



**1st International Conference on Structural Engineering
Research (iCSER2017)**

20-22 Nov 2017, Sydney, Australia

2nd GCSTMR CONGRESS

**Venue: Western Sydney University, Building EA,
Parramatta South Campus, Sydney, Australia**

*[Corner of Victoria Road and James Ruse Drive (entrance via Victoria Road),
Parramatta South, Sydney]*

Organized by

*Global Circle for Scientific, Technological and Management Research
(GCSTMR), Sydney, Australia*

Day 1 – Monday 20 November 2017

Time	Session
8:30 – 9:30	Registration Parramatta South Campus Room: Building EA.G Foyer
9:30 – 10:00	Conference Opening Building EA, Parramatta South Campus Room: EA.G.18(LT01)
10:00 – 10:45	Plenary 1 - Professor Ian D. Moore, Queen's University, Ontario, Canada Title: Geomechanics of Trenchless Pipe Installation, Repair and Replacement Chair: Professor Chin Leo Room: EA.G.18(LT01)
10:45 – 11:15	MORNING TEA Room: Building EA.G Foyer
11:15 – 12:00	Plenary 2 – Professor Xiao-Ling Zhao, Monash University, Australia Title: Research into Hybrid Construction utilising FRP and Seawater sea sand concrete Chair: Associate Professor Fidelis Mashiri Room: EA.G.18(LT01)
12:00 – 12:45	Plenary 3 – Professor Ashish Sharma, University of New South Wales, Australia Title: Water Resources Engineering and climate change: Recent developments and future challenges Chair: Associate Professor Ataur Rahman Room: EA.G.18(LT01)
12:45 – 13:45	LUNCH Room: Building EA.G Foyer
	Session 1A: Structural Engineering Chair: A/Prof Fidelis Mashiri Room: EA.G.18(LT01)
13:45 -14:05	Invited paper title: Fatigue Behaviour of Steel Reinforced Concrete Beams <i>Prof Lewei Tong</i>
14:05 - 14:25	Invited paper title: Recent Research Progresses on CFDST Structures <i>A/Prof Wei Li</i>
14:25 – 14:40	Performance evaluation of square high strength concrete (HSC) columns reinforced with steel equal angle (SEA) sections under axial compression <i>Ayoob A. Ibrahim, M. Neaz Sheikh and Muhammad N.S. Hadi</i>

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14:40 – 14:55	Experimental study of composite steel and precast reinforced concrete transom for Sydney Harbour Bridge under impact loading <i>Andrew Talos, Olivia Mirza and Brendan Kirkland</i>
14:55 – 15:10	Experimental study of SCFs in steel tubular bridge structures due to fatigue loading <i>Feleb Matti, Fidelis Mashiri and Idris Musa</i>
15:10 – 15:25	Structural performance of novel concrete in beam- column joints <i>Shamila Salek, Bijan Samali, Richard Wuhrer and Georgius Adam</i>
15:25 – 15:55	AFTERNOON TEA Room: Building EA.G Foyer
15:55 – 16:40	Plenary 4 – Professor Chris Sorrell, University of New South Wales, Australia Title: Percolated Single-Crystal Mullite Fibres from Fly Ash: Vitreous Waste Material to High-Performance Refractory Chair: Dr Qinghua Zeng Room: EA.G.18(LT01)
16:40 – 17:25	Plenary 5 – Professor Junbin Gao, The University of Sydney, Australia Title: Clustering on Manifolds Chair: Dr M Rafiqul Islam Room: EA.G.18(LT01)
17:25 – 18:10	Plenary 6 – Dr M Rafiqul Islam, Charles Sturt University, Australia Title: Cumulative Timeline Analysis for Data Classification Chair: Professor Phill Kyu Rhee Room: EA.G.18(LT01)

Day 2 – Tuesday 21 November 2017

Time	Session
8:00 – 9:00	Registration Parramatta South Campus Room: Building EA.G Foyer
9:00 – 9:45	Plenary 7 – Professor Ashantha Goonetilleke, Queensland University of Technology, Australia Title: Management of Urban stormwater pollution: Progress and challenges Chair: Associate Professor Ataur Rahman Room: EA.G.18(LT01)
9:45 – 10:30	Plenary 8 - Professor Buddhima Indraratna, University of Wollongong, Australia Title: Ground Improvement for Transport Infrastructure Chair: Professor Chin Leo Room: EA.G.18(LT01)
10:30 – 11:00	MORNING TEA Room: Building EA.G Foyer
	Session 2A: Structural Engineering Chair: Prof Morgan Dundu Room: EA.G.18(LT01)
11:00 – 11:20	Invited paper title: FRP-strengthened RC Structures: Research, Design and Knowledge Gaps <i>Prof Scott Smith</i>
11:20 – 11:40	Invited paper title: Influence of Longitudinal FRP Straps on the Behaviour of Circularized and FRP Wrapped Square Hollow RC Columns <i>A/Prof Muhammad Hadi</i>
11:40 – 11:55	Steel Contribution effect on beams bonded with steel plates of different width-to-thickness ratios <i>Sylvester Rakgate and Morgan Dundu</i>
11:55 – 12:10	Flexural behaviour of pre-cracked reinforced concrete beams repaired with adhesive bonded steel plates <i>Sandile Ngidi and Morgan Dundu</i>
12:10 – 12:25	Axial load and bending moment behaviour of square high strength concrete (HSC) columns reinforced with steel equal angle (SEA) sections <i>Ayoob A. Ibrahim, M. Neaz Sheikh and Muhammad N.S. Hadi</i>
12:25 – 12:40	Behaviour of shear connectors for sustainable construction under static and fatigue loading <i>Maryam Hosseini, Olivia Mirza and Fidelis Mashiri</i>
12:40 -13:40	LUNCH Room: Building EA.G Foyer

13:40 – 14:15	Plenary 9 - Professor Raman Singh, Monash University, Australia Title: Graphene Coating and Alloy Nanocrystallinity: Novel Nano Approaches for Remarkable Corrosion Resistance Chair: Associate Professor Sri Bandyopadhyay Room: EA.G.18(LT01)
14:15 -14:50	Plenary 10 - Professor Shams Rahman, RMIT University, Australia Title: Supply Chain Connectivity, Business Sustainability and Ethics Chair: Dr Mamta Chowdhury Room: EA.G.18(LT01)
	Session 3AA: Structural Engineering Chair: Prof Lewei Tong Room: EA.G.18(LT01)
14:50 – 15:05	Ultimate Capacity Estimate of Self-Compacting Concrete-Filled Small Diameter Steel Tubes under Axial Load <i>Faez Alhussainy, Neaz Sheikh and Muhammad Hadi</i>
15:05 – 15:20	Influence of different surface preparations on the capacity of composite steel concrete beams <i>Sylvester Rakgate and Morgan Dundu</i>
15:20 – 15:35	Numerical investigation of reinforced concrete transom for Sydney Harbour Bridge under impact loading <i>Matthew Hennessy, Olivia Mirza and Md. Kamrul Hassan</i>
15:35 – 15:50	Behaviour of axially loaded cold-formed steel built-up stub columns <i>Mohamed Ghannam</i>
15:50 – 16:20	AFTERNOON TEA Room: Building EA.G Foyer
	Session 3AB: Structural Engineering Chair: Prof Pierre Van Tonder Room: EA.G.33
14:50 – 15:05	Effect of temperature on thermal properties of alkali-activated fly ash/slag binders <i>Zhu Pan, Tao Zhong, Yifang Cao, Neelam Bajracharya, Timothy Murphy and Richard Wuhrer</i>
15:05 – 15:20	Classification and Characterization of recycled construction aggregate (RCA) <i>Farzaneh Tahmoorian, Bijan Samali and John Yeaman</i>
15:20 – 15:35	Effect of seasonal weather on the properties of geopolymers mortar <i>Balbir Singh, Ee Loon Tan, Zhu Pan, Olivia Mirza and Youtam Mamo</i>
15:35 – 15:50	Mix design of recycled aggregate concrete using packing density method <i>Qingtao Huang, Lang Lin, Ee Loon Tan and Balbir Singh</i>
15:50 – 16:20	AFTERNOON TEA Room: Building EA.G Foyer

	Session 4AA: Structural Engineering Chair: A/Prof Muhammad Hadi Room: EA.G.18(LT01)
16:20 – 16:35	Test-aided calibrations for design of steel fibre reinforced recycled aggregate concrete beams <i>Rakul Bharatwaj Ramesh, Won-Hee Kang, Olivia Mirza, Dane Wigg, Sepani Senaratne and Vivian Tam</i>
16:35 – 16: 50	Base isolation on building under multidimensional earthquake <i>K Kerileng and Morgan Dundu</i>
16:50 – 17:05	The changing face of the structural sandwich panel: a state-of-the-art review <i>Diana Makweche and Morgan Dundu</i>
17.05 – 17.20	Numerical analysis of web connected lipped channels in compression with varying end distances <i>Saeid Sheikholarefin Bafghi and Morgan Dundu</i>
17.20 – 17.35	Numerical investigation on impact of bushfire enhanced wind on building structures <i>Christophe Camille, Olivia Mirza, Kenny Kwok and Yaping He</i>
17.35 – 17.50	Numerical investigation of bushfire-enhanced wind profiles on structures <i>Kallan Baker, Yaping He, Kenny Kwok and Olivia Mirza</i>
19:00 – 21:30	CONFERENCE DINNER (Only for the CONFERENCE DINNER ticket holders)
	Session 4AB: Structural Engineering Chair: A/Prof Wei Li Room: Room: EA.G.33
16:20 – 16:35	Shear response of Concrete with nano-materials <i>Pierre van Tonder and Morgan Dundu</i>
16:35 – 16: 50	Development of engineered cementitious composites with dune sand <i>Richard Abubakar Shuaibu, Zhong Tao, Zhu Pan and Jian Zhou</i>
16:50 – 17:05	Fire resistance of fly ash-based geopolymer concrete blended with calcium aluminate cement <i>Yi-Fang Cao, Zhong Tao, Zhu Pan, Timothy Murphy and Richard Wuhner</i>
17.05 – 17.20	Application of Thermal Analysis Techniques (TGA, DSC, TMA and Evolved Gases FTIR) in Understanding New Materials <i>Laurel George, Jiunn Jieh Lee, Shamila Salek and Richard Wuhner</i>
17.20 – 17.35	Addressing the durability issues of construction materials using microstructural analysis <i>Shamila Salek, Richard Wuhner, Bijan Samali and Georgius Adam</i>
17.35 – 17.50	Experimental study on the behaviour of headed stud shear connectors for composite steel-concrete beams incorporating geopolymer concrete <i>Balbir Singh</i>
19:00 – 21:30	CONFERENCE DINNER (Only for the CONFERENCE DINNER ticket holders)

Day 3 – Wednesday 22 November 2017

Time	Session
8:00 – 9:00	Registration Parramatta South Campus Room: Building EA.G Foyer
9:00 – 9:45	Plenary 11 – Professor Brian Uy, The University of Sydney, Australia Title: Australasian Structural Engineering Research in Steel and Composite Structures and its influence on International Design Codes Chair: Professor Zhong Tao Room: EA.G.18(LT01)
9:45 – 10:30	Plenary 12 - Professor Yinghe He, James Cook University, Australia Title: Development of innovative processes for the material recovery from spent rechargeable batteries Chair: Dr Qinghua Zeng Room: EA.G.18(LT01)
10:30 – 11:00	MORNING TEA Room: Building EA.G Foyer
	Session 5A: Structural Engineering Chair: Prof Scott Smith Room: EA.G.18(LT01)
11:00 – 11:20	Invited paper title: Structural Topology Optimization Considering Buckling Constraints <i>Prof Haitao Ma</i>
11:20 – 11:35	Influence of analysis approach on the design of high-rise buildings with transfer plate <i>A. Osman and Mohamed Abdel Azim</i>
11:35 – 11:50	Strength and ductility behaviour of steel plate reinforced concrete beams under flexural loading information on submission <i>Mazin M. Sarhan, Lip Teh and Muhammad N. S. Hadi</i>
11:50 – 12:05	Numerical study of the effects of container shape on the self-assembly of granular particles under vibration <i>Reza Amirifar, Kejun Dong and Qinghua Zeng</i>
12:05 – 12:20	A parallel finite element tool in grasshopper <i>Xiao Lai and Zheng He</i>
12:20 – 12:35	Vibration Test of Circular Concrete-Filled Steel Tubular (CFST) Beams <i>Chuanchuan Hou, Linhai Han, Longbo Xie and Feiyu Liao</i>
12:35 – 12:50	Time-space hybrid dynamic integration algorithm for inelastic earthquake time history analysis of building structures <i>Zhinan Ren and Zheng He</i>
12:40 -13:40	LUNCH

	Room: Building EA.G Foyer
13:40 – 14:15	Plenary 13 - Professor Peter Coombs, Managing Director Urban Water Cycle Solutions , Sydney, Australia Title: Systems analysis of big data and macroeconomic history to reveal insights for water policy and markets Chair: Associate Professor Aatur Rahman Room: EA.G.18(LT01)
14:15 -14:30	CONFERENCE CLOSING SESSION Best Paper Award Room: EA.G.18(LT01)