8AESE

8TH INTERNATIONAL CONFERENCE ON
ADVANCES IN EXPERIMENTAL STRUCTURAL ENGINEERING
3-5 FEBRUARY 2020 • CHRISTCHURCH • NZ

PROGRAMME

Monday, 3 February 2020		
08.00	Registration – Engineering Core Foyer	
08.30 – 08.55	**Conference Opening**	**Venue: E7**
	Mihi Whakatau Opening Address: Professor Jan Evans-Freeman, Pro-Vice-Chancellor, University of Canterbury Co-chair Welcome and Housekeeping	
09.00 – 10.10	**Plenary Session 1 (Chair: Rick Henry)**	**Venue: E7**
09.00 – 9.35	**Keynote Speaker #1 – Ian Buckle: The use of large-scale experimental facilities to improve the seismic resilience of bridges**	
9.35 – 10.10	**Invited speaker #1 – Gilberto Mosqueda**: Hybrid Simulations with Large-scale Experimental Substructure and Complex Numerical Models	
10.10 – 10.45	Morning tea – Engineering Core Foyer	
10.45– 12.15	**Concurrent Session 1 (90 min)**	
	Venue: E6	**Venue: E7**
	Session 1 – Shake table tests (Chair: Lucas Hogan)	**Session 2 – Timber testing (Chair: Hamid Valipour)**
10.45 – 11.00	49: System Level Shake-Table Testing of a Full-Scale Post-Tensioned Wall Building – **Richard Henry**	107: Load-slip behaviour of timber-timber composite (TTC) joints: Laboratory experiments and numerical modelling - **Hamid Valipour**
11.00 – 11.15	57: Shaking Table Tests on Collapse Behavior of Reinforced Concrete Building with Near-Fault Earthquakes – **Fu-Pei Hsiao**	88: Time-dependent Deflection Measurement for Steel-Timber Composite (STC) Flooring System – **Sardar Malek**
11.15 – 11.30	35: Shake-table Tests of Half-scale Seven-storey Reinforced Concrete Structures Subjected to Inelastic Torsion – **Tomomi Suzuki**	91: Experimental Static and Dynamic Responses of Post-and-Beam Mass Timber Buildings Under a Column Removal Scenario – **Benoit Gilbert**
11.30 – 11.45	65: E-Defense Test of a 3-Storey Reinforced Concrete Frame Structure with Special Concrete Wall Cladding Detailing – **Yo Hibino**	52: Long-Term Behavior of LVL Post-Tensioned Timber Beams – **Gabriele Granello**
11.45 – 12.00	61: Friction Building Shaking Table Testing Overview – The ROBUST Project – **Gregory MacRae**	58: Experimental Study on Self-Centering Cross-Laminated Timber Shear Wall-Floor Diaphragm Sub-Assembly – **James Ricles**
12.00 – 12.15		109: A Pinching-Free Connector for Timber Structures – **Pouyan Zarnani**
12.15 – 13.30	Lunch – Engineering Core Foyer	
13.30 – 14.30	**Plenary Session 2 (Chair: Greg MacRae)**	**Venue: E7**
13.30 – 14.00	**Invited speaker #2 - Stefano Pampanin:** Overview of the SERA Project: 3D Shaking Table Test on an Integrated Low-Damage Building System for Enhanced Community Resilience	
14.00 – 14.30	**Invited speaker #3 - Rajesh Dhakal (15):** Shaking Table tests of multiple non-structural elements in a low-damage structural steel building	
14.30 – 15.30	**Concurrent Session 2 (60 min)**	
	Venue: E6	**Venue: E7**
	Session 3 – Advanced measurement techniques (Chair: Dmytro Dizhur)	**Session 4 – Structural tests #1 (Chair: Tim Sullivan)**
14.30 – 14.45	41: Crack Segmentation Using Digital Image Correlation (DIC) and Image Processing – **Francesco Vanin**	59: Replaceable Brace Modules for Concentrically Braced Frames: Large-Scale Testing with Moment-Resisting Beam-Column Connections – **Lydell Wiebe**
14.45 – 15.00	96: Investigating the Compressive Toe of Post-Tensioned CLT Core-walls using Particle Tracking Technology – **Justin Brown**	78: Static Testing of Additevly Manufactured Microreinforced Concrete Specimens for Statistical Structural Model Validation at a Small Scale – **Michalis Vassiliou**
15.00 – 15.15	86: Evaluation of Cost-Effective Lidar Scanner for Deformation Monitoring of Buckling Restrained Brace in a Full-Scale Seismic Qualification Experiment – **Shakhzod Takhirov**	50: Numerical Modelling as a Tool to Design and Analyze Large-scale Testing: A Case Study for Wood Frame Shear Walls in Chile – **Xavier Estrella**
15.15 – 15.30	70: Particle tracking velocimetry in shear testing of precast hollowcore slabs - **Ernesto Hernández & Ben Matthews**	89: Measuring Early-age Thermal Cracking of Mass Concrete Casting – **Sardar Malek**
15.30 – 16.00	Afternoon Tea – Engineering Core Foyer	
16.00 – 17.00	**Concurrent Session 3 (60min)**	
	Venue: E6	**Venue: E7**
	Session 5 – Hybrid simulation (Chair: Javad Hashemi)	**Session 6 – Device testing (Chair: Pouyan Zarnani)**
16.00 – 16.15	16: Multi-Hazard Real-time Hybrid Simulation of Tall Buildings with Damped Outriggers – **James Ricles**	107: Resilient Slip Friction Joint (RSFJ) in structural applications: experimental investigation – **Pouyan Zarnani**
16.15 – 16.30	46: Hybrid Simulation of Multi-Story Buildings with Ductile Soft-Story Formed by Concrete-Filled Steel Tube Columns - **Javad Hashemi**	72: Cyclic tests of an innovative seismic bracing member based on Multiple U-shaped Flexural Plates Dissipater – **Yan Chen**
16.30 – 16.45	29: Online Model Updating Technologies for Advancing Hybrid Simulations of a Steel Panel Damper Substructure - **Ming-Chieh Chuang**	108: Experimental Testing of Rotational Resilient Slip Friction Joint (R-RSFJ) - **Sajad Veismoradi**
16.45 – 17.00	79: Experimental evaluation of the extra-stroke response of Curved Surface Slider devices through hybrid simulation technique – **Alberto Pavese**	26: Low-cycle fatigue testing on strain-aged steel reinforcing bars – **Giuseppe Loporcaro**
17.10 – 18.10	**Plenary Session 3 (Chair: Chung-Che Chou)**	**Venue: E7**
17.10 – 17.40	**Invited speaker #4 - Minghao Li:** Seismic Testing of Innovative Lateral Load Resisting Systems in Mass Timber Structures	
17.40– 18.10	**Invited Speaker #5 – Ken Elwood:** ReCast project	
18.15 – 18.45	**University of Canterbury Lab Tour**	
19.00 – 20.30	Welcome & Networking Reception – Mezzanine Level, Engineering Core	

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PROGRAMME OUTLINE

Tuesday, 4 February 2020		
08.00	Registration – Engineering Core Foyer	
08.45 – 10.00	**Plenary Session 4 (Chair: Alessandro Palermo)**	**Venue: E7**
08.45 – 09.20	**Keynote Speaker #2 - Shyh-Jiann Hwang: Advanced Experimental Technologies Developed at NCREE in Taiwan**	
09.20 – 09.55	**Invited speaker #6 - Alberto Pavese:** Seismic assessment of isolation systems based on curved surfaces sliders using hybrid simulation technique	
10.00 – 10.30	Morning tea – Engineering Core Foyer	
10.30 – 12.00	**Concurrent Session 4 (90 min)**	
	Venue: E6	**Venue: E7**
	Session 7 – Loading protocols (Chair: Ken Elwood)	**Session 8 – Testing of Non-Structural Elements (SPONSE) (Chair: Rajesh Dhakal)**
10.30 – 10.45	99: A Seven-Story Steel BRBF under Far-Field and Near-Fault - **Chung-Che Chou**	77: Shake Table Tests and the Evaluation of Suspended Ceilings – **Geoffrey Davidson**
10.45 – 11.00	103: Effects of variation in loading protocol on the strength and deformation capacity of ductile reinforced concrete beams – **Ken Elwood**	60: Shake table tests on an automatic fire sprinkler piping system typical of New Zealand practices – **Muhammad Rashid**
11.00 – 11.15	104: Experimental performance of Steel Beam-to-Column Connection under Loading Protocols with Near-Fault Seismic Effect - **Ker-Chun Lin**	51: Experimental Tests on Precast Concrete Cladding Panel System with Rocking Connection Details – **Jitendra Bhatta**
11.15 – 11.30	36: Experimental Testing of Limited Ductile RC Columns under Varying Triaxial Loading Protocols – **Scott Menegon**	66: Experimental Testing of Glazing Systems - **Fransiscus Asisi Arifin**
11.30 – 11.45	110: The Right Test - **Santiago Pujol**	76: Analysis of cracking and detachment of plaster in stone masonry walls through Digital Image Correlation – **Francesco Vanin**
11.45 – 12.00		111: New Zealand Residential Window Fragility Function Development – **David Carradine**
12.00 – 13.00	Lunch – Engineering Core Foyer	
13.00 – 14.30	**Concurrent Session 5 (90 min)**	
	Venue: E6	**Venue: E7**
	Session 9 – Structural tests #2 (Chair: Michalis Vassiliou)	**Session 10 – Reinforced concrete wall tests (Chair: Farhad Dashti)**
13.00 – 13.15	115: Quasi-Static Hybrid Simulation of Dissipative Controlled Rocking Bridge Columns on Rotating Foundations – **Sabina Piras**	28: Seismic Performance of Slender and Unconfined RC U-shaped Walls with a Single-Layer of Reinforcement – **Ryan Hoult**
13.15 – 13.30	102: Modified RILEM Beam Setup for Cyclic Bond Testing of GFRP Bars – **Hayato Auman**	75: Experimental Investigation on Reinforced Concrete Prisms Representing Wall Boundary Zones – **Rohit Gokhale**
13.30 – 13.45	69: Compressive and Cyclic Performance of Glass Fibre-Reinforced Polymer (GFRP) Bars - **Cain Stratford**	73: Effect of Bar Buckling on the Hysteretic Response of Rectangular Reinforced Concrete Walls – **Mayank Tripathi**
13.45 – 14.00	37: Large Scale Experimental Investigation of a Reinforced Concrete Rockfall Protection Wall with a Gabion Cushion Cover - **Jude Shalitha Perera**	54: Comparative Assessment of Limited Ductile Cast In-Situ and Precast Concrete Core Walls – **Scott Menegon**
14.00 – 14.15	82: Testing of Reinforced Concrete Prisms Subjected to Different Loading History and Rates - **Qi Wang**	56: An Experimental Study on Progression of Global Instability in Ductile RC Walls - **Farhad Dashti**
14.15 – 14.30	71: Quasi-static cyclic testing of a multi-configurational column specimen – **Royce Liu**	38: Experimental Study of Reinforced Concrete Walls Repaired at Different Damage States – **Gonzalo Muñoz**
14.30 – 15.00	Afternoon Tea – Engineering Core Foyer	
15.00 – 16.00	**Concurrent Session 6 (60 min)**	
	Venue: E6	**Venue: E7**
	Session 11 – Novel test setups and software (Chair: Lydell Wiebe)	**Session 12 – Structural tests # 3 (Chair: Royce Liu)**
15.00 – 15.15	117: Component Testing of Full-Scale Friction Pendulum Bearing per IEEE693 for Seismic Isolation of High-Voltage Equipment – **Shakhzod Takhirov**	117: Field testing - **Lucas Hogan**
15.15 – 15.30	119: Innovative experimental setup for N-V coupled tests on masonry panels: concept and predictive numerical simulations – **Claudio Mazzotti**	119:Testing of Retrofit Solutions for Vulnerable Hollow-core Floor Connection Details – **Frank Bueker**
15.30 – 15.45	47: A Flexible and Extensible Software Platform for Quasi-static Structural Testing – **Kung-juin Wang**	74: An Application of Shaking Table and Laminar Shear Box: 1/25 Offshore Wind Turbine Model Test - **Bai-yi Huang**
15.45 – 16.00		
16.10 – 17.40	**Plenary Session 5 (Chair: David Carradine)**	**Venue: E7**
16.10 – 16.40	**Invited speaker #7 - Javad Hashemi:** (46) Seismic Performance Assessment of Structures through Multi-Axis Hybrid Simulation	
16.40 – 17.10	**Invited speaker #8 - Dmytro Dizhur:** Innovative structural experimental testing on a tight budget	
17.10 – 17.30	**Closing Ceremony**	
19.00	**Conference Dinner – Spice Paragon Restaurant, 76 Victoria Street, Christchurch Central City - RSVP Required**	

Wednesday, 5 February 2020	
09.00 – 10.30	**Christchurch CBD Field Trip - Meet at Christchurch Art Gallery - RSVP Required**
	Structural engineering themed guided walk Come and learn about the seismic resilience of Christchurch's buildings in this 1.5hr guided walk within the Christchurch CBD. From BRBs to triple pendulum base isolators to rocking frames, Christchurch is now home to a wide range of seismic engineering designs. Discover how existing buildings have been retrofitted to withstand earthquakes and the technologies and designs used in the newest buildings in the city.