

Editorial

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This issue of *Structures and Buildings* consists of four technical papers (the content of which can be found at www.icevirtuallibrary.com/content/issue/stbu/166/7). The first paper, by Ozcelik *et al.*, examines experimentally, and numerically, the utilisation of chevron braces for seismic strengthening of existing non-ductile reinforced concrete frames. The test results indicated that steel brace retrofitting significantly increased the frames lateral stiffness, strength and energy dissipation capacity. A parametric study based on non-linear cyclic analysis was reported that aimed to access the chevron brace retrofitting effectiveness for different brace sizes and column axial loads. Finally, a non-linear time history analysis was also conducted on a deficient four-storey, three-bay reinforced concrete structure by using two chevron brace sections.

The second paper, by Khoshnoudian and Esrafil, presents an evaluation of the accuracy of the International Building Code equivalent static method for base-shear distribution focusing on the response of seismically isolated structures under near-field earthquakes. The investigation contemplated a comparison of equivalent static procedure results of base-shear vertical distribution to the results obtained from dynamic linear and non-linear

analysis focusing on their efficiency. Formulae were also developed for base-shear vertical distribution of isolated structures under near-field earthquakes based on linear and non-linear dynamic analysis results of isolated structures.

The third paper, by El-Shafie and Aminah, describes a creep prediction model, based on non-linear autoregression with exogenous inputs able to detect and consider time dependency. The model performance was calibrated against experimental creep data from brickwork assemblages. The model accuracy surpassed other existing artificial neural network models indicating that the proposed model is adequate for modelling a time-varying process such as creep prediction.

The fourth paper, by Ji *et al.*, presents the modelling issues related to incorporation of human–structure interaction in the analysis and design of structures subjected to dynamic human loading. The paper focuses on a discussion of qualitatively accurate models for a standing human body in vertical vibration. The results indicated a good agreement of the natural frequencies of the models validating the proposed discrete human body models in vertical structural vibration cases.