan (2017) investigates the effectiveness of FRP composites on RC structures subjected to seismic attack. The first part of the paper reports an experimental investigation on the cyclic behavior of damaged RC columns that have been repaired with FRP composites. The test specimens were wrapped with different configurations of carbon FRP and their responses were compared to control specimens. The tests reveal strength and ductility to be reinstated due to the FRP repair; however, stiffness levels were not recovered to a suitable level. A numerical study is then reported on the seismic response of three-storey buildings that contain undamaged and repaired members. Frames containing repaired members were found to possess greater capacity to resist seismic attack and they had increased deformation capacity.

The final article in this issue involves the detection of damage in structures using vibration-based structural health monitoring techniques. Cardoso *et al.* (2017) present a new methodology that has the capability to automatically identify structural anomalies using modal data. The accuracy of the method is verified by comparison with numerically generated signals under different noise conditions. The method is also verified by comparison with experimental data obtained from a high-speed train crossing a viaduct in France. The methodology is proven to be accurate and also insensitive to noise.

Readers are reminded that the journal publishes its most recent articles ahead of print on the Virtual Library page of the journal: <http://www.icevirtuallibrary.com/toc/jstbu/0/0>.

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