



nzsee

NEW ZEALAND SOCIETY FOR
EARTHQUAKE ENGINEERING

NEW ZEALAND SOCIETY FOR EARTHQUAKE ENGINEERING
2025 ANNUAL TECHNICAL CONFERENCE

2025

Harnessing Uncertainty

***Driving Positive Change for a
Sustainable and Resilient Future***

Conference Programme

8–10 April 2025

**Cordis Hotel,
Auckland**



Day 1: Tuesday 8 April 2025

08:00-18:00	Registration Desk Open Great Room Foyer		
09:00-09:30	Mihi Whakatau Conference Opening Opening Address by Mayor Wayne Brown Great Room 1&2		
09:30-10:30	Keynote 1: Marwan Nadar Seismic Design Strategies on Major Bridges Located in High Seismic Zones Chair: Sabina Piras Great Room 1&2		
10:30-11:00	Morning Tea Break Great Room 3&4		
11:00-13:15	01A – Evaluation of Existing Buildings, Seismic Strengthening & Retrofit Room: Great Room 1&2 Chair: Julian Benito	01B – Building Code Compliance, Building Legislation, Standard Development Room: Crystal 2 Chair: Ashkan Hashemi	01C – Engineering Seismology, Seismic Hazard and Ground Motions Room: Jade 1&2 Chair: Umair Siddiqui
11:00-11:15	01A.1 Seismic Strengthening of Te Whare o Rehua Sarjeant Gallery in Whanganui Philip Yong & Ian Brown	01B.1 Seismic Risk and the Building Code - Integrating Geotechnical Requirements (For New Building Design Work) Kiran Saligame & Kaley Crawford-Flett	01C.1 The Past and Future of Ground-Motion Models: A Review on Uncertainty Sanjay Bora
11:15-11:30	01A.2 Seismic Performance of Suspended Ceilings with Velcro-Secured Lay-in Tiles via Shake Table Tests Aasish Tiwari	01B.2 Preliminary Observations from the Chile-NZ Research Collaboration on the Seismic Design of Hospitals Quincy Ma	01C.2 Framework for Selection of Representative Earthquake Scenarios for Wellington Preetish Kakoty
11:30-11:45	01A.3 Seismic Retrofit of URM Parapets using Vertical Screw Reinforcing: Experimental Testing and Simplified Design Approach Marta Giaretton	01B.3 A Comparison of the Seismic Demands Calculated for Residential Buildings using DZ TS 1170.5 and NZS 3604 Nadia Luketina	01C.3 Assessing the Importance and Variability of κ_{p0}, γ_n, in Ground-Motion Simulations: A Work in Progress Juan Jose Sepulveda Garcia
11:45-12:00	01A.4 A Methodology for the Seismic Assessment of Infilled Frames with Significant Vertical Discontinuities Rolf Veldboom & Jonathan Chambers	01B.4 Shaping Future Practice for Non-Structural Seismic Performance Jan Stanway	01C.4 The New Zealand Ground-Motion Database: A 2024 Update Aaron Rampersad
12:00-12:15	01A.5 Seismic Retrofit of a Two-Storey Reinforced Concrete Building Using Moment-Resisting Frames (MRFs) incorporating the Optimised Sliding Hinge Joint (OSHJ) Shahab Ramhormozian & Mahinda Ellegala	01B.5 Damage Observed in Chilean Hospitals during the 2010 Mw 8.8 Maule Earthquake Ruben Boroschek	01C.5 Progress on the NZ-Wide Vs30 Map Update Jaehwi Kim
12:15-12:30	01A.6 Understanding Potential Avoided Upfront Carbon Emissions through Strengthening of Seismically-Deficient Buildings Annie Scott	01B.6 Repairable Low Damage Seismic Design Buildings Concept John Lucas	01C.6 Validation of Hybrid Broadband Ground-Motion Simulation for Large Magnitude Earthquakes in New Zealand Cesar Pajaro Miranda

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12:30-12:45			01C.7 Influence of Ground Motion Spatial Variation in the Seismic Risk of a Proposed Inter-City Railway Francis Jenner Bernales
12:45-13:15	Q&A Panel	Q&A Panel	Q&A Panel
13:15-14:15	Lunch Great Room 3&4		
14:15-15:35	02A – Structural Response & Experimental Testing of Structural Systems (Part 1) Room: Great Room 1&2 Chair: Geoff Rodgers	02B – Structural Response & Experimental Testing of Structural Systems (Part 2) Room: Crystal 2 Chair: Royce Liu	02C - Performance of Non-Structural Components & Structural Connections Room: Jade 1&2 Chair: Catalina Miranda
14:15-14:30	02A.1 Modelling and Test-Analysis Correlation Study of a Five-Story Building Using in-Situ Measurements Kawa Andisheh	02B.1 Design recommendations for concrete wall-to-steel beam bolted web plate connections Claire Pascua	02C.1 Seismic Restraint Approaches in Existing Buildings Andrew Baird
14:30-14:45	02A.2 Pre-Assessment of Real-time Hybrid Shake Table Test for Evaluation of Seismic Response of MDOF System Iwansh Gupta	02B.2 Flexural Strengthening of RC T-beams using Varied NSM-CFRP Configurations Yanuar Haryanto	02C.2 Seismic behaviour of 'rocking' precast cladding and partition wall assemblies in a full-scale three-storey steel building Rajesh Shrestha
14:45-15:00	02A.3 Seismic Performance of Rib and Infill Floors Amir Moshref	02B.3 Comparative Analysis of Confined and Unconfined UHPC Column Under Axial Loading Mustafa Mashal	02C.3 Numerical & Experimental Seismic Analysis of Cold-Formed Steel Pallet Rack Connections in the Down-Aisle Direction Nima Shokrollahi
15:00-15:15		02B.4 Full Scale Semi-Cyclic Experimental Validation on the use of Plywood Panels for the In-Plane Strengthening of URM Walls Francisco Galvez	02C.4 Seismic NSE Hiccups and Solutions from Buildings Services Perspective Prashant Patel
15:15-15:35	Q&A Panel	Q&A Panel	Q&A Panel
15:35-16:05	Afternoon Tea Break Great Room 3&4		
16:05-18:00	Plenary 1: Managing Seismic Risks in Existing Buildings Henry Tatham, Matthew McDermott, Jenni Tipler Chair: Umair Siddiqui Great Room 1&2 Plenary 2: Seismic Risk Working Group Updates Rob Jury, John Hare, Ken Elwood Chair: Dion Marriott Great Room 1&2		
18:00-18:30	NZSEE Annual General Meeting Great Room 1&2		
18:30-20:00	Welcome Reception, Poster Session and Young Professionals Meet and Greet Great Room 3&4		

Day 2: Wednesday 9 April 2025

07:15-18:00	Registration Desk Open Great Room Foyer		
07:30-08:30	Breakfast Session 1 Design Competition Presentations Room: Jade 1&2		
08:30-09:30	Keynote 2: NHC Toka Tū Ake Keynote Speaker Laurie Johnson Earthquake Resilient Infrastructure: How Do We Get It? Insights from Efforts in San Francisco and the U.S. Chair: Alice Chang-Richards Great Room 1&2		
09:30-10:30	Keynote 3: Park and Paulay Keynote Speaker Santiago Pujol Expecting the Unexpected Chair: Geoff Rodgers Great Room 1&2		
10:30-11:00	Morning Tea Break Great Room 3&4		
11:00-12:00	Plenary 3: Putting People at the Heart of Engineering Sonny Vercoe, Jeff Fahrensohn, Julia Becker, Charlotte Brown Chair: Catalina Miranda Great Room 1&2		
12:00-13:00	Lunch and He Tohu Pupu Seismic Design Competition Great Room 3&4		
	Supported by		
			
13:00-15:00	03A – Concrete Structures Room: Great Room 1&2 Chair: Julian Benito	03B – Energy Dissipation Systems & Seismic Dampers for Improved Seismic Performance Room: Crystal 2 Chair: Sanjay Bora	03C – Geotechnical Performance, SSI & Liquefaction Assessment, Tsunami & Their Impact Room: Jade 1&2 Chair: Pathmanathan Brabhakaran
13:00-13:15	03A.1 Conceptual development of demountable floor-frame connections to avoid earthquake damage on precast floors Gonzalo Lozano	03B.1 Diaphragm Design Considerations for Buildings Utilizing Viscous Dampers Nikoo Hazaveh	03C.1 Seismic Strengthening of a Deep Basement Wall in a High Seismicity Area: A Case Study in Wellington Mikias Yohannes
13:15-13:30	03A.2 Damage to Demolition – Challenges and Findings from Inspection of Damaged Hollow Core Floors Hamish McKenzie	03B.2 An Evaluation of Buckling Restrained Braced Frames with Eccentric Brace Configurations Brandt Saxey	03C.2 Addressing Biases with Mapping Liquefiable Soil Maxim Millen
13:30-13:45	03A.3 Seismic Performance of Non-Ductile Reinforced Concrete Frame Detailing - a Taiwanese example Banu Ardi Hidayat	03B.3 Effect of Coupling between the Moment Frame and the Viscous Damper on Seismic Response of a Steel Building Ali Rad	03C.3 Seismic Lateral Pile Capacity Analysis in Marine Soils: Philippine Practices with Open-Source Frameworks Enrico Luis Abcede
13:45-14:00	03A.4 Seismic Performance Evaluation of Reinforced Concrete Structures with Infill Masonry Walls Containing Various Opening Locations Qudratullah Sharafi	03B.4 The Efficacy of Linear and Nonlinear Viscous Damper Subsystem Stiffness on Response Reduction in SDOF System Subjected to Earthquakes Hayman Ahmed	03C.4 Modelling Earthquake Induced Cascading Hazards alongside Probabilistic Risk Assessment: A Pilot Study of Napier City Katie Jones

Day 2: Wednesday 9 April 2025

14:00-14:15	03A.5 Performance Based Seismic Design using NLTHA: Retrofit of a 1980's 12 Storey RC Structure in Wellington for New Seismic Hazard Arun Puthanpurayil	03B.5 New Friction-based Seismic Brace: Cost-efficient Alternative to BRB's and EBF's Pouyan Zarnani	03C.5 To which extent coastal ecosystems can play a mitigation role against tsunami waves & currents in Aotearoa New Zealand? S R Uma
14:15-14:30	03A.6 Performance-Based Seismic Design of Post-Installed Anchors in New Zealand Dorian Borosnyoi-Crawley		03C.6 Findings of the subsurface compacted rubble rafts (SCRR) pilot project for severe liquefaction mitigation in Christchurch Zhaodong Du
14:30-15:00	Q&A Panel	Q&A Panel	Q&A Panel
15:00-15:30	Afternoon Tea Break Great Room 3&4		
15:30-16:45	<p>Plenary 4: Enhanced Seismic Resilience: A Pathway to the Wider Implementation of Dissipative Controlled Rocking in Bridges Royce Liu</p> <p>The Place of Base Isolation and Other Mechanisms for Mitigating Significant Seismic Hazard Risks in Bridges Moustafa Al-Ani</p> <p>MBIE/NHC/SESOC Low Damage Seismic Design Guidance Hamish McKenzie Chair: Nikoo Hazaveh Great Room 1&2</p>		
16:45-17:45	<p>Joint Committee for Seismic Assessment and Retrofit Workshop Dave Brunsdon, Andy Thompson</p> <p>Including: A Draft Performance Framework for Common NZ URM Buildings Seismically Strengthened using Standard Details Hamish Tocher, Alistair Cattanaach Chair: Ken Elwood Great Room 1&2</p>		
19:00-22:00	<p>Conference Dinner and NZSEE Awards</p> <ul style="list-style-type: none">NZSEE – NHC Toka Tū Ake Ivan Skinner AwardNZSEE – QuakeCoRE Emerging Women Leaders AwardOtto Glogau AwardNZSEE Research ScholarshipLife Members and FellowsBulletin Service AwardPresident's Award <p>Great Room 1&2</p>		

Day 3: Thursday 10 April 2025

07:15-17:00	Registration Desk Open Great Room Foyer		
07:30-08:30	Breakfast Session 2 Bridging Research and Practice in Earthquake Engineering Room: Jade 1&2		
08:30-09:15	Plenary 5: Focus on Resilience and Sustainability of Existing and New Buildings Pathmanathan Brabbaharan Chair: Sanjay Bora Great Room 1&2		
09:15-10:15	Plenary 6: Leveraging New Technologies for Earthquake Engineering and Resilience Julian Benito, Raj Prasanna, Maria Mingallon Chair: Alice Chang-Richards Great Room 1&2		
10:15-10:45	Morning Tea Break Great Room 3&4		
10:45-12:30	04A – Learnings from Earthquakes Special Session Room: Great Room 1&2 Chair: Gregory Macrae	04B – Seismic Policy, Communication of Seismic Risk & Societal Perception Room: Crystal 2 Chair: Phoebe Moses	04C – Steel Structures Room: Jade 1&2 Chair: Annie Scott
10:45-11:00	Introduction/The 2024 Hualien, Taiwan Earthquake: Mission Overview Gregory Macrae, Bo-Yao Lee	04B.1 Towards Incentivising Resilience to Natural Hazards in Aotearoa: A Case for Action Ben Exton	04C.1 Assessment of Seismic Capacity of Existing Steel Portal Frame Structures Jitendra Bothara
11:00-11:15	The 2024 Hualien Earthquake NZSEE LFE Reconnaissance Mission Report – Seismology and Infrastructure Doug Mason	04B.2 New Zealand Emergency Management of Built Heritage: Insights and Recommendations from a Gap Analyses Study Clara Caponi	04C.2 Seismic Interaction between a Reticular Structure and Multi-Supported Secondary Structures Nawawi Chow
11:15-11:30	Performance of reinforced concrete buildings surveyed following the 3 April 2024 Hualien Earthquake Lucas Hogan	04B.3 Trends in Medium-Density Housing (MDH) Construction: A Case Study of Mid-Rise Apartments in New Zealand Indriana Apriani	04C.3 Considerations for Selection of Friction Moment Frame Connection Configuration Roberto Carlevaris
11:30-11:45	Effect of Low-Cost Retrofitting systems on performance of Reinforced Concrete buildings Surveyed after the 2024 Hualien earthquake in Taiwan Lucas Hogan	04B.4 Commemorating the 1974 Dunedin Earthquake to Encourage Community Resilience Caroline Orchiston	04C.4 Performance of Symmetric Friction Connection with Partially Deflected Belleville Springs (SFCBeSs) in a Brace-to-Gusset Plate Connection Zhenduo Yan
11:45-12:00	Hualien Earthquake Functional Recovery / Organisational Response Alice Chang-Richards, Ke Jiang, Bo-Yao Lee	04B.5 War, Earthquake and Recovery Politics in Conflict-Affected Syria Jitendra Bothara	04C.5 Innovative Australasian Cold-Formed Steel Platform Framing Collector Beams for Multi-Storey Residential Buildings Ankeeta Karmakar
12:00-12:15	04A.6 Observed Damage from 17 Dec 2024 M7.3 Vanuatu Earthquake Laura Whitehurst & John Seward	Q&A Panel	Q&A Panel
12:15-12:30	Q&A Panel		

Day 3: Thursday 10 April 2025

12:30-13:30	Lunch Great Room 3&4		
13:30-14:50	05A – Structural Resilience, Including Low-Damage Systems & Earthquake Protection Room: Great Room 1&2 Chair: Dion Marriott	05B – Seismic Isolation Systems Room: Crystal 2 Chair: Kieran Haymes	05C – Timber Structures Room: Jade 1&2 Chair: Nikoo Hazaveh
13:30-13:45	05A.1 Design, Fabrication and Experimental Performance of Seismic Shear Panel Dampers An-Chien Wu	05B.1 Optimised and Adaptive Supplementary Damped Isolation Systems Kiran Makan & Peter Huber	05C.1 Challenges in Achieving Seismic Resilience of Light Timber-Framed Houses Angela Liu
13:45-14:00	05A.2 Design and Evaluation of Seismic Resilient Building Structures in China Pan Peng	05B.2 Effect of Impact Models on the Response of Base-Isolated Buildings Subjected to Moat Wall Pounding Yuan Yuan Wei	05C.2 Traditional Seismic Fuses in Timber Structures - Pros and Cons Pierre Quenneville
14:00-14:15	05A.3 The Asymmetric Friction Connection (AFC): Sliding Behaviour and Optimum Range of Installed Bolt Tension Fateme Alizadeh	05B.3 Building Storey Seismic Isolation Behaviour and Issues Gregory Macrae	05C.3 Experimental Investigation of a Two-Storey Full-Scale CLT Structure with Resilient Rocking Walls Setu Raman Agarwal
14:15-14:30	05A.4 Seismic Performance of Steel Braced Frames: Comparing Buckling Restrained Braces, Friction Braces, and Braces with Resilient Slip Friction Joint Dampers Rajnil Lal	05B.4 Continuous Column Stiffness Effects on Buildings with Lower Storey Isolation Gregory Macrae	05C.4 Experimental Testing of a Full-Scale Resilient, Low-Damage, Two-Storey Cross Laminated Timber (CLT) Wall Structure Soheil Assadi
14:30-14:50	Q&A Panel	Q&A Panel	Q&A Panel
14:50-15:20	Afternoon Tea Break Great Room 3&4		
15:20-16:20	Keynote 4: Ruben Boroschek Structural Health Monitoring for Informed Decision-Making: Practical Insights Chair: Catalina Miranda Great Room 1&2		
16:20-17:00	Conference Closing Conference Awards: Best Student Paper award Best Research Paper award Best Practice Paper award Great Room 1&2		

POSTER SESSION

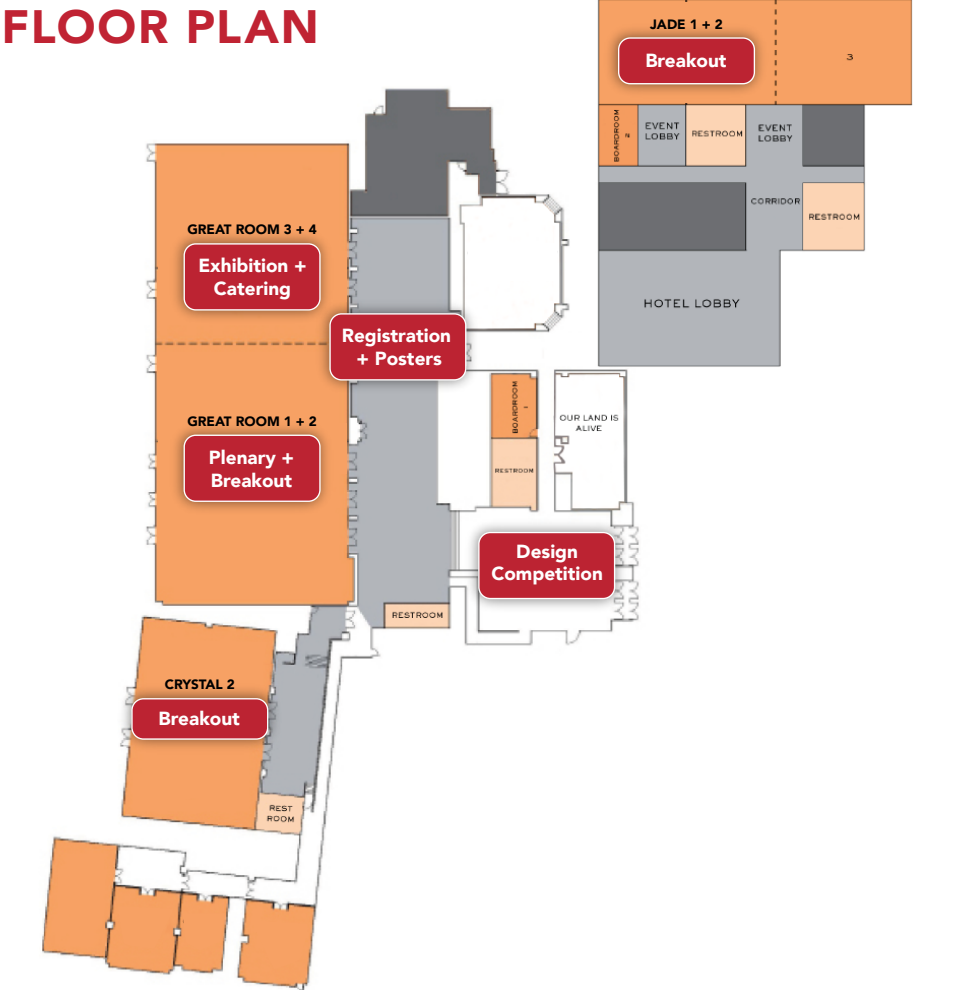
Tuesday 8 April 18:30 – 20:00

GREAT ROOM PRE-FUNCTION FOYER

No.		Poster Title	Presenter
P.01	Morteza Abbasnejadfar	University of Canterbury	Enhancing Seismic Hazard Simulation in New Zealand: Advances in Cybershake NZ
P.02	Qurban Ali	AUT	Resilient Shear Wall Steel Panels Equipped by Self-Restoring Friction Hold-downs for Earthquake Protection of Timber-Framed Residential Buildings
P.03	Gregory Macrae	University of Canterbury	Cyclic Deformation Capacity of Yielding Zones at Brace Ends
P.04	Tina Chen	The University Of Auckland	An overview of the base isolated building inventory in New Zealand
P.05	Gregory Macrae	University of Canterbury	Some Design Considerations for Short CBF Collector Beams and columns
P.06	Zhaodong Du	Geotech Engineering and Consulting NZ Limited	Global approaches to ground improvement in liquefaction-prone areas: techniques guidelines, and recommendations
P.07	Xi Duan	AUT	New Seismic Quick-Connects for Timber Portal Frames using Self-centring Slip Friction Joints: A Sustainable Design to be Green and Resilient
P.09	Gholamreza Hashemi	Auckland University Of Technology	Dynamic Characterisation of a Steel Building with Friction Connections
P.10	Fayaz Khan	DC Civil Enterprises Pty Ltd	Dynamic Performance of Interlocking Plastic-Block Structure Using Shake Table
P.11	Yaseen Mahmood	GNS Science	Exploring various methods for developing seismic fragility functions for the stopbanks (levees)
P.12	Reza Masoudnia	Red Stag TimberLb	An Introduction to Cross-Laminated Timber Diaphragm
P.13	Catalina Miranda	JCDR, Massey University	Testing alternatives and reimagining %NBS
P.14	Shuoguo Qiu	University of Auckland	A review of post-earthquake hospital functionality simulation methods
P.16	Vinod Sadashiva	GNS Science	Investigating potential implication of alternative approximations of buildings in tsunami inundation modelling
P.17	Vishnupriya Vishnupriya	Massey University	Finite Element Modelling of Velocity-Dependent Behaviour of HF2V lead extrusion dampers Using ABAQUS
P.18	Alireza Zare	University of Auckland	A review of Eccentric Braced Frame (EBF) systems and their applicability for mass timber structures
P.19	Junrui Zhang	University of Auckland	Design approach for Externally Bonded Fibre Reinforced Polymer with End anchorage
P.20	Gregory Macrae	University of Canterbury	Rocking steel frame system seismic behaviour



FLOOR PLAN





NZSEE 2025 APP

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The app screen shows the NZSEE logo, the conference title '2025 NZSEE CONFERENCE', the theme 'Harnessing Uncertainty', the tagline 'Driving Positive Change for a Sustainable and Resilient Future', and the dates '8–10 April 2025' at the 'Cordis Hotel, Auckland'.

Conference Committee

Sabina Piras, WSP, Conference Convenor
 Julian Benito, WSP
 Pathmanathan Brabhakaran, NZSEE President, WSP
 Sanjay Bora, GNS Science | Te Pū Ao
 Alice Chang-Richard, University of Auckland
 Kieran Haymes, University of Canterbury
 Nikoo Hazaveh, Mott MacDonald
 Dion Marriott, BECA, Conference Convenor
 Catalina Miranda, Massey University
 Phoebe Moses, Beca
 Geoff Rodgers, University of Canterbury
 Annie Scott, Aurecon
 Umair Siddiqui, Wellington City Council

Special Dietary Requirements

If you indicated your dietary requirement during the online registration, this has been forwarded to the caterers. Depending on your requirement, the main food may be suitable for you or a separate table will have your food.

Please make yourself known to the catering staff who will assist or please see the Registration Desk for assistance.

HARNESSING UNCERTAINTY: Driving Positive Change for a Sustainable and Resilient Future

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