

Project 16020

Project Title

Direction Dependent Dissipation (D3) Devices: Semi-Active Behaviour with the robustness of a passive device

Research Team

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Project Description

The proposed project will develop the ability of New Zealand institutions to perform multi-axial testing of large-scale structural components through collaboration with Swinburne University of Technology. Access to the Multi-Axial Subassemblage Testing (MAST) testing facility at Swinburne allows QuakeCoRE partner institutions access to unique capabilities for simulating complex boundary conditions and bi-directional loading that does not currently exist within New Zealand. The proposed project intends to leverage an existing MBIE funded project on the performance of precast concrete panel connections, by conducting four precast concrete wall tests at the MAST facility at Swinburne. In addition to the research outcomes, the testing programme will facilitate the development of a framework that enables multi-institution large-scale structural testing while using expertise at the University of Auckland and Swinburne to develop best practice methods for testing and instrumenting concrete walls. Upon completion of the testing, the established framework will be shared with QuakeCoRE partners to help facilitate future multi-institutional testing programmes both within New Zealand and internationally.