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SE SO C 2023
CONFERENCE **CELEBRATING
STRUCTURAL
ENGINEERING**

21-23 JUNE 2023 • TE PAE, CHRISTCHURCH

confer.nz/sesoc2023

CONFERENCE PROGRAMME



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WEDNESDAY 21 JUNE 2023 – PRE CONFERENCE ACTIVITIES

15.00 – 17.00	ESE Pathway - Mentoring Session - Tūranga (Christchurch Library)
17.00 – 18.00	Conference Registration - Level 1 Foyer, Te Pae
18.00 – 19.30	Icebreaker Function - Meet and Greet in Waitaki River Room (Sponsors and Exhibition Area), Level 1, Te Pae

THURSDAY 22 JUNE 2023 – DAY 1

7.30 – 8.30	Registration/Coffee and Tea Waitaki River Room (Sponsors and Exhibition Area)
8.30 – 9.00	Mihi Whakatau / Jaden Whiunui Response Room: Conway
9.00 – 9.05	Conference Welcome - SESOC President Associate Prof. Nicholas Brooke Room: Conway
9.05 – 10.00	Keynote 1 - The Structural Engineer's Role in Getting to Net Zero - Megan Stringer, Holmes US Chair: Associate Prof. Nicholas Brooke Room: Conway
10.00 – 10.30	Morning Tea Waitaki River Room - Sponsors and Exhibition Area
10.30 – 12.00	Session 1 - City Link Rail "New Zealand's Largest Transport infrastructure project ever." Chair: Prof. Jason Ingham
10.30 – 10:50	Implementing Sustainability on the CRL Project Nick Braxton: Principal Sustainability Advisor - CRL Link Alliance
10.50 – 11.10	Structural Design of Maungawhau/Mt Eden Station Building Robyn Murray – Senior Structural Engineer - CRL Link Alliance
11.10 – 11.30	Structural Design of Karanga-a-Hape Station: squeezing in top-down and bottom-up. John Mitchell - Principal Structural Engineer - CRL Link Alliance
11.30 – 11.50	CRL Te Waihorotiu sustainability in design and construction Ethan Page – Senior Structural Engineer - CRL Link Alliance
11.50 – 12.00	Questions and Conference Announcements
12.00 – 13.00	Lunch Waitaki River Room - Sponsors and Exhibition Area
13:00 – 14.00	Keynote 2 - Future Aotearoa: Where Engineering meets Te Ao Tūroa - Dr Alayna Rā, WSP Chair: Dr. Charlotte Toma Room : Conway
14.00 – 15.10	Session 2 - Engineering NZ / MBIE - Panel Discussion Occupational Regulation Chair: Paul Campbell Panel: Michelle Grant / Amy Moorhead / Hamish McKenzie / Paul Kirby/ Jodi Caughley Room: Conway
15.10 – 15.30	Afternoon Tea Waitaki River Room - Sponsors and Exhibition Area

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THURSDAY 22 JUNE 2023 – DAY 1

15.30 – 17.00	Session 3A - Conway Topic 1: Building Code and Professional Practice Chair: Carl Ashby	Session 3B - Bealey B4+B5 Topic 2: Emerging Structural Engineers Chair: Dr Charlotte Toma	Session 3C - Bealey B3 Topic 3: Research and Development Chair: Dr Enrique del Rey Castillo	Session 3D - Bealey B2 Topic 4: Seismic Design and Strengthening Chair: John Tait
15.30 – 15.50	Canterbury Earthquake Legacies: Guidance to Support Residential Recoveries Following Future Natural Disaster Events David Brunsdon - Kestrel Group	15.30 - 15.45 A Raft of Challenges - Design and Construction Challenges of the Christ Church Cathedral Foundation Retrofit Laura Schwass - Holmes Group LP	Design advice for FRP ties on diaphragms Enrique del Rey Castillo - University of Auckland	Case Study: Te Waihorotiu Metro Station – Seismic Considerations for the Oversight Development Stephen Lowde - Aecom
15.50 – 16.10	Establishing Cordons for Post Damaged Structures using known Failure Mechanisms and Predictive Collapse Patterns Stephanie Rae - ZFA Structural Engineers	15.45 - 16.00 Te Waihorotiu - The Role of Construction Phase Services (CPS) Chloe Leach - WSP	Buckling Restrained Braces - Issues and Solutions Gregory MacRae - University of Canterbury	Lincoln University Waimarie building: A Case study for low damage design with self-centring friction connections Ashkan Hashemi - University of Auckland*
16.10 – 16.30	National Seismic Qualification Framework for Non-Structural Elements Jan Stanway - WSP*	16.00 - 16.15 Investigating the potential vulnerability of modern residential houses to ground deformations Max Dawson - University of Canterbury	Case Study to Evaluate the Seismic Force Demand on Floor-Anchored Nonstructural Components Tal Feinstein - Oakland California - Exponent, (2 Jack Moehle, University of California, Berkeley)	Design recommendations for seismic strengthening of singly reinforced walls with FRP Zhibin Li - University of Auckland
16.30 – 16.50	Grouted Structural Connections in Precast Concrete-Specification / Construction/Assurance Barry Brown - Fraser Thomas Ltd	16.15 - 16.30 Resilient, Durable and Functional Design of Steel Structures for the Tauhara Geothermal Power Plant Ben Hendry - Beca	An Adaptation of the Uniform Force Method Brandt Saxey - Corebrace*	Ngā Kāinga Anamata: Structural Engineering for a sustainability focussed housing project Brad Nichols - Robert Bird Group*
16.50 – 17.00	Questions / Discussion	16.30 - 17.00 Questions and ESE Forum / Discussion	Questions / Discussion	Questions / Discussion
17.00	Day 1 Close - Session Chairs to Close			
18.00 – 19.00	Pre-dinner drinks and networking Waitaki River Room, Te Pae			
19.00 – Late	Conference Dinner and SESOC Awards Rakaia River Room, Te Pae			

*Refer to the conference mobile app for additional presenters and abstract details.

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FRIDAY 23 JUNE 2023 – DAY 2

8.00 – 8.30	Registration Opens Tea/Coffee - Waitaki River Room - Sponsors and Exhibition Area Conference Day 2 Welcome			
8.30 – 9.30	Keynote 3 - Sky City Convention Centre Fire - Prof Charles Clifton, UoA & Dr Linus Lim, Holmes Consulting Chair: Dr Enrique Del Rey Castillo Room: Conway			
9.30 – 10.30	Session 4 - Lightning Talks Chair: Prof. Jason Ingham Room: Conway			
9.30 – 9.50	The Carbon Conversation Steph Miller - Holmes Group LP	500 Buildings Stripped Naked Charlie Heath - GHD	Is ChatGPT the Solution for Streamlining Structural Design in Construction and Engineering Industries? Alice Xu - Arup	Producer Statements for structural Engineering work - a sometimes unreasonable reliance?. Is a rethink on PS2's required? Barry Brown - Fraser Thomas
9.50 – 10.10	Avoiding complaints Martin Pratchett - Engineering New Zealand	What is the difference between Architects and Artists? Helen Trappitt	The Hawke's Bay Engineering Leadership Group: Co-ordinating Engineering Efforts in Response to Cyclone Gabrielle Aaron Kaijser - Kotahi	Are you interviewing a structural engineering graduate? Quincy Ma, University of Auckland
10.10 – 10.15	Diversity Agenda Charlotte Downes			
10.15 – 10.30	Session 4 Questions and Conference Announcements			
10.30 – 11.00	Morning Tea			
11.00 – 12.30	Session 5A - Conway Topic 1: Building Code and Design Updates Chair: Prof. Jason Ingham	Session 5B - Bealey B4+B5 Topic 3: Project Case Study - Sustainability Chair: Dr Enrique Del Rey Castillo	Session 5C - Bealey B3 Topic 3: Emerging Structural Engineers Chair: Libby Porter	Session 5D - Bealey B2 Topic 4: Industry / Product Specific Design Issues Chair: John Snook
11.00 – 11.20	SESOC Interim Design Guidance for Conventional Structural Systems - Summary of v11 Updates: Building Structures and Foundations Stuart Oliver - Holmes Group LP	Reducing embodied carbon: quantifying the impact of structural design and seismic resilience, and how they support government climate change objectives Katie Symons - MBIE*	11.00 - 11.15 Early Engagement of Non-Structural Seismic Restraint Specialists Georgie Clarke - Beca	Mechanical anchors for reinforcement bars in New Zealand: Testing & Compliance to NZS 3101 and NZTA Bridge Manual Emanuele Naccini - Reid Construction Systems*

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11.20 – 11.40	Toward regularising regulatory reviews Alasdair Sinclair - Robert Bird Group	Sustainability Aspects of Peka Peka to Ōtaki (PP20) Expressway Project Bridges Jamil Khan - Beca	11.15 - 11.30 Enhance Your Structural Analysis Workflow: Techniques for Streamlining Your Approach to Set-Up, Build, Analyse, and Design Structures. Alice Xu - Arup	Behaviour of large FRP ties for seismic strengthening of concrete diaphragms Junrui Zhang - University of Auckland
11.40 – 12.00	Using P21-tested systems and bracing units in structures with specific engineering design Martin Pratchett - Engineering New Zealand	Designing Sustainable Low-Rise Buildings – Development of a Design Guidance Manual Raed El Sarraf - WSP	11.30 - 11.45 Streamlining Design Review with Parametric Modelling: A Case Study of Christ Church Cathedral Agata Skoneczna - Beca	The State of Practice in SSI Modelling in New Zealand: Results from an Engineering Profession Survey Theo Hnat - University of Canterbury
12.00 – 12.20	Capacity Design of Nominally Ductile RC Wall Systems in New Zealand Timothy Blackburn - WSP	Uncertainty, inertia, and forcing functions: how to overcome barriers to low-carbon design in structural engineering Phoebe Moses - Beca	11.45 - 12.20 Questions for Speakers and ESE Forum Wrap Up	Best practice design of support of precast panels during construction David Lyes - Downer*
12.20 – 13.00	Lunch Waitaki River Room - Sponsors and Exhibition Area			
13.00 – 14.30	Session 6A - Conway Topic 1: Project Case Studies Chair: John Snook	Session 6B - Bealey B4+B5 Topic 2: General Practitioners Session Chair: Martin Pratchett	Session 6C - Bealey B3 Topic 3: Industry Topics Chair: John Tait	
13.00 – 13.20	Stabilising the Christ Church Cathedral John Hare - Holmes Group LP	13.00 - 13.10 EGP Presedents Welcolme Peter Van Grinsven - PVG Design Ltd. Structural Engineers	AWEC: A Collective Voice for Change Annie Scott - Jensen McArley and Associates	
13.20 – 13.40	Seismic Strengthening and assessment of the Parkside hospital building, Christchurch Nick Kerrigan - WSP*	13.10 - 13.25 Reflections of a General Practice Flying Engineer Gordon Hughes - G A Hughes & Associates Limited	Integrating Structure with Architecture: Designing for Uncertainty and Managing Regularity Alistair Cattanach - Dunning Thornton Ltd*	
13.40 – 14.00	Design of Te Pae Christchurch Convention Centre – connecting spaces with complex geometries Bruce Galloway - Holmes Group LP	13.25 - 13.40 Sheds and Shed Houses Ian Watson - I L Watson Consulting Engineer Ltd	NZS3604 vs US IRC – Design of Non-Engineered Buildings in New Zealand and the United States - Items of Interest to Practicing Engineers Michelle Grant - LGE Consulting Ltd*	
14.00 – 14.20	Five-storey Light Timber-Framed Multi-unit Residential Buildings on Concrete Podiums - Design Challenges and Learnings Jay Auman - Silvester Clarke Consulting Engineers*	13.40 - 13.55 Regulation and Proposal for Registration Levels Tamlyn Adams - LDE	CROSS – Sharing knowledge to create a safer built environment Peter Ho - CROSS-AUS Ltd*	

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FRIDAY 23 JUNE 2023 – DAY 2

14.20 – 14.30	Questions / Discussion	13.55 - 14.10 Do No Harm Pete Van Grinsven - PVG Design Ltd. Structural Engineers	Questions / Discussion (10min)
		14.10 - 14.30 EGP Forum Nick Calvert, Matt Stewart + all Speakers	
14.30 – 15.00	Afternoon Tea Waitaki River Room - Sponsors and Exhibition Area		
15.00 – 16.00	Keynote 4 - Scott Base - Designing New Zealand's climate research base in Antarctica, Jamie Lester, WSP Chair: Carl Ashby Room: Conway		
16.00 – 17.00	Session 7 - Seismic Risk Working Group Chair: Carl Ashby Room: Conway		
16.00 – 16.25	Speaker 1 - John Hare		
16.25 – 16.50	Speaker 2 - Prof Ken Elwood		
16:50 – 17.00	Questions / Discussion		
17.00	Conference Closure - Carl Ashby - 2023 Conference Convenor		

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