



**NEW ZEALAND SOCIETY FOR EARTHQUAKE ENGINEERING**  
**2019 Pacific Conference on Earthquake Engineering**  
 TURNING HAZARD AWARENESS INTO RISK MITIGATION  
 4 – 6 April | SkyCity, Auckland | New Zealand



WEDNESDAY 03 APRIL 2019		
13.00 – 17.00	Crowne Plaza Hotel	NHRP Workshop @ Victoria Room, Crowne Plaza Hotel, Auckland
13.00 – 16.30	Depart from Britomart	Field trip visiting Auckland volcanoes
THURSDAY 04 APRIL 2019		
08.00 – 19.30	SkyCity Level 5	Registration Open
09.30 – 09.45	New Zealand Room 1 + 2	<b>Welcome and Conference Opening</b> Dean Kimpton (President, Engineering NZ) Chairs: David Whittaker and Bruce Deam
09.45 – 10.45	New Zealand Room 1 + 2	<b>Session 1: EQC Keynote: Maryann Phipps</b> <b><u>BETTER BUILDINGS BY DESIGN</u></b> <b><u>WHAT DOES IT REALLY TAKE TO DESIGN A GOOD BUILDING?</u></b> Chair: David Whittaker
10.45 – 11.15	New Zealand Room 3 + 4	Morning Tea

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11.15 – 12.15	New Zealand Room 1 + 2	<p align="center"><b>Session 2: Inaugural Park and Paulay Lecture: David Hopkins</b>  <a href="#"><u>IMPROVING EARTHQUAKE RESILIENCE OF NEW ZEALAND BUILDINGS. WHO CARES?</u></a>  Chair: Rajesh Dhakal</p>		
12.15 – 13.15	New Zealand Room 3 + 4	<p align="center"><b>Lunch</b></p>		
13.15 – 15.00	New Zealand Room 1 + 2	<p align="center"><b>Session 3: Invited Plenary Session</b>  <b>FACTS, RISK AND ACTION: ARE WE HAVING THE RIGHT CONVERSATION?</b>  Susan Freeman-Greene (Chief Executive, Engineering NZ)  <b>BUILDING ON SHAKY GROUND - CHALLENGES FACING NEW ZEALAND'S BUILDING REGULATOR</b>  Mike Kerr (Chief Engineering Advisor, BSP Branch, MBIE)  <a href="#"><u>THE NATURAL HAZARDS RESEARCH PLATFORM 2009-2019: A RETROSPECTIVE</u></a>  Kelvin Berryman (Manager Strategic Relationships, Hazards Division, GNS Science)  <b>TPROBABILISTIC TSUNAMI HAZARD AND RISK ASSESSMENT</b>  William Power (Senior Geophysicist, GNS Science) Tsunami</p>		
15.00 – 15.30	New Zealand Room 3 + 4	<p align="center"><b>Afternoon Tea</b></p>		
15.30 – 17.00	Session 4	<p align="center"><b>5in5 Session 4A: Geotechnical Engineering</b>  Chairs: Liam Wotherspoon  <b>Room: New Zealand 1</b></p>	<p align="center"><b>5in5 Session 4B: Performance Enhancement Measures</b>  Chairs: Geoff Rodgers  <b>Room: New Zealand 2</b></p>	<p align="center"><b>5in5 Session 4C: Modeling, Analysis and Tests for Seismic Performance Assessment</b>  Chairs: Rajesh Dhakal and Kam Weng Yuen  <b>Room: Marlborough 2</b></p>
		<p><a href="#"><u>4A.01 A COMPENDIUM OF LIQUEFACTION POTENTIAL ASSESSMENT METHODS</u></a>  Ademola Bolarinwa</p> <p><a href="#"><u>4A.02 SOIL-FOUNDATION-STRUCTURE INTERACTION ANALYSIS OF AN INSTRUMENTED WELLINGTON BUILDING</u></a>  Christopher McGann</p>	<p><a href="#"><u>4B.01 A PRELIMINARY STUDY ON CYCLIC BEHAVIOUR OF SFS DOWELLED CONNECTIONS IN GLULAM FRAMES</u></a>  Wenchen Dong</p> <p><a href="#"><u>4B.02 DUCTILITY OF DOWELLED NEW ZEALAND DOUGLAS-FIR CLT CONNECTIONS UNDER MONOTONIC AND CYCLIC LOADING</u></a>  Justin Brown</p>	<p><a href="#"><u>4C.01 AN IMPROVEMENT OF THE EXTENDED N2 METHOD FOR PLAN-ASYMMETRIC AND TORSIONALLY STIFF STRUCTURES</u></a>  Rita Peres</p> <p><a href="#"><u>4C.02 EARTHQUAKE RESPONSES OF FRP-CONCRETE COMPOSITE BRIDGE PIERS</u></a>  Nawawi Choww</p>

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		<p><b><u>4A.03 LEARNING TO SPEAK GEOTECH – THE IMPORTANCE OF COMMUNICATION BETWEEN GEOTECHNICAL AND STRUCTURAL DISCIPLINES THROUGHOUT PROJECT DELIVERY</u></b> Amy Williams</p> <p><b><u>4A.04 SHALLOW FOUNDATIONS ON LIQUEFIABLE SOILS WITH A NONE-LIQUEFIABLE CRUST: RECOMMENDATIONS FOR DESIGN AND ASSESSMENT</u></b> Emilia Stocks</p> <p><b><u>4A.05 LATERAL LOADING OF SHALLOW FOUNDATIONS UNDER SEISMIC LOADS</u></b> Najla Kunhimon</p> <p><b><u>4A.06 CASE STUDY: SEISMIC ASSESSMENT INCLUDING SOIL-STRUCTURE INTERACTION OF A THREE-STORY BUILDING WITH PILED FOUNDATIONS ON SOFT SOIL</u></b> Zavien Teh</p> <p><b><u>4A.07 CASE STUDY: DESIGNING A SETTLEMENT TOLERANT BUILDING USING SIMPLIFIED SOIL STRUCTURE INTERACTION</u></b> Zavien Theh</p> <p><b><u>4A.08 PLANNING OF GEOTECHNICAL INVESTIGATIONS FOR EXISTING BUILDINGS</u></b> Shirley Wang</p>	<p><b><u>4B.03 DEVELOPMENT OF SELF-CENTRING ROTATIONAL SLIP FRICTION JOINT: A NOVEL DAMAGE-FREE DAMPER WITH LARGE DEFLECTIONS</u></b> Sajad Veismoradi</p> <p><b><u>4B.04 A ROBUST PROCEDURE FOR ANALYSIS AND DESIGN OF SEISMIC RESISTANT STRUCTURES WITH FLAG-SHAPED HYSTERETIC DAMPING SYSTEMS</u></b> Ashkan Hashemi</p> <p><b><u>4B.05 NUMERICAL AND EXPERIMENTAL STUDY ON FRICTION CONNECTIONS PERFORMANCE- ASYMMETRIC AND SYMMETRIC (AFC/SFC)</u></b> Mahdi Hatami</p> <p><b><u>4B.06 NEW DAMAGE AVOIDANT SELF-CENTRING TIMBER BRACE USING RESILIENT SLIP FRICTION JOINT</u></b> Seyed Mohammad Mehdi Yousef-Beik</p> <p><b><u>4B.07 SIMPLIFIED MACRO-MODELING FOR PREDICTING SEISMIC RESPONSE OF BRIDGES WITH DISSIPATIVE CONTROLLED ROCKING CONNECTIONS</u></b> Alessandro Palermo</p> <p><b><u>4B.08 EXPERIMENTAL TEST OF A NEW SELF-CENTRING TENSION-ONLY BRACE USING THE RESILIENT SLIP FRICTION JOINT</u></b> Hamed Bagheri</p> <p><b><u>4B.09 SEISMIC PERFORMANCE OF ROCKING CONCRETE SHEAR WALLS</u></b></p>	<p><b><u>4C.03 DYNAMIC BEHAVIOR OF THE REINFORCED-CONCRETE BRIDGES IN FREEZING CONDITIONS</u></b> Anastasiia Plotnikova</p> <p><b><u>4C.04 STRUCTURAL BEHAVIOR OF A RETROFITTED REINFORCED CONCRETE BUILDINGS UNDER NEAR-FAULT EARTHQUAKE</u></b> Renjie Tsai</p> <p><b><u>4C.06 THINKING OUTSIDE THE (BLACK) BOX: A HOLISTIC APPROACH TO COMPLEX ANALYSES</u></b> Alistair Cattanach</p> <p><b><u>4C.07 A NOVEL DAMPING MODEL FOR EARTHQUAKE INDUCED STRUCTURAL RESPONSE SIMULATION</u></b> Chin-Long Lee</p> <p><b><u>4C.09 SHAKE TABLE TEST VALIDATION, EXPERIMENTAL-BASED MODELING AND PARAMETRIC ANALYSIS OF AN INNOVATIVE MODULARIZED SUSPENDED BUILDING STRUCTURE</u></b> Zhihang Ye</p> <p><b><u>4C.10 AN INTEGRATED FRAMEWORK FOR DAMAGE DIAGNOSIS AND PROGNOSIS IN LONG-TERM STRUCTURAL HEALTH MONITORING</u></b> Cong Zhou</p> <p><b><u>4C.11 DEVELOPMENT OF PRACTICAL METHOD FOR INCORPORATION OF ELEMENTAL DAMPING IN INELASTIC</u></b></p>
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17.30 – 18.30	New Zealand Room 1	<p><b>NZSEE AGM</b> David Whittaker, President, NZSEE</p>		
18.30 – 20.00	New Zealand Room 3 + 4	<p><b>Welcome Reception and Poster Session 1</b></p>		

FRIDAY 05 APRIL 2019				
08.00 – 18.00	SkyCity Level 5	Registration Open		
08.30 – 09.30	New Zealand Room 1 + 2	Session 5: Keynote: Carlos Ventura <a href="#">SEISMIC PERFORMANCE OF TIMBER BUILDINGS</a> Chair: Geoff Rodgers		
09.30 – 10.30	New Zealand Room 1 + 2	Session 6: Invited Plenary Session <a href="#">SEISMIC HAZARD ESTIMATION IN STABLE CONTINENTAL REGIONS: CHALLENGES AND OPPORTUNITIES</a> Trevor Allen (Senior Seismologist, Geoscience Australia) Seismic hazard estimation in stable continental regions: challenges and opportunities <b>THE DILEMMA AND OPPORTUNITY THAT IS HERITAGE</b> Andrew Coleman (Chief Executive, Heritage New Zealand)		
10.30 – 11.00	New Zealand Room 3 + 4	Morning Tea		
11.00 – 12.30	Session 7	<b>Oral Session 7A: Reinforced Concrete 1</b> Chairs: Masaki Maeda and Rick Henry <b>Room: New Zealand 1</b>	<b>Oral Session 7B: Geotechnical Engineering</b> Chairs: Pathmanathan Brabharan and Mark Stringer <b>Room: Marlborough 2</b>	<b>Oral Session 7C: Seismic Strengthening</b> Chairs: Win Clark and Dmytro Dizhur <b>Room: New Zealand 2</b>
11.00 – 11.15		<b>7A.01 <a href="#">SEISMIC PERFORMANCE OF REINFORCED CONCRETE COLUMNS WITH INTERMEDIATE HEIGHT-TO-DEPTH RATIO FAILED IN SHEAR</a></b> Yi-An Li	<b>7B.01 <a href="#">DESIGN OF PILE FOUNDATIONS AT SITES PRONE TO LIQUEFACTION AND LATERAL SPREADING</a></b> Alexei Murashev	<b>7C.01 <a href="#">COMPARISON OF RECORDED AND SIMULATED GROUND MOTIONS FOR NZS1170.5-BASED 3D BUILDING RESPONSE ANALYSIS</a></b> Vahid Loghman

11.15 – 11.30		<b>7A.02 <a href="#">FEM PREDICTION OF FAILURE MECHANISMS IN RC STRUCTURAL WALLS: PARAMETRIC INVESTIGATION</a></b> Farhad Dashti	<b>7B.02 <a href="#">LIQUEFACTION ASSESSMENT OF RECLAIMED GRAVELLY SOILS AT CENTREPORT, WELLINGTON</a></b> Ribu Dhakal	<b>7C.02 <a href="#">HERITAGE BUILDING SEISMIC STRENGTHENING - AN ARCHITECT AND ENGINEERS PERSPECTIVE - MIBAR BUILDING (FORMERLY THE NZ RACING CONFERENCE BUILDING) - WELLINGTON</a></b> Frances Vessey and Michael Geddes
11.30 – 11.45		<b>7A.03 <a href="#">INFLUENCE OF FLANGE DETAILING ON THE SEISMIC PERFORMANCE OF I-SHAPED REINFORCED CONCRETE WALL ELEMENTS</a></b> Jiehui Wang	<b>7B.03 <a href="#">MICROPILES: AN EFFECTIVE FOUNDATION FOR SEISMIC STRENGTHENING</a></b> Christopher Sandoval	<b>7C.03 <a href="#">ECO-RUBBER SEISMIC-ISOLATION FOUNDATION SYSTEMS: A COST-EFFECTIVE WAY TO BUILD RESILIENCE?</a></b> Gabriele Granello
11.45 – 12.00		<b>7A.04 <a href="#">QUASI-STATIC UNIAXIAL CYCLIC LOADING PROTOCOL FOR RC COLUMNS SIMULATING WALL BOUNDARY ZONES</a></b> Rohit Gokhale	<b>7B.04 <a href="#">INVESTIGATING THE ROLE OF FINE-GRAINED LAYERS IN CONTAINING LIQUEFIED SOILS</a></b> Emma Lowe and Chris O'Connell	<b>7C.04 <a href="#">DUNEDIN LAW COURTS - SEISMIC STRENGTHENING</a></b> John Finnegan
12.00 – 12.15		<b>7A.05 <a href="#">ASSESSMENT OF REINFORCED CONCRETE BUILDINGS WITH HOLLOW-CORE FLOORS</a></b> Ken Elwood	<b>7B.05 <a href="#">UNDERSTANDING AND QUANTIFYING THE IMPACT OF EARTHQUAKE-TRIGGERED LANDSLIDES IN THE WELLINGTON REGION</a></b> Ehsan Kianirad	<b>7C.05 <a href="#">BASE ISOLATION FOR SEISMIC RETROFITTING OF FLEXIBLE RESIDENTIAL BUILDING</a></b> Mauro Sartori
12.15 – 12.30		<b>7A.06 <a href="#">INVESTIGATING THE INFLUENCE OF GROUND MOTION DURATION ON THE DYNAMIC DEFORMATION CAPACITY OF REINFORCED CONCRETE FRAMED STRUCTURES</a></b> Vishvendra Bhanu	<b>7B.06 <a href="#">UNDRAINED MONOTONIC BEHAVIOUR OF LIQUEFIED PUMICEOUS SANDS</a></b> Rolando Orense	<b>7C.06 <a href="#">THE UNIVERSITY OF AUCKLAND CLOCK TOWER EAST WING: TURNING A HERITAGE BUILDING INTO A MODERN TEACHING SPACE</a></b> Adrien Marteddu
12.30 – 13.30	New Zealand 3 + 4	Lunch		

13.30 – 15.00	Session 8	<b>Oral Session 8A: Steel and Composite</b> Chairs: Charles Clifton and Tim Sullivan <b>Room: New Zealand 1</b>	<b>Oral Session 8B: Masonry Structures</b> Chairs: Jason Ingham and Trevor Yeow <b>Room: Marlborough 2</b>	<b>Oral Session 8C: Risk Assessment/Mitigation</b> Chairs: Dave Brunston and David Johnston <b>Room: New Zealand 2</b>
13.30 – 13.45		<b>8A.01 <u><a href="#">BENDING STIFFNESS AND STRENGTH PERFORMANCE OF DIFFERENT COLUMN SPLICE CONNECTIONS</a></u></b> Fahimeh Tork Ladani	<b>8B.01 <u><a href="#">PROPOSAL OF VISUAL RATING (VR) METHOD FOR SEISMIC CAPACITY EVALUATION AND SCREENING OF RC BUILDINGS WITH MASONRY INFILL</a></u></b> Md Shafiul Islam	<b>8C.01 <u><a href="#">ECONOMIC SEISMIC HAZARD MITIGATION: THE WHIROKINO &amp; MANAWATU RIVER BRIDGE REPLACEMENT PROJECT</a></u></b> Merrick Taylor
13.45 – 14.00		<b>8A.02 <u><a href="#">DESIGN REQUIREMENTS FOR FLOATING COLUMN UNDER SEISMIC FORCES</a></u></b> Santosh Murnal	<b>8B.02 <u><a href="#">COST-EFFECTIVENESS OF JAPANESE CONCRETE CLADDING DETAILING FOR IMPROVED SEISMIC PERFORMANCE</a></u></b> Trevor Yeow	<b>8C.02 <u><a href="#">ASSESSING COLLAPSE CAPACITY AND RISK IN SUBSEQUENT GROUND MOTIONS USING SHM RESULTS FOR INCREMENTAL DYNAMIC ANALYSIS</a></u></b> <b>8C.02 <u><a href="#">ASSESSING COLLAPSE CAPACITY AND RISK IN SUBSEQUENT GROUND MOTIONS USING SHM RESULTS FOR INCREMENTAL DYNAMIC ANALYSIS</a></u></b> Cong Zhou
14.00 – 14.15		<b>8A.03 <u><a href="#">DISPLACEMENT BASED DESIGN APPROACH AS A SCHEME STAGE METHODOLOGY FOR STRUCTURES WITH VISCOUS DAMPERS: SOME PRELIMINARY OBSERVATIONS</a></u></b> Arun Puthanpurayil	<b>8B.03 <u><a href="#">HOW TO ASSESS 25,000 BUILDINGS</a></u></b> Craig Muir	<b>8C.03 <u><a href="#">ASSESSING VOLCANIC RISK TO TRANSPORT NETWORKS – THE CASE OF MERAPI, INDONESIA</a></u></b> Sean Wilkinson
14.15 – 14.30		<b>8A.04 <u><a href="#">SEISMIC DESIGN OF STEEL BRACED FRAMES' FOUNDATIONS</a></u></b> Sanda Kovoevic	<b>8B.04 <u><a href="#">INVESTIGATION ON FERRO-CEMENT LAMINATED INFILLED MASONRY WALL UNDER CYCLIC LATERAL LOAD</a></u></b> Debasish Sen	<b>8C.04 <u><a href="#">INFLATED %NBS RATINGS IN CONVENTIONAL SEISMIC ASSESSMENTS DUE TO UNINTENTIONAL SCALING DOWN OF GRAVITY DEMAND</a></u></b> Zahid Hanif

14.30 – 14.45		<p><b>8A.05 <a href="#">PREDICTING LOW-CYCLE FATIGUE RESILIENCE OF BUCKLING RESTRAINED BRACES</a></b> Brandt Saxey</p>	<p><b>8B.05 <a href="#">STUDY OF SEISMIC CAPACITY AND SEISMIC DEMAND OF EXISTING RC BUILDINGS WITH MASONRY INFILL DAMAGED BY PAST EARTHQUAKES IN DEVELOPING COUNTRIES</a></b> Hamood Alwashali</p>	<p><b>8C.05 <a href="#">MITIGATING EARTHQUAKE RISK IN AUSTRALIA</a></b> Mark Edwards</p>
14.45 – 15.00		<p><b>8A.06 <a href="#">DYNAMIC TIME HISTORY ANALYSIS OF A LOW DAMAGE MULTI-STOREY BUILDING INCORPORATING THE SEISMIC FRICTION DAMPERS USING A PROPOSED SIMPLIFIED MULTI DEGREE OF FREEDOM (MDOF) MODEL: IS SELF-CENTRING REALLY A CONCERN?</a></b> Shahab Ramhormozian</p>	<p><b>8B.06 <a href="#">EXPERIMENTAL SEISMIC INVESTIGATION OF SEMI-REINFORCED STONE MASONRY BUILDINGS IN MUD MORTAR</a></b> Jitendra Bothara</p>	<p><b>8C.06 <a href="#">A DIFFERENT WAY OF THINKING ABOUT SEISMIC RISK: A CALL FOR DEBATE</a></b> John Hare</p>
15.00 – 15.30	New Zealand 3 + 4	<b>Afternoon Tea</b>		
16.00 – 17.30	Session 9	<p><b>5in5 Session 9A: Seismology and Ground Improvement</b> Chairs: Brendon Bradley and Chris Van Houtte <b>Room: New Zealand 1</b></p>	<p><b>5in5 Session 9B: Steel Structures</b> Chairs: Helen Ferner and Reagan Chandramohan <b>Room: New Zealand 2</b></p>	<p><b>5in5 Session 9C: Learning from Natural Hazards and Improving Design and Practice</b> Chairs: Carl Ashby and Jitendra Bothara <b>Room: Marlborough 2</b></p>
		<p><b>9A.01 <a href="#">CONTRIBUTION OF IDENTIFIED POTENTIALLY ACTIVE FAULTS TO SEISMIC HAZARD IN AUSTRALIA BASED ON NSHA18</a></b> Paul Somerville</p> <p><b>9A.02 <a href="#">PROGRESS TOWARD NEW ZEALAND-WIDE HYBRID BROADBAND GROUND MOTION SIMULATION</a></b></p>	<p><b>9B.01 <a href="#">FUSE ENABLED MODULAR EXPANSION JOINTS FOR BRIDGES SUBJECT TO SEISMIC DAMAGE POTENTIAL - A POTENTIALLY LIFE SAVING INNOVATION</a></b> Virendra Ghodke</p> <p><b>9B.02 <a href="#">MAKING BEARINGS AND EXPANSION JOINTS SMART FOR SEISMIC</a></b></p>	<p><b>9C.01 <a href="#">SEISMIC STRENGTHENING AND UPLIFT OF THE 1904 WELLINGTON TOWN HALL</a></b> Laura Whitehurst</p> <p><b>9C.02 <a href="#">KENNEDY BUILDING 39-33 CUBA ST – STRENGTHENING OF A 4 STOREY HERITAGE FAÇADE IN A PROMINENT WELLINGTON LOCATION</a></b></p>



	<p><a href="#"><u>VALIDATION</u></a> Robin Lee</p> <p><b>9A.03</b> <a href="#"><u>INELASTIC SPECTRA FOR SOFT SOILS INCORPORATING SOIL COMPLIANCE</u></a> Rob Jury</p> <p><b>9A.04</b> <a href="#"><u>GROUND MOTION INPUT FOR NONLINEAR RESPONSE HISTORY ANALYSIS (NLRHA): PRACTICAL LIMITATIONS OF NZS 1170.5 AND COMPARISON TO US STANDARDS</u></a> Gareth Morris</p> <p><b>9A.05</b> <a href="#"><u>PRELIMINARY EXAMINATION OF KINEMATIC RUPTURE PARAMETER VARIABILITY OF SIMULATED GROUND MOTIONS</u></a> Sarah Neill</p> <p><b>9A.06</b> <a href="#"><u>DEVELOPMENT OF A WAIKATO BASIN TO AND DEPTH MODEL BY H/V SPECTRAL RATIO METHOD</u></a> Seokho Jeong</p> <p><b>9A.07</b> <a href="#"><u>NEAR SURFACE SEISMIC IMAGING TO LOCALISE AND CHARACTERISE ACTIVE FAULTS: CASE STUDY IN NELSON, NEW ZEALAND</u></a> Phil Mourot</p> <p><b>9A.08</b> <a href="#"><u>LAND USE PLANNING FOR FEILDING, CONSIDERING LIQUEFACTION HAZARD</u></a> Ravi Sundar</p>	<p><a href="#"><u>AND OTHER MILLENEAL CHALLENGES</u></a> Virendra Ghodke</p> <p><b>9B.03</b> <a href="#"><u>LATERAL INSTABILITY OF SELF-CENTRING BRACES: BUCKLING FAILURE AT LOADING AND UNLOADING PHASES</u></a> Seyed Mohammad Mehdi Yousef-Beik</p> <p><b>9B.04</b> <a href="#"><u>FINITE ELEMENT MODELLING OF HF2V LEAD EXTRUSION DAMPERS FOR SPECIFIC FORCE CAPACITIES</u></a> Vishnupriya</p> <p><b>9B.05</b> <a href="#"><u>DISPLACEMENT-BASED RETROFIT OF EXISTING REINFORCED CONCRETE FRAMES USING ALTERNATIVE STEEL BRACE SYSTEMS</u></a> Mahdi A. Rad</p> <p><b>9B.06</b> <a href="#"><u>SEISMIC PERFORMANCE OF STEEL BUILDINGS WITH FLUID VISCOUS DAMPERS RELATIVE TO BASE ISOLATION</u></a> Ali Rad</p> <p><b>9B.08</b> <a href="#"><u>PROPOSED DESIGN PROCEDURE FOR DAMAGE-AVOIDANCE BRACED FRAMES WITH BRACES EFFECTIVE IN TENSION ONLY</u></a> Ashkan Hashemi</p> <p><b>9B.09</b> <a href="#"><u>SHAKING TABLE TEST OF A REAL SCALE LOW DAMAGE STRUCTURAL STEEL BUILDING</u></a> Zhenduo Yan</p> <p><b>9B.10</b> <a href="#"><u>EFFECT OF NEAR AND FAR FIELD SEISMIC EVENTS ON THE EXHAUSTION OF</u></a></p>	<p><a href="#"><u>(SUBJECT TO SECTION 124 NOTICE)</u></a> Stanley Chung and Frances Vessey</p> <p><b>9C.03</b> <a href="#"><u>FRAME APARTMENTS - CASE STUDY IN MODERN CONCRETE HIGH-RISE CONSTRUCTION IN NEW ZEALAND</u></a> Tony Holden</p> <p><b>9C.04</b> <a href="#"><u>CASE STUDY OF TVNZ TELEVISION CENTRE REFURBISHMENT - SPECIFIC DESIGN OF SEISMIC RESTRAINTS FOR NON-STRUCTURAL ELEMENTS</u></a> John Newall and Paul Campbell</p> <p><b>9C.05</b> <a href="#"><u>A CONSPECTUS OF WINE STORAGE TANK DAMAGE DATA FOLLOWING THE 2013 AND 2016 NEW ZEALAND EARTHQUAKES</u></a> Mohsen Yazdanian</p> <p><b>9C.06</b> <a href="#"><u>SOCIAL IMPACTS AND COMMUNITY RESILIENCE THROUGH RECOVERY: NEPAL EARTHQUAKE 2015</u></a> April Aryal</p> <p><b>9C.07</b> <a href="#"><u>Post-earthquake recovery phase of winery facilities. A case study in the Marlborough area</u></a> Giuseppe Loporcaro</p> <p><b>9C.08</b> <a href="#"><u>THE SERVICEABILITY OF RESILIENT SEISMIC DESIGN IN NEW ZEALAND</u></a> Didier Pettinga</p> <p><b>9C.09</b> <a href="#"><u>TSUNAMI AND THEIR POTENTIAL EFFECTS ON CRITICAL</u></a></p>
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	<p><b><u>9A.09 HYBRID FENCE DESIGN FOR ROCKFALL PROTECTION ABOVE THE COASTAL HIGHWAY IN KAIKOURA, NEW ZEALAND</u></b> Tom Revell</p> <p><b><u>9A.10 MODELLING AND DESIGN OF A LARGE SCALE ROCKFALL PROTECTION BUND FOR COASTAL TRANSPORT CORRIDOR RECOVERY FOLLOWING THE NOVEMBER 2016 M7.8 KAIKOURA EARTHQUAKE</u></b> Eric Ewe</p> <p><b><u>9A.11 NUMERICAL INVESTIGATION OF GRAVITY RETAINING WALL FOUNDATION FAILURE MECHANISMS</u></b> Arman Kamalzadeh</p> <p><b><u>9A.12 LESSONS LEARNED AND NEED FOR APPROPRIATE PHILOSOPHY FOR THE DESIGN OF STONE COLUMN GROUND IMPROVEMENT UNDER SEISMIC SCENARIOS</u></b> Jawad Arefi</p> <p><b><u>9A.13 MECHANICALLY STABILIZED EARTH WALL STRUCTURES (MSE)</u></b> Lc Oh</p> <p><b><u>9A.14 AN EVOLVING NORM IN STRENGTHENING COMMERCIAL BUILDINGS AND VOLUNTARY EARTHQUAKE SAFETY CHECKS ON HOUSES IN WELLINGTON, NEW ZEALAND 2013-2016</u></b> John McClure</p>	<p><b><u>DISSIPATER FATIGUE LIFE</u></b> <a href="#">Royce Liu</a></p> <p><b><u>9B.11 BUCKLING CAPACITY OF GUSSET PLATES DERIVED FROM STABILITY FUNCTION</u></b> Vikki Too</p> <p><b><u>9B.12 STRUCTURAL STRENGTHENING WITH DISPLACEMENT AND DIRECTION DEPENDENT (D3) VISCOUS DAMPER USING AFTERSHOCKS – SHAKING TABLE STUDY</u></b> Nikoo Hazaveh</p> <p><b><u>9B.13 STRONG-AXIS AND WEAK-AXIS BUCKLING OF BUCKLING RESTRAINED BRACES UNDER BIDIRECTIONAL LOADING</u></b> Jian Cui</p> <p><b><u>9B.14 AXIAL STRENGTH OF GUSSET PLATES IN BUCKLING RESTRAINED BRACED FRAMES UNDER BIDIRECTIONAL MONOTONIC LOADS</u></b> Saul Vazquez Colunga</p>	<p><b><u>INFRASTRUCTURE</u></b> Vicki-Ann Dimas and Bapon Fakruddin</p> <p><b><u>9C.10 IMPORTANCE LEVEL 4 STRUCTURES: DESIGNING FOR SEISMIC RESILIENCE AND CONTINUED FUNCTIONALITY. NEW AIR TRAFFIC CONTROL FACILITY IN CHRISTCHURCH</u></b> Tim Maley</p> <p><b><u>9C.11 DELIVERING AN EFFECTIVE, COMMUNITY FOCUSED, INFRASTRUCTURE REBUILD TO ENABLE FASTER RECOVERY</u></b> Rod Cameron and Matt Thomas</p> <p><b><u>9C.12 DEVELOPMENT OF SEISMIC VULNERABILITY CURVES OF KEY BUILDING TYPES IN THE PHILIPPINES</u></b> Marie Claire Pascua</p> <p><b><u>9C.13 MODEL CREATION USING SHM RESULTS FOR RISK ASSESSMENT IN THE SUBSEQUENT EARTHQUAKES</u></b> Cong Zhou</p> <p><b><u>9C.14 IMPLICATIONS OF SEISMIC DESIGN DETAILING ON THE FIRE PERFORMANCE OF POST-TENSIONED TIMBER FRAMES</u></b> Paul Horne</p> <p><b><u>9C.15 INSIGHTS INTO CASUALTIES FROM THE 2016 KAIKOURA EARTHQUAKE</u></b> Nick Horspool</p>
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17.30 – 19.00	New Zealand 3 + 4	Pre-Dinner Drinks & Poster Session 2
19.00 - Late	Auckland Room	Conference Dinner

SATURDAY 06 APRIL 2019				
08.00 – 17.00	SkyCity Level 5	Registration Open		
09.00 – 10.30	New Zealand Room 1 + 2	<p>Session 10: Invited Plenary Session</p> <p><a href="#">DISRUPTIVE TECHNOLOGY IN THE GEOTECHNICAL PROFESSION</a> Jan Kupec (Technical Director, Aurecon)</p> <p><a href="#">ILEE-QUAKECORE COLLABORATION: LOW-DAMAGE CONCRETE WALL BUILDING TEST</a> Geoffrey Rodgers &amp; Rick Henry (University of Canterbury)</p> <p><a href="#">ILEE-EERF COLLABORATION: DEVELOPMENT OF HIGH-PERFORMANCE EARTHQUAKE RESILIENT SEISMIC FORCE RESISTING SYSTEMS</a> Tony Yang (Tongji University, Shanghai, P.R. China and University of British Columbia)</p>		
10.30 – 11.00	New Zealand Room 3 + 4	Morning Tea		
11.00 – 12.30	Session 11	<p>Oral Session 11A: Reinforced Concrete II Chairs: Ken Elwood and Farhad Dashti Room: New Zealand 1</p>	<p>Oral Session 11B: Health Monitoring and Performance Assessment Chairs: Farzin G. Golzar and Arun Puthanpurayil Room: Marlborough 2</p>	<p>Oral Session 11C: Learning from Pacific Countries Chairs: Teuku Faisal Fathani Room: New Zealand 2</p>
11.00 – 11.15		<p>11A.01 <a href="#">SHAKING TABLE TEST OF A REDUCED-SCALE REINFORCED CONCRETE STRUCTURE SUBJECTED TO NEAR-FAULT GROUND MOTION</a> Wen-Cheng Shen</p>	<p>11B.01 <a href="#">ESTIMATION OF ELASTIC SEISMIC DEMANDS IN TORSIONALLY-UNBALANCED BUILDING STRUCTURES BY USING THE INTERACTIVE RELATIONS BETWEEN SHEAR AND TORSION</a></p>	<p>11C.01 <a href="#">MANAGING RISK FOR WORKERS ON SLOPES DURING RECONSTRUCTION OF TRANSPORT NETWORK INFRASTRUCTURE FOLLOWING THE</a></p>

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			Han Seon Lee	<a href="#">KAIKŌURA/HURUNUI EARTHQUAKES, NOVEMBER 14TH 2016</a> Leon Gerrard
11.15 – 11.30		<a href="#">11A.02 LOW-CYCLE FATIGUE DAMAGE OF BUCKLING PRONE REINFORCING BARS</a> Rajesh Dhakal	<a href="#">11B.02 DEVELOPMENT OF WIRELESS SENSORY SYSTEM FOR LONG-TERM MONITORING OF LARGE-SCALE CIVIL STRUCTURES</a> Niusha Navabian	<a href="#">11C.02 PUSHOVER ANALYSIS OF THE DISTRICT OFFICE BUILDING DAMAGED DURING 2016 MEINONG, TAIWAN EARTHQUAKE</a> Pu Wen Weng
11.30 – 11.45		<a href="#">11A.03 DEFORMATION LIMITS FOR DESIGN AND ASSESSMENT OF RC WALLS</a> Alex Shegay	<a href="#">11B.03 PWCPI-BASED PROCEDURE TO ESTIMATE CAPACITY CURVE FOR INSTRUMENTED HIGH-RISE BUILDINGS</a> Haoran Pan	<a href="#">11C.03 RŪAUMOKO: MORE THAN JUST A SYMBOL</a> Dylan Taute
11.45 – 12.00		<a href="#">11A.04 CAPACITY OF DIAPHRAGM STRENGTHENED WITH FRP: COMPARISON BETWEEN ACI 440.2R AND IN-SITU TESTS</a> Miguel Ormeno	<a href="#">11B.04 DYNAMIC CHARACTERISTICS OF A SIX-STOREY WOODEN BUILDING BASED ON STRONG MOTION DATA</a> Toshihide Kashima	<a href="#">11C.04 DEVELOPMENT OF FRAGILITY CURVES OF JAPANESE BUILDINGS BASED ON THE 2016 KUMAMOTO EARTHQUAKE</a> Fumio Yamazaki
12.00 – 12.15		<a href="#">11A.05 EXPERIMENTAL ASSESSMENT OF HIGH-STRENGTH RC COLUMNS UNDER DIFFERENT BI-DIRECTIONAL LOADING PROTOCOLS</a> Saim Raza	<a href="#">11B.05 A CONSIDERATION OF EARTHQUAKE VIBRATION SENSE OF HUMAN BY USING REAL-TIME QUESTIONNAIRE</a> Harumi Yoneda	<a href="#">11C.05 THE MALAYSIAN SEISMIC DESIGN CODE: LESSONS LEARNT</a> Daniel Looi
12.15 – 12.30		<a href="#">11A.06 AN OVERVIEW OF POST EARTHQUAKE DAMAGE AND RESIDUAL CAPACITY EVALUATION FOR REINFORCED CONCRETE BUILDINGS IN JAPAN</a> Masaki Maeda		<a href="#">11C.06 AEES RECONNAISSANCE MISSION TO PAPUA NEW GUINEA, MARCH/APRIL 2018</a> Kevin McCue
12.30 – 13.30	New Zealand Room 3 + 4	Lunch		
13.30 – 15.00	Session 12	<b>Oral Session 12A: Seismic Performance Enhancement Measures</b> Chairs: Pierre Quenneville and Tony Yang <b>Room: New Zealand 1</b>	<b>Oral Session 12B: Engineering Seismology</b> Chairs: Paul Somerville <b>Room: New Zealand 2</b>	<b>Oral Session 12C: Seismic Resilience</b> Chairs: John Hare and Nick Horspool <b>Room: Marlborough 2</b>

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13.30 – 13.45		<b>12A.01 <a href="#">THE CONSEQUENCES OF 'MOSTLY' BASE ISOLATING A BUILDING</a></b> Greg Cole	<b>12B.01 <a href="#">CYBERSHAKE NZ V18.5: NEW ZEALAND SIMULATION-BASED PROBABILISTIC SEISMIC HAZARD ANALYSIS</a></b> Brendon Bradley	<b>12C.01 <a href="#">REBUILDING WITH RESILIENCE: CASE STUDIES OF FIRE STATION REBUILDS FOLLOWING THE CANTERBURY EARTHQUAKES</a></b> James Muirson
13.45 – 14.00		<b>12A.02 <a href="#">A NOVEL CONNECTION SYSTEM FOR SEISMIC DAMAGE AVOIDANCE DESIGN OF MOMENT RESISTING FRAMES</a></b> Seyedmohsen Shabankareh	<b>12B.02 <a href="#">RUPTURE MODEL OF A HIKURANGI MW 8.6 MEGATHRUST EARTHQUAKE</a></b> Paul Somerville	<b>12C.02 <a href="#">BUILDING MANAGEMENT IN EMERGENCIES: AN UPDATE ON NEW ZEALAND ARRANGEMENTS</a></b> Dave Brundson
14.00 – 14.15		<b>12A.03 <a href="#">EXPERIMENTAL TESTING AND ANALYTICAL MODELING OF GROOVED DISSIPATERS</a></b> Alessandro Palermo	<b>12B.03 <a href="#">FOOTPRINT BASED PSHA: THE CASE OF CHRISTCHURCH AND WELLINGTON, NEW ZEALAND</a></b> Marco Stupazzini	<b>12C.03 <a href="#">TOWARDS A RESILIENT CITY: WELLINGTON CITY COUNCIL PIONEERS A NEW APPROACH TO URM BUILDINGS TO PROMOTE PUBLIC SAFETY</a></b> Moirra Smith
14.15 – 14.30		<b>12A.04 <a href="#">ENHANCED SEISMIC PERFORMANCE OF BUILDINGS USING TENSION-ONLY RESILIENT SLIP FRICTION JOINT (RSFJ) BRACES</a></b> Ashkan Hashemi	<b>12B.04 <a href="#">ESTIMATING SEISMIC HAZARD WITH SPARSE DATA: SEISMIC SOURCE MODEL AND SENSITIVITY OF A PSHA FOR PALMER STATION, ANTARCTICA</a></b> Jessica Feenstra	<b>12C.04 <a href="#">BEST PRACTICE AND CHALLENGES FOR EARTHQUAKE RESILIENT SCHOOL INFRASTRUCTURE IN THE PACIFIC</a></b> Tim Mote
14.30 – 14.45		<b>12A.05 <a href="#">ENHANCING SEISMIC PERFORMANCE OF BUILDINGS USING VISCOUS WALL DAMPERS</a></b> Mohammed Mohammed	<b>12B.05 <a href="#">SOURCE CHARACTERISTICS AND SITE EFFECTS FROM SPECTRAL ANALYSIS OF STRONG-MOTION RECORDINGS IN 2016 KAIKOURA SEISMIC SEQUENCE</a></b> Hongwei Wang	<b>12C.05 <a href="#">DESIGNING FOR WHOLE OF BUILDING RESILIENCE: A CASE STUDY OF NON-STRUCTURAL ELEMENTS IN A VISCOUS DAMPED MOMENT FRAME BUILDING</a></b> Ben Larson
14.45 – 15.00		<b>12A.06 <a href="#">NON-LINEAR BEHAVIOUR OF WELDED STITCH PLATE CONNECTIONS IN JOINTED PRECAST BUILDING CORES</a></b> Scott Menegon	<b>12B.06 <a href="#">SITE AND EVENT SPECIFIC RESPONSE SPECTRA AND ACCELEROGRAMS FOR REGIONS OF LOW TO MODERATE SEISMICITY</a></b> Nelson Lam	<b>12C.06 <a href="#">RESILIENCE BASED DESIGN FOR EARTHQUAKES</a></b> Pathmanathan Brabharan
15.00 – 15.30	New Zealand Room 3 + 4	<b>Afternoon Tea</b>		

15.30 – 16.30	New Zealand Room 1 + 2	<b>Session 13: Keynote: Teuku Faisal Fathani</b> <b><u><a href="#">2018 PALU EARTHQUAKE AND TSUNAMI: TOWARD THE RECONSTRUCTION AND RECOVERY</a></u></b> Chair: Bruce Deam
16.30 – 17.00		<b>Conference Awards and Closure</b> Chairs: Bruce Deam and David Whittaker