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Editorial

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This new issue of *Structures and Buildings* offers contributions from many corners of the globe and continues to push the structural design boundaries and work on improving built environment we live in. The issue features proposals for advancing design of steel and/or reinforced concrete structures to a range of loading scenarios, including earthquakes and accidental explosions, and covers design aspects related to connections, wall elements and coupling beams.

The first paper (Lawson *et al.*, 2020) investigates the stabilising effects of plasterboards attached to light steel walls in compression. A series of tests with different configurations and/or types of plasterboards were attached to the steel frames either on one or both sides and exposed to slow-rate compression loading. The authors demonstrated and quantified the stabilising effects of the plasterboards. The results make a step towards reducing conservativeness in the current design guidelines.

Another paper presenting comprehensive experimental work on walls, this time made of reinforced concrete (RC) and built on RC base, has looked at the degree of restraint provided by vertical steel reinforcement. Kashif Shehzad *et al.*, (2020) found that the reinforcement present at the edge-restrained wall and restraining base joint has an important influence on the degree of restraint and that this should be reflected in the future design guidelines.

The next contribution by Nabilah *et al.*, (2020) developed and verified a non-linear strut and tie model to predict failure of reinforced coupling beams to monotonic and cyclic loading. They used open source OpenSees software for development of the model, and made a number of recommendations for accurate modelling of shear and flexural deformation as well as ductility.

The remaining two contributions are from the field of earthquake engineering. Abdollahzadeh *et al.*, (2020) investigated performance of post-tensioned self-centring beam–column connections in steel. They developed a numerical model to establish influence of positioning, shape and thickness of stiffeners on resilience of the connection. This has been achieved through ensuring localisation of damage in the stiffeners, and higher strength and energy dissipation performance whilst ensuring satisfactory level of ductility.

The final contribution by Shirinzadeh and Haghollahi (2020) is a numerical study into the resistance of welded beam-column connections subject to a sudden removal of a column. They studied a range of steel connection geometries and looked at how specific details of connections (such as geometry and positioning of seat and web angles, tendons and stiffeners) could be altered to improve performance. They found that models engaging catenary action (by incorporating either tendons or box profiles) show best resistance. A future extension of this study could look at the connection aesthetics and practical feasibility to bring it closer to the execution in buildings in seismically active regions.

I hope that you will find these structural design oriented papers interesting for your own design work and/or research.

Finally, I would like to mention that, apart from the classical printed and electronic version, *Structures and Buildings* publishes the most recent articles online Ahead of Print on the Virtual Library homepage of the journal at https://www.icevirtuallibrary.com/toc/jstbu/current.

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