



**Emerging Technologies and Sustainability Principles in
Structural Engineering and Construction**
**The Fifth Australasia and South-East Asia Structural Engineering and Construction
Conference (ASEA-SEC-5)**



ASEA-SEC-5 Program

Monday – November 30, 2020

19:00 - 20:30	Icebreaker and Welcome Reception <i>Videos on Christchurch, Ara, and the Haka Dance</i> <i>Breakout Room Networking Opportunity and Virtual Socializing</i>	V-Room A https://us02web.zoom.us/j/3365082496?pwd=MWh4WjhPbFZoS2RTdEIQMWVocUVSQ09 PMI: 336-508-2496 Password: 395011
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Tuesday – December 1, 2020

Tuesday – December 1, 2020		
Registration and Coffee		
08:00 - 17:30	Registration (<i>The registration desk will be open during conference hours</i>)	K-block (Kahukura) foyer for onsite participants
08:30 - 09:00	Registration – Tea and Coffee	
Opening Session		
09:00 - 09:25	Conference Briefings <i>Housekeeping, Health, and Safety</i>	<div>V-Room A</div> <div>https://us02web.zoom.us/j/3365082496?pwd=MWh4WjhPbFZoS2RTdEIQMWVocUVSQ09</div> <div>PMI: 336-508-2496</div> <div>Password: 395011</div>
	Mihi (Maori Welcome)	
	Welcome and Introductions <i>Hossein Askarinejad, Conference Chair</i>	
	Welcome to the Ara Institute of Canterbury and Department of Engineering and Architectural Studies <i>Michael Edmonds - HOD</i>	
	Welcoming Remarks <i>Amarjit Singh, ISEC Society President</i>	
	Announcements <i>Hossein Askarinejad, Conference Chair</i>	
09:25 - 09:35	10-Minute Break	
09:35 - 10:05	Keynote I: John B. Mander, Texas A&M University <i>Title: A Probabilistic Decision Theory for Preventative Maintenance of Steel Bridge Structures</i>	
10:05 - 10:10	5-Minute Break	
10:10 - 10:40	Keynote II: Bryan Pidwerbesky, Fulton Hogan Ltd <i>Title: Sustainable Pavements & Multi-Criteria Analysis</i>	
Tea & Coffee Break 10:40 - 11:00		



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Technical Session I – Tuesday, December 1, 2020, 11:00 - 13:00

Location: Kahukura Building (Dept. of Engineering and Architectural Studies)

	<p>Moderator: <i>Siamak Yazdani</i> Co-Moderator: <i>Ajith Thamboo</i> IT Staff: <i>Christina Chen</i> V-Room A https://us02web.zoom.us/j/3365082496?pwd=MWh4WjhPbFZoS2RTdEIQMWVocUUVSQTO9 PMI: 336-508-2496, Password: 395011 I-A: Concrete Structures and Materials</p>	<p>Moderator: <i>Asli Pelin Gurgun</i> Co-Moderator: <i>Tak Wing Yiu</i> IT Staff: <i>Christina Chen</i> V-Room B https://us02web.zoom.us/j/3666822714?pwd=UE9wZ1QvcG1FcEsvOEQ3ay9LViswUT09 PMI: 366-682-2714, Password: 142731 I-B: Project Management and Dispute Resolution</p>
1	STR-04, CONFINEMENT OF RC COLUMNS WITH CFRP <i>Dennis Messerer and Klaus Holschemacher</i>	CPM-05, FACTORS THAT DETERMINE WHEN TO ENGAGE PRE-CONSTRUCTION SERVICES <i>Paul Stephanus Botha, Daniel Van Der Walt, and Eric Scheepbouwer</i>
2	STR-13, EFFECTS OF CONCRETE OVERLAY JOINT CONDITIONS AND STRAIN RATE ON SPLITTING TENSILE PROPERTIES <i>Keita Sugimoto and Tatsuo Nishiuchi</i>	CON-21, CONTRACTS EVALUATION THROUGH CLASSIFIED REWORK ROOT CAUSES IN THE CONSTRUCTION STAGE OF PROJECTS <i>Ramin Asadi, Suzanne Wilkinson, and James Olabode Bamidele Rotimi</i>
3	STR-25, EFFECT OF SUBSTRATE PREPARATION ON THE LOAD-BEARING BEHAVIOR OF CFRP-CONFINED RC COLUMNS <i>Klaus Holschemacher, Dennis Messerer, and Stefan Kaeseberg</i>	CON-25, CONTINGENCY PERCEPTIONS OF TRADITIONAL VERSUS COLLABORATIVE-BASED CONSTRUCTION CONTRACT CLAUSES <i>Dana Dardoon, Wisam Manlla, and Ghada Gad</i>
4	MAT-06, LONG-TERM PLANT-GROWING PERFORMANCE OF POROUS CONCRETE WITH VARYING AMOUNTS OF OYSTER SHELL AGGREGATE <i>Itaru Horiguchi and Yoichi Mimura</i>	LDR-01, COMPARISON OF ALTERNATIVE CONSTRUCTION DISPUTE RESOLUTION MEASURES <i>Ulrike Quapp and Klaus Holschemacher</i>
5	SUS-02, PIEZOELECTRIC PROPERTIES OF CEMENT PIEZOELECTRIC COMPOSITES CONTAINING NANO-QUARTZ POWDERS <i>Huang Hsing Pan</i>	PRO-02, QUALIFICATION-BASED SELECTION OF CONSULTANTS AND CONTRACTORS: BREAKING THE LOWEST TENDER PRICE CULTURE <i>Douglas D. Gransberg, Ali Touran, and Eric Scheepbouwer</i>
6	SUS-04, USING CERAMIC WASTES IN CONCRETE MANUFACTURING FOR SUSTAINABLE CONSTRUCTION MATERIALS AS COARSE AGGREGATE REPLACEMENT <i>Mohamed Tarek El-Hawary, Amr Maher Elnemr, and Nagy Fouad Hanna</i>	CON-05, USE OF INCENTIVE IN CONSTRUCTION: CARROT OR STICK <i>Sai On Cheung, Sen Lin, and Tsz Hin Keith Kwan</i>
7	STR-45, A SLOT-CUTTING TECHNIQUE FOR REPAIR AND REHABILITATION OF CONCRETE DAMS AFFECTED BY ALKALI-SILICA REACTION <i>Mohammad S. Pourbehi and JAvB Strasheim</i>	LDR-03, TROUBLES WITH A WIND FARM PROJECT <i>Keenan Nakagawa and Amarjit Singh</i>
8	CSA-01, FALL-DOWN TEST OF COLUMNS WITH LOWER PART CUTTING <i>Hiroki Takahashi, Seiji Takanashi, Tomohito Hori, Katsutoshi Ohdo, and Yasumichi Hino</i>	CON-06, USING KPI FOR INCENTIVIZATION <i>Sai On Cheung, Nan Cao, and Wing Sum Alfred Ma</i>
Lunch Break: 13:00 - 14:00		



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Technical Session II – Tuesday, December 1, 2020, 14:00 - 16:00

Location: Kahukura Building (Dept. of Engineering and Architectural Studies)

	<p>Moderator: <i>Vanissorn Vimonsatit</i> Co-Moderator: <i>Yuwei Li</i> IT Staff: <i>Christina Chen</i> V-Room A https://us02web.zoom.us/j/3365082496?pwd=MWh4WjhPbFZoS2RTdElQMWV0cUVSQ09 PMI: 336-508-2496, Password: 395011 II-A: Infrastructure and Engineering Design</p>	<p>Moderator: <i>Ulrike Quapp</i> Co-Moderator: <i>Ghada Gad</i> IT Staff: <i>Christina Chen</i> V-Room B https://us02web.zoom.us/j/3666822714?pwd=UE9wZ1QvcG1FcEsvOEQ3ay9LViswUT09 PMI: 366-682-2714, Password: 142731 II-B: Construction and Housing</p>
1	<p>INF-07, EFFECT OF BASECOURSE AGGREGATE PROPERTIES ON STRENGTH OF FOAMED BITUMEN STABILIZED MATERIALS <i>Hossein Askarinejad, Anastasiya Naruzberg, and Bryan Pidwerbesky</i></p>	<p>CON-23, MACHINE LEARNING APPLICATIONS FOR MONITORING CONSTRUCTION HEALTH AND SAFETY LEGISLATION AND COMPLIANCE <i>Mohlomi Terah Raliile and Theodore Conrad Haupt</i></p>
2	<p>SUS-06, EXPERIMENTAL VERIFICATION FOR APPLYING NEUTRAL EQUILIBRIUM MECHANISM AS MULTIPLE VIRTUAL PIERS OF DISASTER RELIEF BRIDGE <i>Ming-Hsiang Shih, Wen-Pei Sung, Martin Ghienne, Jun-Han Yao, and Florian Beauval</i></p>	<p>CON-29, REASONS FOR FAILURES IN INSPECTION REPORTS FOR RESIDENTIAL BUILDS <i>John Tagiilima and Funmilayo Egun Rotimi</i></p>
3	<p>OTH-02, SIMULATION OF VEHICLE PLATOONS PASSING THROUGH INTERSECTION <i>Eisuke Kita, Shuji Hayashi, and Tatsuhiro Tamaki</i></p>	<p>CPM-08, A BIBLIOMETRIC REVIEW OF TRENDS IN CONSTRUCTION SAFETY TECHNOLOGY RESEARCH <i>Mariam Akinlolu and Theodore Conrad Haupt</i></p>
4	<p>AAW-04, PLANTER BOX RAINGARDEN FOR ZINC REMOVAL FROM STORM WATER <i>Mohammad Ramezaniapour, Alex Levien, and George Ritchie</i></p>	<p>CON-11, EXTENDED TRIPLE BOTTOM LINE BASED EVALUATION OF REVERSE LOGISTICS OPTIONS FOR CONSTRUCTION WASTE MATERIAL <i>Rana Rabnawaz Ahmed and Xueqing Zhang</i></p>
5	<p>CPS-02, DEVELOPMENT AND APPLICATION OF GLOBAL-PROCESS TENSION ANALYSIS SOFTWARE FOR SUSPEND-DOME BASED ON ANSYS <i>Ting Li, Bingqing Liu, Zhongyong Meng, and Shen Zhang</i></p>	<p>HOS-02, BUBBLE WRAP OR SLIPPERS? THAT IS THE QUESTION: FROM HAMLET TO HOME INSULATION <i>Kerry Mulligan, Britta Basse, and Daphne Robson</i></p>
6	<p>RAD-03, MOVING TO RESILIENCE AND ROBUSTNESS AND IMPLICATIONS FOR ENGINEERING DESIGN <i>Norbert J. Delatte and Mark Milke</i></p>	<p>SUS-10, APPLICATION OF GREEN RETROFIT TECHNOLOGY: A SYSTEMATIC REVIEW <i>Achini Weerasinghe, Thanuja Ramachandra, and James Olabode Bamidele Rotimi</i></p>
7	<p>ENR-02, RUDDER PROFILES OF POWER-FREE UNDERWATER VEHICLE FOR KUROSHIO POWER GENERATION <i>Chuan-Tsung Lee, Huang Hsing Pan, Ray-Yeng Yang</i></p>	<p>CON-18, EFFECTS OF GEOTECHNICAL RISKS ON COST AND SCHEDULE IN INFRASTRUCTURE PROJECTS <i>Kerim Koc, Asli Pelin Gurgun, and Mehmet Egemen Ozbek</i></p>
8	<p>AAW-05, SIMULATION STUDY OF WATER REUSE SYSTEM FOR A REGENERATIVE HOUSEBOAT BY EPANET <i>Mohammad Ramezaniapour and Sally Kung</i></p>	<p>CON-31, INSTITUTIONALIZING VIRTUAL REALITY BASED CONSTRUCTION PROFESSIONAL TRAINING <i>Peter S.P. Wong, Abram Hoffman, Sherman C.P. Cheung, and Ron Wakefield</i></p>
Tea & Coffee Break 16:00 - 16:30		



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Technical Session III – Tuesday, December 1, 2020, 16:30 - 18:00

Location: Kahukura Building (Dept. of Engineering and Architectural Studies)

	<p>Moderator: <i>Chao Wu</i> Co-Moderator: <i>Kaveh Andisheh</i> IT Staff: <i>Christina Chen</i> V-Room A https://us02web.zoom.us/j/3365082496?pwd=MWh4WjhPbFZoS2RTdEIQMWVocUVSQT09 PMI: 336-508-2496, Password: 395011 III-A: Structural and Earthquake Engineering</p>	<p>Moderator: <i>Klaus Holschemacher</i> Co-Moderator: <i>Mohammad Pourbehi</i> IT Staff: <i>Christina Chen</i> V-Room B https://us02web.zoom.us/j/3666822714?pwd=UE9wZ1QvcG1FcEsvOEQ3ay9LVISwUT09 PMI: 366-682-2714, Password: 142731 III-B: Structural Measurements and Numerical Modeling</p>
1	<p>STR-14, DEVELOPMENT AND APPLICATION OF ISOLATION BEARING ELEMENT CONSIDERING BI-DIRECTIONAL COUPLED INTERACTION <i>Shen Zhang, Baiqing Zhang, and Ming Cheng</i></p>	<p>STR-19, NONPARAMETRIC NONLINEARITY IDENTIFICATION WITH AN UPDATED EKF APPROACH USING DYNAMIC RESPONSE FUSION <i>Bin Xu, Ye Zhao, Baichuan Deng, and Chen Wang</i></p>
2	<p>STR-48, SEISMIC DESIGN OF MASONRY-INFILLED FRAMES – A REVIEW OF CODIFIED APPROACHES <i>Sonam Dorji, Hossein Derakhshan, Tatheer Zahra, David P Thambiratnam, and Alireza Mohyeddin</i></p>	<p>STR-36, FATIGUE BEHAVIOR OF RIVETED GIRDERS WITH SPLICE JOINTS – A CASE STUDY <i>Yuichi Shiraishi, Masahiro Sakano, Yuya Nakade, Kentaro Matsumoto</i></p>
3	<p>STR-40, VULNERABILITY ASSESSMENT OF A CIVIC TOWER USING AMBIENT VIBRATION TESTS <i>Gian Paolo Cimellaro, Marco Domaneschi, Ali Zamani Noori, and Valentina Villa</i></p>	<p>MAT-17, ASSESSMENT OF SHEAR ANALOGY AND TIMOSHENKO METHOD FOR ANALYZING HYBRID CLT UNDER OUT-OF-PLANE LOADING <i>Md Tanvir Rahman, Mahmud Ashraf, Kazem Ghabraie, and Mahbube Subhani</i></p>
4	<p>STR-21, TORSION EFFECTS IN BUILDING SEISMIC PERFORMANCE <i>Marija Demsic, Mario Uros, Marta Savor Novak, and Josip Atalic</i></p>	<p>STR-30, PERFORMANCE OF PRESTRESSED CONCRETE BEAM INCORPORATING AN AXIAL YIELD DAMPER USING UNBONDED REBAR <i>Yuki Shirai and Kazushi Shimazaki</i></p>
5	<p>STR-20, STORY VERTICAL POST-COMPRESSION FOR TIMBER BUILDINGS: A NEW SYSTEM FOR SEISMIC IMPROVEMENT OF CLT WALLS <i>Alberto Viskovic, Federico Di Lisio, and Piergiorgio Michetti</i></p>	<p>STR-28, NONLINEAR FINITE ELEMENT MODELING OF POST-TENSION RC AND RC BEAMS STRENGTHENED WITH NSM FRP RODS <i>Belal Elharouny, Ayman Hussein, Ezz El-Deen Mostafa, and Amr Maher Elnemr</i></p>
6	<p>STR-33, FATIGUE DURABILITY OF INTERSECTIONS BETWEEN LONGITUDINAL AND TRANSVERSE RIBS IN LARGE-SIZED TROUGH RIB OSD <i>Takahide Hirai, Masahiro Sakano, Shiro Saito</i></p>	<p>MAT-11, PULL-OUT RESISTANCE OF SELF-TAPPING SCREWS IN CROSS-LAMINATED TIMBER MADE FROM RADIATA PINE <i>Xin Li, Mahmud Ashraf, Mahbube Subhani, and Paul Kremer</i></p>

Closing Session

18:00 - 18:45	ISEC 11 Announcement <i>Sherine Ahmed El Baradei</i>	<p>V-Room A https://us02web.zoom.us/j/3365082496?pwd=MWh4WjhPbFZoS2RTdEIQMWVocUVSQT09 PMI: 336-508-2496, Password: 395011</p>
	Social Networking in Breakout Rooms	
	ASEA SEC 6 Announcement <i>Vanissorn Vimonsatit</i>	
	Best Presentation Awards	



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19:00 - 20:30	Dinner Banquet	Meet at K-block foyer (for onsite participants)
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Wednesday – December 2, 2020

09:00 - 12:00 (15-minute break at half-time)	Dispute Resolution Workshop Dr. Yiannis Vacanas, <i>Cyprus University of Technology</i> <i>Title: Risk of Delay in Construction Projects</i>	V-Room A https://us02web.zoom.us/j/3365082496?pwd=MWh4WjhPbFZoS2RTdElQMWV0cUVSQ09 PMI: 336-508-2496, Password: 395011
09:00 - 12:00 (15-minute break at half-time)	Seismic Engineering Workshop Dr. Najif Ismail, <i>Seismic Solutions Limited</i> <i>Title: Design of Seismic Strengthening Schemes for Existing Masonry Buildings: A Consulting Engineer's Approach</i>	V-Room B https://us02web.zoom.us/j/3666822714?pwd=UE9wZ1QvcG1FcEsvOEQ3ay9LViwUT09 PMI: 366-682-2714, Password: 142731
09:00 - 11:30	Technical Tour – CANCELED	
14:00 - 18:00	Cultural Tour 1 – CANCELED	

Thursday – December 3, 2020

09:00 - 16:00	Cultural Tour 2 – CANCELED	
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List of Speakers in Alphabetical Order by First Name

A - H

Participant	Technical Session
Achini Weerasinghe	II-B
Alberto Viskovic	III-A
Amarjit Singh	I-B
Amr Maher Elnemr	I-A, III-B
Asli Pelin Gurgun	II-B
Bin Xu	III-B
Breda (JAvB) Strasheim	I-A
Britta Basse	II-B
Chuan-Tsung Lee	II-A
Dana Dardoon	I-B
Daniel van der Walt	I-B
Daphne Robson	II-B
Dennis Messerer	I-A
Eisuke Kita	II-A
Eric Scheepbouwer	I-B
Funmilayo Ebun Rotimi	II-B
Ghada Gad	I-B
Hiroki Takahashi	I-A
Hossein Askarinejad	II-A

H - M

Participant	Technical Session
Huang Hsing Pan	I-A, II-A
Itaru Horiguchi	I-A
John Tagilima	II-B
Kazushi Shimazaki	III-B
Keenan Nakagawa	I-B
Keita Sugimoto	I-A
Kerim Koc	II-B
Kerry Mulligan	II-B
Klaus Holschemacher	I-A
Mariam Akinlolu	II-B
Marija Demsic	III-A
Mario Uros	III-A
Mark Milke	II-A
Marta Savor Novak	III-A
Masahiro Sakano	III-A, III-B
Md Tanvir Rahman	III-B
Mehmet Ozbek	II-B
Mohamed Tarek El-Hawary	I-A
Mohammad Ramezani pour	II-A

M - Z

Participant	Technical Session
Mohammad S. Pourbehi	I-A
Mohlomi Terah Raliile	II-B
Nan Cao	I-B
Paul Stephanus Botha	I-B
Peter S.P. Wong	II-B
Ramin Asadi	I-B
Rana Rabnawaz Ahmed	II-B
Sai On Cheung	I-B
Sen Lin	I-B
Shen Zhang	II-A, III-A
Sonam Dorji	III-A
Theodore Conrad Haupt	II-B
Ting Li	II-A
Ulrike Quapp	I-B
Valentina Villa	III-A
Wen-Pei Sung	II-A
Xin Li	III-B
Xueqing Zhang	II-B
Yuki Shirai	III-B