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Editorial

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This issue of *Structures and Buildings* consists of five papers that represent a wide range of topics such as seismic engineering, structural analysis, steel structures, structural design, structural dynamics, experimental testing, analytical modelling using the finite-element method, composite structures, anchors and anchorages, bridges, railway systems and much more. Thus, it is obvious that these five research papers have contributed significantly in advancing actual knowledge in their pertinent topics. These papers have been selected and reviewed by the regular system and accepted for publication. The specific technical details of these papers are given in the following sections.

We also welcome Mr. John Roberts (Laing O'Rourke), Dr. Samir Dirar (University of Birmingham) and Professor Yufei Wu (RMIT University) as new members of *Structures and Buildings*' Editorial Advisory Panel.

The first paper, by Najam *et al*. (2019) proposes a simplified and quick non-linear demand estimation methodology based on the displacement modification approach for existing tall buildings in Thailand developed by using representative buildings and the site-specific ground motion records. The results calculated using the proposed procedure were compared with results obtained by using current procedures. This simplified method can provide sufficient accuracy to obtain overall seismic demands while allowing cheaper, quicker and more practical solutions than existing procedures. The authors conclude that this research paper will be able to shed light on future studies. Owing to the future studies based on this method, the proposed simplified analysis procedure can be extended to a wide range of structural systems and conditions.

In the second paper, Kian and Deylami (2019) investigate the cyclic behavior of a two-sided moment connection of an I-beam to built-up box column using finite element analysis. The model used for analysis was validated using data from experimental tests reported in the literature. A comprehensive parametric study was conducted to investigate the influences of the thickness, length and height of the rib plates on the behavior of the connection. The paper then gives details of usage vertical top and bottom rib plates on both the top and bottom flange plates with different dimensions to improve the connection. This paper presents some useful advice that will be utilized to improve the behavior of the connection.

The third paper in this issue (Safakhah *et al*., 2019) proposes a simple and new two-stage method for damage detection and quantification in reinforced concrete bridge piers. Experimental and numerical analyses were conducted to determine the values and locations of damage intensity, and the results calculated using the numerical analysis were consistent with the experimental results. The design and analysis concept and the proposed method for the bridge piers are discussed, and the fabrication of experimental samples, modelling of numerical model and implementation of the two-staged method are presented in detail. This proposed method showed good correlation with the experimental data. The authors conclude that exact monitoring for concrete bridge piers can be achieved using this method and the information obtained from this method about the location and intensity values of damage per typical displacements and drifts can be used for rehabilitation of piers in future.

Sakin *et al*. (2019) provide the fourth paper in which they investigate the bond between concrete and bonded and anchored carbon-fibre polymer strips with numerical analyses and present their results and findings. The numerical results were controlled by using experimental data from the authors' other study and they showed good correlation between each other. This paper also discusses the influence of several parameters on load-transfer behavior such as strip width and length, number of anchors and concrete strength. In the paper an equation was proposed for calculating the bond strength between concrete and a bonded and anchored carbon-fibre reinforced polymer strip. The authors conclude that the proposed mathematical model provides more accurate results in comparison with the other models. The paper contains extensive information about modelling and many computational models for its topic.

The fifth and final paper in this issue (Ji and Kim, 2019) presents a comprehensive state-of-the-art review of bridges under rail transit loading. This paper contains behavior of bridges under rail loading for different conditions, train–structure interaction in terms of various effects, characteristics of light rail transit, the design considerations and deficiencies in the design guidelines. The review is based on nearly 100 research articles. This paper covers a wide range of information about bridges carrying rail transit. Thus, this paper provides a systematic prologue that will serve as a concise guide to identifying the fundamental issues associated with the design and consideration of bridges under rail transit loading.

Briefly, there are a set of very interesting and useful papers on a wide range of different topics in this issue for which the authors should be congratulated. We thank the authors for agreeing to publish their papers in *Structures and Buildings* and the editors and reviewers involved in the publishing process of these papers.

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