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ABSTRACT**

<b>Title of abstract:</b>	Collapse Modelling of Soft-Storey Buildings
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<b>Abstract:</b>	<p>This paper presents results from an extensive study investigating the seismic performance of 'soft-storey' buildings. Such buildings, rely on the moment and axial action of slender columns to resist horizontal and gravity forces at the ground floor level, and are banned in high seismic regions due to their poor performance in past earthquakes but are a common feature of buildings in low and moderate seismicity regions such as Australia and parts of SE Asia. Analytical and experimental Investigations undertaken by the authors on a number of existing buildings employing displacement principles as opposed to the conventional force-based principles indicated that the performance of some of these buildings could be satisfactory for ultimate limit state earthquake scenarios projected for countries like Australia despite their non-compliance with contemporary design standards. A summary of the analytical studies, laboratory testing and full-scale field tests will be presented. This project is aimed at developing a realistic seismic risk model for this class of buildings in order that retrofitting work can be prioritised effectively on the existing building stock.</p>