

Concrete Institute of Australia's Biennial National Conference 2021
 SUNDAY 05 September 2021 - WEDNESDAY 08 September 2021
 Virtual Event

Sunday 5 September 2021

15:00	Opening Ceremony			
15:15	Keynote Presentation 1: Prof Richard Buswell (40 mins + 5 mins Q&A) 3D concrete printing: past present and future			
16:00	Break: Concrete Trivia			
	Stream 1 : Concrete Properties	Stream 2 : Durability	Stream 3 : High Performance Concrete	Stream 4 : Infrastructure
16:15	A Study On Creep Property Of Concrete With Fly Ash As A Part Of Cement Mr Zihao LIU	Innovative Cathodic Protection Systems For The Protection Of Reinforced Concrete Structures Mr Nick CRITCHLEY	Shrinkage Of Uhpcc Incorporating Low-c3a Cement And Ground Granulated Blast-furnace Slag Mr Huiyuan LIU	Specialist To Detail – The Industry Gap In Substructures Mr Phil AIREY
16:30	Does High-volume Fly Ash Or Slag Replacement Make Concrete More Susceptible To Cracking? Ms Sumaiya AFROZ	Evaluation Of The Durability Of New Vertical Automated Cast Concrete Pipe Against Machine-made Concrete Pipe Mr Americo DOS SANTOS	Early-age Properties And Cracking Of High Performance Concrete With And Without Superabsorbent Polymers Mr Liang LI	Design And Construction Of The Bruce Highway Upgrade, Caloundra Road To Sunshine Motorway Mr Eoin O'DONOVAN
16:45	Experimental And Computational Assessment Of Durability Of Geopolymer Concrete In Corrosive Environments Dr Ali HADIGHEH	Glass Fibre Reinforced Polymer Bar – Durability And Structural Design Dr Anthea AIREY, Mr Darshan SHANKAR	Interactive Q&A Panel	Karel Avenue Upgrade - The Extension And Widening Of The Existing Grade Separation Over The Rail With The New Bridge No. 1595a Mr Giuseppe DE FILIPPO
17:00	Shrinkage Behaviour Of High Strength Slag Blended Cement-based Concrete Ms Sumaiya AFROZ	Characterisation Of Hydrophobic Pore Blocker Performance In A 50 Year Old Concrete Roof Dr Michael CHALLENGER		Performance And Mechanisms Of A Novel And Highly Corrosion-resistant Bio-concrete For Wastewater Infrastructure Dr Guangming JIANG
17:15	Interactive Q&A Panel	Interactive Q&A Panel		Interactive Q&A Panel
17:30	Invited Speaker Presentation 1: Mr John Hilton (25 mins + 5 mins Q&A) Concrete Bridges in the New Millenium: The Imperative for Innovation			
18:00	Virtual Happy Hour			

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Monday 6 September 2021

9:30	Poster Session: 5 posters followed by 5 mins of Q&A			
10:00	Welcome Address			
10:15	Keynote Presentation 2: Dr Akio Kasuga (40 mins + 5 mins Q&A) A Challenging Concrete Structure for a Low Carbon Society			
11:00	Break: includes 5 mins Desk Yoga			
	Stream 1 : Concrete Materials	Stream 2 : Sustainability	Stream 3 : High Performance Concrete	Stream 4 : Asset Management
11:15	The Effect Of Calcium Silicate Hydrate (c-s-h) Nanoparticles Admixture On Concrete Properties And Associated Ghg Emissions Dr Behnaz ZARIBAF, Dr Shubhada GADKAR	Improving Embodied Emission Rating Tools For Concrete: Design And Constructional Considerations Mr Alexis Joel SCHTEINMAN	The Development Of All-lightweight Scc With High Strength Incorporating Hybrid Fibers. Mr Huiyuan LIU	Fib Model Code 2020 - Condition Limit States And Target Reliabilities For Durability Design Mr Frank PAPWORTH
11:30	Electrically Conductive Cement Composites For Self-sensing Structural Health Monitoring Applications Dr Alastair MACLEOD	The Philosophy Of Engineering Mr Douglas JENKINS	Damage Progression Rate And Cracking Performance Of steel Fibre Reinforced Self-compacting Cementitious Composites Under Cyclic Loading Mr Ayoub DEHGhani	Examination Of Asset Management Procedures In A Local Government Office And Its Correlation To Good Governance Dr Andrew WHYTE
11:45	Properties Of Concretes Made With Cements Incorporating Increased Levels Of Limestone Dr Ahmad SHAYAN	Durability Of Crumbed Rubber Concrete - Chloride And Carbonation Ingress Mr Mark ELLIS	Mechanical Behavior Of Industrial Waste Product Based Ultra-high Performance Seawater And Sea-sand Concrete Mr Shameer SALEH	Matching Owner's Expectations Of Warehouse Slabs Through Life Performance To Design And Specification Mr Frank PAPWORTH
12:00	Strength Development Properties Of Nano-csh Based High Volume Fly Ash Concrete Dr Massoud SOFI	Long Term Durability Assessment Of Concrete Using Recycled Glass Sand In Bridge Constructions Mr Ion DUMITRU	Interactive Q&A Panel	Interactive Q&A Panel
12:15	Interactive Q&A Panel	Interactive Q&A Panel		
12:30	Break			
	Stream 1 : AAC & Geopolymer	Stream 2 : Durability	Stream 3 : Concrete Design	Stream 4 : Digital Innovations in Concrete
13:30	Further Development Of New Supplementary Cementitious Materials From Lithium Residues Mr Bob MUNN	A Review Of Chloride Damage Modelling At Port Of Brisbane Mr Greg VAN ROOYEN	Experimental And Numerical Study On Unequal Lateral Impact Behavior Of Rc Square Members Mr Khalil AL-BUKHAITI	2d Vision-based Crack Detection In Concrete Structures: Improving The Generalisation Ability Mr Elyas ASADI SHAMSABADI, Dr Ali HADIGHEH
13:45	Mechanical Properties Of Geopolymer Mortars Activated With Laboratory-made Sodium Silicate Mr Tariq AZIZ	Concrete Cover – The What, Where And When Dr David MCDONALD	The Behaviour Of Concrete Columns And Beams Reinforced With Gfrp Bars And Spirals Under Axial, Eccentric And Flexural Loading Dr Mohamed ELCHALAKANI	Digital Design Computing And Modelling For 3-d Concrete Printing Dr Jonathan TRAN
14:00	Set-on-demand Approaches For Geopolymers In Concrete 3d Printing Mr Shrawan MUTHUKRISHNAN	The Influence Of Limestone Mineral Addition In Combination With Cement Kiln Dust On Chloride Ion Ingress Dr Bernard (tom) BENN	Linear Elastic Performance Based Design With Modulus Of Rupture Characterization Mr Luke PINKERTON	Monitoring Concrete Structures With Optical Fiber Sensors Mr Quentin POCHEZ
14:15	Experimental Investigation On The Effect Of The Activators On The Plastic Viscosity And Yield Stress Of Alkali-activated Materials Mr Mohammed Fouad ALNAHAL, Dr Taehwan	Protocols Development For Reinforced Concrete Corrosion In Marine Environments Dr Erandi ARIYACHANDRA	Filigree Concrete: The Architecture Of Fibres Mr Ioulios GEORGIOU, Ms Maria Pia ASSAF	Interactive Q&A Panel
14:30	Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel	
14:45	Break: Concrete Trivia			
	Stream 1 : Concrete Materials	Stream 2 : Durability	Stream 3 : Concrete Design	Stream 4 : Precast, Prefabricated and Modular
15:15	Reduction In Water Absorption Of Recycled Aggregate Using Biocement Mr Abhijit MISTRI	Assessing Structural Performance Of Existing Concrete Structures Damaged By Asr Mr Thuc Nhu NGUYEN	The Chemistry Of Chemical Anchors: How Different Chemical Formulae Affect The Installability And Long-term Performance Of Chemical Anchors Ms Kate STORER, Mr Tim HOLMES	Prefab Modular Construction In High-rise Building Prof Shan KUMAR
15:30	The Hybrid Effect Of Micro Steel And Carbon Fibres On Mechanical, Electrical And Piezoresistive Properties Of Cementitious Composites Miss Lining WANG	Reactive Aggregate Fines As Alternative Supplementary Cementitious Material For Alkali-silica Reaction (asr) Mitigation Dr Marie Joshua TAPAS	Particles Packing In Ultra-sustainable Concrete With High Scm Content Mr Zhe SONG	Investigation Of Ambient-cured Gpc Dry And Monolithic Beam-column Joints Using Cfrp Bolts Under Cyclic Loading Mr Tuan T NGO, Dr Thong M PHAM
15:45	Use Of Recycled Glass Fines And Cellulose Fibres For Sustainable Concrete Construction Dr Massoud SOFI	Proposal Of Early-opening-to-traffic Concrete Pavements In Consideration Of Fly Ash As A Part Of The Fine Aggregate Dr Huu Quoc Hung NGUYEN, Mr Takuya SASAKI,	Managing Tolerances And Alignment Of Connections In Modern Concrete And Steel Construction Ms Kate STORER, Mr Ian FERRIER	Finite Element Analysis Of Concrete Sandwich Panels Made With Frp Vierendeel-truss Connectors Dr Ehab HAMED
16:00	Effect Of Carbon And Steel Fibre In Cementitious Composites On Electromagnetic Interference Shielding Mr Dimuthu WANASINGHE	Role Of Flyash In Mitigating Durability Issues Owing To Curing Cement Systems At Elevated Temperature Dr Yogesh Kumar RAMU	Structural Light Weight Concrete Using Recycled Plastic Aggregates Mr Bharat KAMBLE	Advancements In Concrete Technology For Offsite Manufactured Buildings And Infrastructure Systems Mr Thushara JAYASINGHE
16:15	Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel
16:30	Invited Speaker Presentation 2: Dr Stuart Matthews (25 mins + 5 mins Q&A) Durability related developments – MC2020 and beyond			
17:00	Virtual Happy Hour			

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Tuesday 7 September 2021

9:30	Poster Session: 5 posters followed by 5 mins of Q&A			
10:00	Welcome Address			
10:15	Keynote Speaker Presentation 3: Mrs Marion Fulker (40 mins+5mins Q&A) Disrupted: The Future of Cities and Work			
11:00	Break: includes 5 mins Mindful Meditation			
	Stream 1 : Reinforcement	Stream 2 : Sustainability	Stream 3 : Standards & Specifications	Stream 4 : Case Studies & Major Projects
11:15	Post Tensioning Scheme For The Australian Construction Sector Mr Lee BRANKLEY, Mr Don FRASER	Utilization Of Co2 In Ready Mixed Concrete Production: A Project Case Study Mr Sean MONKMAN	Don't Break The Reo Quality Chain Mr Scott MUNTER	Ppa Tower Fell - Case Study Mr David LEWIS
11:30	Time Dependent Behaviour Of Frc Flexural Members: An Experimental Study Mr Murray WATTS	Recycling Of Automotive Vehicle's Waste Glass To Develop Sustainable Glass Foam Using A Curing-sintering Process Mrs Ayesha SIDDIKA	Uls Design Of Non-rectangular Sections; A Comparison Of Australian And International Code Provisions Mr Douglas JENKINS	World's Longest Pumping Distance Of Macro Synthetic Fibre Reinforced Concrete To Build Perth's Forrestfield Airport Link Tunnel Tracks Mr Todd CLARKE
11:45	Combined Reinforcing For Concrete - Not Just For Heavy Duty Pavements Mr Craig ROBERTS	Biomass Based Pce Superplasticizer Admixture Technology Mr Greg LANGTON	Changes To Australian Standards To Better Utilise Higher Strength Reinforcing Steels Mr Graeme MCGREGOR	Design Of Reinforced Concrete Structures To Mitigate Electrical Hazards And Electrolysis Effects For Dc Traction Infrastructure Mr Satyajit DATAR, Dr Ulf KREHER, Mr Daniel
12:00	Vertical Post-tensioning Tendons In Core Walls Of High-rise Buildings Mr Humam ABUHAMDIA	Toward The Development Of Sustainable Concrete With Post-consumer Plastics: A Case Study Prof Rebecca GRAVINA	Performance Of Cast-in And Post-installed Anchors In Early Age Concrete Mr Osamah OBAYES	Design Innovations For Large Scale Buildings: Karrinyup Shopping Centre Case Study Mr Tynan LUZUK
12:15	Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel
12:30	Break			
13:30	Invited Speaker Presentation 3: Mr Oscar Antommattei (25 mins + 5 mins Q&A) Thermal Aspects of Concrete in Design and Construction: A View of the North America Experience			
	Stream 1 : Reinforcement	Stream 2 : Durability	Stream 3 : Standards & Specifications	Stream 4 : Inspection & Testing
14:00	Bond Between Steel Reinforcements And Crumb Rubber Concrete: An Experimental Study Prof Rebecca GRAVINA	Prediction Of Carbonation Of Concrete: The Influence Of Cement Bogue Compositions Dr Daksh BAWEJA	Introduction Of Concrete Filtration Testing To Assess The Risk Of Concrete Bleeding In Bored Piles Dr Martin LARISCH	Quantifying Alkali - Silica Reaction In Concrete: Damage Rating Index Mr Dan CUKIERSKI
14:15	Fibre-reinforced Ambient-cured Geopolymer Concrete For Sustainable And Resilient Structures: From Experiment To Analytical Predictions Mr Tung TRAN, Dr Thong M. PHAM	Durability Design Concrete Early-age Thermal Temperature Modelling Prediction, Site Monitoring And Re-assessment Mr Rodney PAULL	What Is New In As 5216:2021 And Why It Matters Dr Tilak POKHAREL	X-ray Micro Ct For Quality Control Of Fibre Reinforced Concrete Structures: Benefits And Challenges Mr Lakshminarayanan MOHANA KUMAR
14:30	Hybrid Gfrp-steel Reinforced Concrete Beams Dr Khodamorad NABAKI	High Early Strength Gain Low-carbon Concrete: A Microstructure Study Dr Marie Joshua TAPAS	Reinforced Concrete Rigid Connections With Post-installed Starter Bars Considering An Improved Bond-splitting Model Mr Balazs KAKNICS	Ground Penetrating Radar The Swiss Army Knife Of Non-destructive Testing For Concrete Structures Mr Reuben BARNES
14:45	Interactive Q&A Panel	Full-scale Simulation And Verification For Mitigation Of Early-age Cracking In Durable Rc Deck Slab On Multiple Span Steel Box Girder Mr T. Ngoc PHAN	Testing Requirements For Epoxy Bonded Anchors To Achieve 100-year Design Life Vs 50-year Design Life And Durability Mr Andrew COUMAROS	Correlation Between Existing Test Methods For Assessing Alkali-silica Reaction Of Aggregates Miss Elsie NSIAH-BAAFI
15:00		Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel
15:15	Break: Concrete Trivia			
	Stream 1 : Concrete Properties	Stream 2 : Sustainability	Stream 3 : Concrete Design	Stream 4 : Precast, Prefabricated and Modular
15:45	Mix Design And Properties Of Coral Aggregate Concrete For Oceania Islands Dr Tatheer ZAHRA	Smartcrete - Enabling Strong, Relevant Research Dr Warren SOUTH	The Design For Punching Shear In Concrete Slabs To As5100.5 Bridge Design Mr Peter BURNTON, Mr Peter STATTON	Ultimately, Reinforcement Bars May Not Be Equal. Mr Rod SIM, Mr Andreas BOOMKAMP
16:00	The Validity Of Existing Models For The Mechanical Performance Of Medical Waste Plastic Contained Concrete Mr Saman RAHIMI RESKATI	Smartcrete Presentations	Unnecessary Design, Inadequate Detailing, And Lack Of Periodic Inspection Of Concrete Buildings During Construction Mr John WOODSIDE	Optimization Of Steam Curing Processes For Precast Concrete Products Dr Rabin TULADHAR
16:15	Effect Of Aggregate Size And Distribution On The Basic Creep Of Concrete - An Image-based Meso-scale Analysis Mr Sen ZHANG		Punching Shear Strength Of Slabs Including Double-headed Studs - Critical Review Of AcI 318-14 And Australian Design Provisions Prof Marcus RICKER, Mr Andreas BOOMKAMP	Precast Construction Solutions Using Steel Fibre Reinforced Concrete - Recent Advances Mr Vas HAITAS
16:30	Mechanical Properties Of Self-compacting Concrete With Three-dimensional (3d) Steel Fibres Mr Jeffri RAMLI		Vibration Analysis Of A High-rise Building Under Construction - Study Of A Full-scale Application Mrs Shohreh ALAEDINI	Innovations In Precast Concrete Connections Mr Ian MACRAE
16:45	Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel
17:00	Awards and Entertainment			

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Wednesday 8 September 2021

9:30	Poster Session: 5 posters followed by 5 mins of Q&A			
10:00	Welcome Address			
10:15	<p>Keynote Presentation 4: Dr Kefei Li (40 mins + 5 mins Q&A) Durability design, control and planning for concrete structures: Practice from China</p> <p>Sponsored by: MASTER® BUILDERS SOLUTIONS</p>			
11:00	Break: includes 5 mins Desk Yoga			
	Stream 1 : Concrete Materials	Stream 2 : Durability	Stream 3 : Standards & Specifications	Stream 4 : Case Studies & Major Projects
11:15	Technical Paper - Experimental Investigation On The Strength Behavior Of Plastic Pet Fiber Concrete Mr Samuela Loaloa VUKICEA	Review Of Deemed-to-satisfy Provisions In Australian Standards By Using Fully Probabilistic Model: Durability Of Reinforced Concrete Structures Exposed To Chloride Dr Herman JONG	Special Session	A Case Study Of Fire Damage In Concrete Using Petrographic Techniques Mr Kenneth SPRING
11:30	Enhanced Performance Of Concrete With Use Of Carbon Nanotube Enriched Liquid Additive Ms Tasha EAGLE	The Application Of Chloride Diffusion And Chloride Migration Testing On Projects To Evaluate Concrete Durability: research Needs Dr Daksh BAWEJA		Digital Transformation For The Reinforcing Steel Supply Chain Mr Lee BRANKLEY
11:45	A Study On The Influence Of Curing Program On Hydration Reaction And Mechanical Properties Of Mortar With Modified Fly Ash By Flotation Method Mr Shilun LIU	Comparison Of Actual And Predicted Long Term Chloride Durability Of Concrete Containing Significant Quantities Of Supplementary Cementitious Materials Mr Jason CHANDLER		Implementation Of Alternative Concrete Materials At The Rozelle Interchange Project - A Research And Development Case Study Exploring The Use Of Sustainable Concrete Alternatives On Major Nsw Government Construction Projects Ms Veronica PRADO
12:00	The Impact Of Chemical Admixtures On Cement Hydration For Early Age Strength Enhancement Miss Brooke MANSELL	Effects Of Different Integral Hydrophobic Admixtures On The Properties Of Concrete Mr Soheil JAHANDARI		
12:15	Interactive Q&A Panel	Interactive Q&A Panel		Interactive Q&A Panel
12:30	Break			
13:30	<p>Invited Speaker Presentation 4: Prof Stephen Foster (25 mins + 5 mins Q&A) To Carbon Neutral Concrete Construction through Technology and developments of National Building Standards</p>			
	Stream 1 : AAC & Geopolymer	Stream 2 : Durability	Stream 3 : Buildings	Stream 4 : Repair & Retrofit
14:00	Long-term Mechanical Properties Of Alkali-activated Clay Concrete Mr Morteza TAHMASEBI YAMCHELOU	Alternative Test Method For Assessing Alkali-silica Reaction (asr) And The Efficacy Of Supplementary Cementitious Materials In Asr Mitigation Dr Marie Joshua TAPAS	Numerical Investigation On Two-way Action Of An Innovative Corrugated Composite Slab Configuration Ms Keerthana JOHN	Flexure Behaviour Of All Light Weight Reinforced Concrete Beams Externally Strengthened With Cfrp Laminates. Mr Waleed NAWAZ
14:15	Durability Of Fly Ash - Rice Husk Ash Blended Alkali-activated Concrete Ms Sarah FERNANDO	Calorimetric Study Into The Role Of Alkali And Sulfate In The Early Hydration Of Heat-cured Gp Cements And Associated Susceptibility To Def Mr Liam MARTIN	Feasibility Study Of A Novel Composite Slim Flooring System With Two-way Corrugated Steel Decking Ms Keerthana JOHN	Hay St Perth Art Deco Heritage; Carbonation And Chloride Observations; Restoration And Adaptive Re-use Dr Anthea AIREY
14:30	Reaction Kinetics In Alkali-activated Slag: Effect Of Minor Oxides Mr Abdelrahman HAMDAN	Evaluation Of Effect Of Alkali Concentration On Asr Development In Ambt Mr Brendan BOYD-WEETMAN	Tall Residential Buildings – Practical Implementation Of Design Concepts And Code Requirements Prof Marina TRAYKOVA	West Gate Bridge - Eastern Approach Slab Jacking Mr John NOONAN
14:45	Interactive Q&A Panel	Prevention Of Alkali-silica Reaction In Massive Concrete Structures: Laboratory And Field Correlation Dr João CUSTÓDIO	Aspects Of Rc Walls Modeling And Design Using Finite Element Method Prof Viktor HRISTOVSKI	Leaking Concrete Structures – The Beginning Of The End? Ms Udaya SATHIAMURTHY
15:00		Interactive Q&A Panel	Interactive Q&A Panel	Interactive Q&A Panel
15:15	Closing Ceremony			