

Concrete Institute of Australia's Biennial National Conference 2023
SUNDAY 10 September 2023 - WEDNESDAY 13 September 2023
Perth Convention Exhibition Centre

Monday, 11 September 2023

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| 07:30 | Registration Open | | | | 07:30 |
| Plenary Room (Meeting Rooms 1-3) | | | | | |
| 08:45 - 09:15 | Opening Ceremony & Welcome to Country | | | | 08:45 - 09:15 |
| 09:15 - 10:00 | Keynote Presentation Future concrete solutions: Improving resilience and sustainability in the built environment. Romilly MADEW, Engineers Australia | | | | 09:15 - 10:00 |
| 10:00 - 10:30 | MORNING TEA & EXHIBITION BREAK | | | | 10:00 - 10:30 |
| Room | Meeting Room 1 | Meeting Room 2 | Meeting Room 3 | Meeting Room 8 | Room |
| Session | Session 1A: Sustainability | Session 1B: Concrete Materials | Session 1C: Concrete Design | Session 1D: Case Studies | Session |
| 10:30 - 10:50 | 54: Options and Barriers to the Use of Sustainable Concrete David MCDONALD | 135: Characterisations of mine tailings to explore their potential beneficiation into cementitious materials Zuobang YAO | 161: Increase in longitudinal steel reinforcement to account for shear in RC beam design to AS3600 Sorn VIMONSATIT | 226: Modern Methods of Construction-HIEX-MLC Case Study Shan SHANMUGANANTHAKUMAR, Atreyu DE LACY, Troy AULD | 10:30 - 10:50 |
| 10:50 - 11:10 | 108: The circular economy: implications for bridges John HILTON | 84: Long -term durability assessment of concrete with finer cements Ion DUMITRU | 29: Economic and Environmental Assessment of Post-tensioned Composite Slab Systems: a Comparative Study Phuoc Tho DINH, Jeung-Hwan DOH | CROSS-AUS: Towards Safer Concrete Structures John WOODSIDE | 10:50 - 11:10 |
| 11:10 - 11:30 | 186: An Assessment Methodology for a Sustainable and Durable Concrete Radheshyam KHATRI | 229: Effect of Lithium Slag on the Durability Performance of Concrete Md. Tanvir Ehsan AMIN | 227: Punching Shear design to AS5100.5:2017 Amendment 2 Peter STATTON | 152: Cathodic Protection Installation Within an Operational Container Terminal – Brotherson Dock Life Extension: A Case Study Oliver GASIOR, Blane MCGUINNESS | 11:10 - 11:30 |
| 11:30 - 11:50 | 251: Utilising Innovative Admixtures to Treat Returned Fresh Concrete Luke CURRAN | 80: Opportunities and challenges for coal combustion products with a Circular Economy Craig HEIDRICH | 60: The Impact of Confinement and Time Effects on the Calculated Squash Load of Concrete Columns Reinforced with High Strength Steels Anthony NG | 148: Design of Electrified Railway Viaducts Satyajit DATAR, James RAJESH | 11:30 - 11:50 |
| 11:50 - 12:10 | 150: Design and Detailing for Resilience and Sustainability of Concrete Structures Scott MUNTER | 48: study On the Properties Of Concrete Using Large Amounts Of Fly Ash And Clinker Fine Aggregate Tomoya OJIMA | 274: Joint Design and Construction for Industrial Ground Floors Arslan AWAN | 279: Using nanotechnology to improve concrete admixture for a lower carbon footprint Nam LE | 11:50 - 12:10 |
| 12:10 - 12:30 | 191: Recycled Concrete Aggregate as a Sustainable Construction Material: Engineering and Environmental Consideration Youli LIN | 236: The use of magnesium oxide as an additive in concrete John TUXWORTH | 312: Reducing carbon emissions in 3D concrete printing Arun ARUNOTHAYAN | 239: Concrete Modular Systems for High-rise Buildings - the best practice Priyan MENDIS | 12:10 - 12:30 |

| 12:30 - 13:30 | LUNCH & EXHIBITION BREAK | | | | 12:30 - 13:30 |
|---------------------|---|---|---|---|---------------------|
| Room | Meeting Room 1 | Meeting Room 2 | Meeting Room 3 | Meeting Room 8 | Room |
| Session | Session 2A: Sustainability | Session 2B: Concrete Materials | Session 2C: Concrete Design | Session 2D: Repair and Retrofit | Session |
| 13:30 - 13:50 | 79: Low Carbon Concrete Pavement innovation: Coal Combustion Products, rigid and flexible pavement application Craig HEIDRICH | 116: Dynamic response of rubberized F-shape barrier subjected to lateral impact Xin LYU | 111: Safety in Design: How the concrete designer can stay afloat in a sea of legal & commercial & reputational risk. Geoff FLETCHER | 286: Hay St Art Deco Heritage Concrete; Project Enablers of Restoration and Adaptive Re-use Anthea AIREY | 13:30 - 13:50 |
| 13:50 - 14:10 | 319: Enabling beneficial use of DBS in concrete application under Circular Economy Mauricio OLIVARES | 51: Corrosion Behavior of Steel In Low Calcium Fly Ash Geopolymer Concrete After 10 Years Severe Exposure In Burried Environment Didar CHEEMA | 66: How do we teach undergraduates and graduates to design concrete John WOODSIDE | 133: Assessing the carbon footprint of concrete repair Greg VAN ROOYEN | 13:50 - 14:10 |
| 14:10 - 14:30 | 238: Decarbonisation of Concrete Industry through Innovative Technologies Priyan MENDIS | 202: Effect of end-of-life tyre shred content on acoustic and mechanical properties of rubberized concrete Roshan JAYATHILAKAGE | 142: Aspects of modelling and design of tall reinforced concrete buildings in seismic areas according to Eurocode Alexander TRAYKOV | 67: Electrochemical Chloride Extraction: Re-injecting Sustainability into the Australian Market Troy PALMER | 14:10 - 14:30 |
| 14:30 - 14:50 | 156: Exploring the Potential for Developing Economical and Sustainable Cemented Paste Backfill using Mine Wastes Iman AL-DAMAD, Taehwan KIM | 215: Concrete incorporating waste oyster shells for artificial reefs Madhuwanthi RUPASINGHE | 91: Design of fasteners under fatigue loading in Australia Tilak POKHAREL | 43: Factors Causing Premature Peeling of Repair Materials and Key Considerations for Appropriate Repair Methods of Concrete Pavements Yuya KATO | 14:30 - 14:50 |
| 14:50 - 15:10 | 176: Mineral and crystallographic study of aluminosilicate gel in lithium slag geopolymer Usman JAVED | Water Leakage in Concrete Balconies & Roof tops – Do we need to treat concrete as the primary water resisting element? Shan KUMAR | 61: Testing Program to evaluate seismic performance of ETA-approved mechanical anchors used in concrete filled metal deck applications Curtis FOGELBERG | 110: Blast strengthening of an historic congress building John TUXWORTH | 14:50 - 15:10 |

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| 15:10 - 15:40 | AFTERNOON TEA & EXHIBITION BREAK | | | | 15:10 - 15:40 |
| Meeting Rooms 1-2 | | | | | |
| 15:40 - 16:10 | Invited Speaker Session 317: How Standards Are Rising to the Digitisation of the Construction World Adam STINGEMORE, Standards Australia | | | | 15:40 - 16:10 |
| Room | Meeting Room 1-2 | Meeting Room 3 | Meeting Room 7 | Meeting Room 8 | Room |
| Session | Session 3A: Alkali Activated and Geopolymer | Session 3B: Durability | Session 3C: Standards & Codes | Session 3D: Digital Innovation | Session |
| 16:10 - 16:30 | 35: Impact Performance of BFRP-reinforced Precast Segmental Beams Made of Geopolymer and Portland Cement Concrete Duong TRAN | 128: New Northbound Bridge Over Shoalhaven River at Nowra - Concrete Design Peter BOESCH | 102: Design for Shear and Torsion Douglas JENKINS | 182: Experimental Insight on Flow Induced Particle Migration During Concrete Pumping Xiangyu XIE, Xuemei LIU | 16:10 - 16:30 |
| 16:30 - 16:50 | 24: Experimental Study on Waste Glass Cullet as Fine Aggregates in Geopolymer Concrete Hong Lich DINH | 144: Impact on Durability of Carbon Dioxide used as a Concrete Admixture Dan ROWLEY | 257: Design guidelines for the serviceability limit state of composite steel-concrete structures Gianluca RANZI | 72: Current research on 3D concrete printing technology and pilot construction projects in Thailand Ganchai TANAPORNRAWEEKIT | 16:30 - 16:50 |
| 16:50 - 17:10 | 214: Engineering properties of EFC geopolymer for tunneling applications Ivan CLARKE | 155: Using Carbon Nanotube enriched liquid additive technology to improve concrete durability and design life, contributing as a sustainable solution. Tasha EAGLE | 92: Durability of post- installed fasteners Tilak POKHAREL | 70: Improve CNN-based Crack Segmentation Using Weighting Strategies Quang Du NGUYEN | 16:50 - 17:10 |
| 17:10 - 17:30 | 12: Hydrolytic stability of geopolymer: A review Morteza TAHMASEBI YAMCHELOU | 250: Comparing concrete blocks exposed to 20 years of real environments with laboratory experiments Mickael SAILLIO | 27: Assessment of International Code Practice on the Contribution of Post-tensioning Towards Integrity Reinforcement Antonio HIRSCH BLANCO | 87: Potential Energy Saving by Using 3D Printed Lightweight Concrete Walls of a House in Australia Alireza KASHANI | 17:10 - 17:30 |
| 17:30 - 17:50 | 6: The Performance Evaluation of Alkali Activated Materials (AAMs) Eddy Mohd Fairuz MOHD YUSSLEE | 47: Mechanical And Durability Behaviour Of Seawater And Sea-sand Ultra-high Performance Concrete Under Wetting-drying Cycles. Shameer SALEH | 55: Footpath and Cycleway (Non-Highway Pavements) – Best Practice Design and Construction Methods Kipp RICHTER | 179: Digitalisation of reinforcing steel supply chain in construction Lee BRANKLEY, Ladin CAMCI | 17:30 - 17:50 |
| 18:00 | WELCOME RECEPTION | | | | 18:00 |

Concrete Institute of Australia's Biennial National Conference 2023
SUNDAY 10 September 2023 - WEDNESDAY 13 September 2023
Perth Convention Exhibition Centre

Tuesday, 12 September 2023

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|-----------------------------------|--|--|--|---|-----------------------------------|
| 07:30 | Registration Open | | | | 07:30 |
| | Meeting Room 8 | | | | |
| 07:30 - 08:30 | <p>5 CIA NEXgen panellists representing the design, construction, supply, client, and academic/research sectors will discuss how they found their pathway, what they love about concrete, and their expectations for the concrete industry into the future. CIA NEXGen Forum - the future of concrete in Australia <i>(Sponsored by SmartCrete)</i></p> | | | | 07:30 - 08:30 |
| 08:30 | Day Briefing & Introduction | | | | 08:30 |
| | Plenary Room (Meeting Rooms 1-3) | | | | |
| 08:45 - 09:30 | <p>Keynote Presentation 314: Bringing circular economy principles into the mainstream design, construction & decommissioning practices for concrete structures Dr.ir. Agnieszka Bigaj-van Vliet (Netherlands)</p> | | | | 08:45 - 09:30 |
| 09:30 - 10:15 | <p>Keynote Presentation 315: Conservation and interventions of concrete structures and international standardization Professor Tamon UEDA (Japan)</p> | | | | 09:30 - 10:15 |
| 10:15 - 10:45 | MORNING TEA & EXHIBITION BREAK | | | | 10:15 - 10:45 |
| Room | Meeting Room 1-2 | Meeting Room 3 | Meeting Room 7 | Meeting Room 8 | Room |
| Session | Session 4A: Sustainability | Session 4B: Concrete Materials | Session 4C: Concrete Properties | Session 4D: Case Studies | Session |
| 10:45 - 11:05 | 211: Review of the embodied carbon of Australian concreting materials Indira VASIKOVA | 313: Use of Composites as Reinforcement to Concrete Antonio NANNI | 201: Effect of alkali-activator solution-to binder ratio on fresh and hardened mortar characteristics of low calcium geopolymer mortar for concrete sewer rehabilitation Piumika Waswani ARİYADASA | 162: Reuse of a 50-year-old building core in a new 50 storey concrete building development Daksh BAWEJA | 10:45 - 11:05 |
| 11:05 - 11:25 | 26: Carbonation and its role in improving the sustainability of concrete production Marie Joshua TAPAS | 25: Limestone Calcined Clay Cement (LC3): A review of properties and performance in comparison to conventional binder systems Paul THOMAS | 134: Concrete heat of hydration – Issues with use of C766 for Australian cements, use of multidimensional thermal modelling and value of using of cooling pipes. Inam KHAN | 31: Mount Street Bridge Cable Stay Replacement Peter VERBUYST | 11:05 - 11:25 |
| 11:25 - 11:45 | 38: Australian Clays as a Supplementary Cementitious Material Emily CANDA | 56: Investigation of admixtures and water uptake of lightweight aggregate effect on the rheological behaviour of mortar mixes for 3D printing Carolina MACIEL RANGEL | 180: CCAA Data Collecting Program for Autogenous Shrinkage in Concrete - How a Quality and Realistic Data Collection is being Produced for Australian Concretes Jason NAIRN | 105: Case Study - Rawdon Island Bridge Remediation Project Jarrad DUFFY, Garon DEUTSCH | 11:25 - 11:45 |

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| 11:45 - 12:05 | 45: study On The Properties Of Mortar Using Ordinary Portland Cement Clinker As Fine Aggregate Tayuto KIKUCHI | 120: Mechanical properties and crackclosing performance of shape memory alloy (SMA) fibre-reinforced concrete Panwei DU | 126: GRAPHENE OXIDE INCORPORATED SMART CONCRETE: ITS PERFORMANCE AND APPLICABILITY IN CONCRETE APPLICATIONS Isuri FONSEKA | 231: Armadale Road to North Lake Road Bridge Project James DE BURGH | 11:45 - 12:05 |
| 12:05 - 12:25 | 196: Continuing development of sustainable supplementary cementitious materials from lithium aluminosilicates Bob MUNN | 32: Thermoelectric concrete and its potential as a new energy harvesting technology Carlos ZAPATA | 249: Long term effects of increased limestone mineral additions on compressive strength of concrete Tom BENN | 109: How to select the most suitable concrete coating solutions in the water and wastewater industry Jorge MELLADO | 12:05 - 12:25 |
| 12:25 - 12:45 | 172: Design of a CO2-reduced 3D concrete mixture using circular (clay-based) building materials Naomi VAN HIERDEN | 190: Chloride diffusion resistance of limestone calcined clay cement (LC3) concrete based on calcined clay reactivity Quang Dieu NGUYEN | 237: The effect of concrete resistivity on performance of impressed current cathodic protection systems Hamid FATEMI | 148: Design of Electrified Railway Viaducts Satyajit DATAR, James RAJESH | 12:25 - 12:45 |
| 12:45 - 13:30 | LUNCH & EXHIBITION BREAK | | | | 12:45 - 13:30 |
| Room | Meeting Room 1-2 | Meeting Room 3 | Meeting Room 7 | Meeting Room 8 | Room |
| Session | Session 5A: Sustainability | Session 5B: Durability | Session 5C: Concrete Materials & Properties | Session 5D: Precast, Prefabricated and Modular Concrete | Session |
| 13:30 - 13:50 | 183: Sustainable Concrete for Footpaths on Glenroy Level Crossing Project Tim WARREN, Addison KAYE | 106: Formal Durability Planning: Past, Present and Future Rodney PAULL | 136: Investigations on water penetration and autogenous healing of cracked concrete Reza HASSANI | 160: Designing prefabricated concrete cladding and pavers for the Sydney Opera House 2007-2022 John WOODSIDE | 13:30 - 13:50 |
| 13:50 - 14:10 | 219: Hemp fibres: a novel sustainable curing agent for concrete Rahnum Tasnuva NAZMUL | 11: Adequacy of waterproofing methods and concrete cover against chloride-induced corrosion to find service life of the slab Saugat HUMAGAIN | 234: Influence of metakaolin and marble powder as partial replacement of cement on some properties of self-compacting mortar Sorn VIMONSATIT | 256: Water proofing for large prestressed precast potable water concrete tanks Md. Zayedur RAHMAN | 13:50 - 14:10 |
| 14:10 - 14:30 | 232: Recycled fibres in textile-reinforced concrete combined with building component activation Vanessa OVERHAGE | 85: A new approach to building more durable structures. Alireza BIPARVA | 266: Opportunities in Australia for the use of coal combustion products in construction materials Weena LOKUGE | 40: The Effect of Heat-Accelerated Curing on the Durability of Precast Concrete Stephen RAE | 14:10 - 14:30 |
| 14:30 - 14:50 | 242: Premixed Concrete Made with Photovoltaic Derived Glass Fines (SolarCrete) Massoud SOFI | 273: Catalyst Technology for Increasing the Durability of Concrete Benjamin RAMSAY | 17: Life-cycle assessment of sustainable concrete containing recycled waste materials Alvaro AMEZQUITA VACA | 261: Innovative solutions for moment resisting precast concrete connections for framed structures. Sid DAHER | 14:30 - 14:50 |

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| 14:50 - 15:10 | 117: Improved Sustainability in Bridge Design through the use of Factory Produced Pretensioned, Prestressed Concrete Girder and Beam Elements Duncan FRENCH, Zachariah ARNEIL | 14: From Transparency To Impact: Findings From The Development Of Australia's First Carbon Neutral Ready-mix Concrete And Environmental Product Declaration Evan SMITH | 171: Application of particle packing theory on mortar and the effect on mortar properties Zhe SONG | 112: Design and testing of flat slab construction incorporating innovative recycled plastic ROBOVOID void formers Jessey LEE | 14:50 - 15:10 |
| 15:10 - 15:40 | AFTERNOON TEA & EXHIBITION BREAK | | | | 15:10 - 15:40 |
| Meeting Rooms 1-2 | | | | | |
| 15:40 - 16:10 | Invited Speaker Session 318: Resilient design of RC Structures in Australia and other regions of lower seismicity Emeritus Professor John Wilson (Swinburne University) | | | | 15:40 - 16:10 |
| Room | Meeting Room 1-2 | Meeting Room 3 | Meeting Room 7 | Meeting Room 8 | Room |
| Session | Session 6A: Alkali Activated | Session 6B: Durability | Session 6C: Standards & Codes | Session 6D: Seismic | Session |
| 16:10 - 16:30 | 280: Mode I fracture energy of fly ash-based geopolymer concrete Trijon KARMOKAR | 71: Durability Loss in Concrete Due to ASRDEF, The Role of Aggregate Reactivity in Deleterious Def Liam MARTIN | 233: Creating Reliability in concrete structures—the case for using execution plans Marton MAROSSZEKY | 124: Low-Velocity Impact Resistance of Graphene Oxide (GO) Incorporated Concrete Composite Beams Isuri FONSEKA | 16:10 - 16:30 |
| 16:30 - 16:50 | 39: Foamed geopolymer for wastewater treatment: an efficient solution for heavy metal Zn(II) ions removal Ailar HAJIMOHAMMADI | 163: Guidelines to prevent expansive delayed ettringite formation in Australian concrete structures Yogesh Kumar RAMU | 154: CCAA Cement Proficiency Testing Program - An Overview of How the Industry has Improved their Testing Proficiency Jason NAIRN | 63: Seismic category C1 and C2 tests on channel bolts installed in anchor channels Martin CUNNINGHAM | 16:30 - 16:50 |
| 16:50 - 17:10 | 44: Developing the Mix Design of Geopolymer Concrete Combining the Absolute Volume Method and the Particle Packing Method Arpitha B J | 18: Comparison of ASR Mitigating Effects of Ca ²⁺ with Three Different Test Methods Frank ONG | 115: Concrete Technology and Durability in TMR – Past, Present, and Future Wayne ROBERTS | 123: Investigation of failure mechanisms of post-tensioned concrete flatplate structures Ziyang JIAO | 16:50 - 17:10 |
| 17:10 - 17:30 | 65: Fresh, hardened, and microstructural properties of self-compacting alkali-activated concrete cured at ambient temperatures Safat AL-DEEN | 97: Comparison of accelerated test methods for ASR reactivity testing Brendan BOYD-WEETMAN | 177: Conformity Assessment Model for the supply and Installation of Post-Tensioning Systems in Concrete Structures in Australia and New Zealand Peter Tonkin | 16: Connection and Bracing Systemstested to allow for seismic design parameters in Australia Curtis FOGELBERG | 17:10 - 17:30 |
| 19:00 | CONFERENCE DINNER | | | | 19:00 |

Concrete Institute of Australia's Biennial National Conference 2023
SUNDAY 10 September 2023 - WEDNESDAY 13 September 2023
Perth Convention Exhibition Centre

Wednesday, 13 September 2023

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|---|---|--|---|--|---|-----------------------------------|-----------------------------------|
| 07:30 | Registration Open | | | | | | 07:30 |
| Plenary Room (Meeting Rooms 1-3) | | | | | | | |
| 08:30 - 09:15 | Keynote Presentation 320: Concrete Digital Fabrication and Sustainability Dr Tim WANGLER (Switzerland) | | | | | | 08:30 - 09:15 |
| 09:15 - 10:00 | Keynote Presentation 316: Overcoming the Barriers to More Sustainable Concrete Professor Doug HOOTON (Canada) | | | | | | 09:15 - 10:00 |
| 10:00 - 10:30 | MORNING TEA & EXHIBITION BREAK | | | | | | 10:00 - 10:30 |
| 10:30 - 12:30 | TRADE DAY SESSION | | | | | | 10:30 - 12:30 |
| Room | Meeting Room 1 | Meeting Room 2 | Meeting Room 3 | Meeting Room 7 | Meeting Room 8 | Room | |
| Session | Session 7A: Sustainability | Session 7B: Durability | Session 7C: HPC & Reinforcement | Session 7E: Concrete Forums | Session 7D: Inspection and Testing | Session | |
| 10:30 - 10:50 | 50: Sustainability benefits of concrete maturity assessment. James ALDRED | 23: Limit state modelling for carbonation induced corrosion. The effect of the climate change and low CO ₂ -binders on the servicelife. Jeanette VISSER | 138: A Model for the Calculation of Shear Crack Widths for Beams Constructed using High Strength Steel Stirrups Stephen FOSTER | Construction Forum Breaking Down Barriers in Sustainable Construction covering Indigenous Participation in Construction, Women in Construction, and Government Policy Nicole Lockwood, <i>Deputy Chairperson, Infrastructure WA (IWA)</i> Racquel Kerr, <i>Djaara/Boonwurrung, Aboriginal & Stakeholder Engagement Advisor - WA, GHD WA</i> Sophie Bond, <i>WA Co-Vice President, NAWIC</i> | 165: Guidance on the Proof Testing of Post-Installed Anchors in Concrete Ramey OTHMAN | 10:30 - 10:50 | |
| 10:50 - 11:10 | 22: Waste-based concrete mix design for road infrastructure applications using Artificial Intelligence. Jianbin YANG, Rebecca GRAVINA | 75: Developing a Chloride Penetration Model for Recycled Aggregate Concrete Using the Automatic Regression Technique Emadaldin MOHAMMADI GOLAFSHANI | 125: Comparative study of current standards for fire resistance of ultra- high performance concrete beams Jiacheng YANG, Jeung-Hwan DOH | | 46: Common errors in installation of postinstalled fasteners Jessey LEE | 10:50 - 11:10 | |
| 11:10 - 11:30 | 208: Pathways to nett zero Douglas JENKINS | 129: Modelling for improved durability design - Background to critical chloride level establishment and proposal for further refinement. Frank PAPWORTH | 181: Assessing the evolution of zero-stress temperature of high- performance concrete from early ages Vinh DAO | | 114: Investigation and Management of Bridges with ASR in QLD Wayne ROBERTS | 11:10 - 11:30 | |

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| 11:30 - 11:50 | 264: Role of structural design optimisations in reduction of upfront embodied carbon Mahdi BABAEI | 151: A numerical model to predict the elastic modulus of ASR-affected concrete using Artificial Neural Network Mehdi HABIBAGAH, Shami NEJADI | 271: Performance of high-strength steel reinforcing bars under low-velocity impact Amin HEIDARPOUR | Sustainability Forum <i>(Sponsored by SmartCrete)</i> Facilitated by: Clare TUBOLETS, <i>CEO, SmartCrete</i> | 282: Important Aspects of Testing Existing Structures to Prevent Failure of Repairs Jessie RATCLIFFE | 11:30 - 11:50 |
| 11:50 - 12:10 | 255: EKOPipe – the development of a low carbon steel reinforced concrete pipe. Adrian CAHILL | 170: How Chloride Diffusion Test Results Reflect on Chloride Diffusion Modelling Daksh BAWEJA, Thomas BENN | 277: Design of raft foundations with SFRC/combined reinforcement Philipp GUIRGUIS | | 210: State of the Art: The Value of Processed GPR Data in Concrete Inspection Reuben BARNES | 11:50 - 12:10 |
| 12:10 - 12:30 | 178: Embodied carbon over the life cycle of reinforcing steels: Carbon emissions associated with Modules A1-A3 Product stage and A4-A5 Construction stage Ladin CAMCI | 10: Comparison of Full Probabilistic Modelling and Deemed to Satisfy Requirements for Concrete Carbonation Induced Corrosion Herman JONG | 287: Development of a novel generation of grade IV GFRP bars (70GPa) Omar ALAJARMEH | | 153: Use of Thermography to Detect Concrete Delamination and Water Leakage Defects Johnny AU | 12:10 - 12:30 |
| Meeting Room 1 | | | | | | |
| 12:30 - 13:00 | Invited Speaker Session 321: Towards More Sustainable Concrete: Recent Activities Within ACI and ASTM to Achieve Carbon Neutral Concrete Professor Larry SUTTER | | | | | 12:30 - 13:00 |
| 13:00 - 14:00 | LUNCH & EXHIBITION BREAK | | | | | 13:00 - 14:00 |
| 14:00 - 15:30 | TRADE DAY SESSION | | | | | 14:00 - 15:30 |
| Room | Meeting Room 1 | Meeting Room 2 | Meeting Room 3 | Meeting Room 7 | Meeting Room 8 | Room |
| Session | Session 8A: Sustainability | Session 8B: Durability | Session 8C: Infrastructure | Session 8E: fib and ACI Updates | Session 8D: Asset Maintenance | Session |
| 14:00 - 14:20 | 207: ECOTERA™ - High Performance Sustainable Concrete Dean MADERO, Ashok AGARWAL | 188: Resistance to chloride and CO2 ingress of concrete made with carbonated / uncarbonated recycled concrete aggregates Benjamin SMITH | Experiences with Infrastructure Australia's role in the procurement and delivery of infrastructure projects by State and Federal Governments Nicole LOCKWOOD | fib & ACI Forum fib Model Code 2020 Final Draft contents overview with: Dr.ir. Agnieszka Bigaj-van Vliet Prof Tamon Ueda ACI 321 Durability Code progress review and contents overview with: Prof Larry Sutter Prof Doug Hooton | 204: How Industry 4.0 is Influencing Concrete Investigations Reuben BARNES | 14:00 - 14:20 |
| 14:20 - 14:40 | 74: Multi-Objective Optimization of Calcination Process Fuel Input for Lowering Carbon Footprint Harish SRIVASTAVA | 272: Durability of Steel Reinforced Concrete Pipe in Below Ground Conditions Peter SLEEP | 99: Creep of Geopolymer and Alkali Activated Binder Concrete: Comparison with OPC Concrete and Design Codes Stephen FOSTER | | 200: Management of aging concrete cooling towers during low carbon transition Robert REIS Heidi Goebel | 14:20 - 14:40 |
| 14:40 - 15:00 | 118: Optimizing Prestressed Concrete Mix designs for Lower Carbon Emissions Duncan FRENCH | 30: Sustainable Resilience – The Impact of Hydrogel Technology on Concrete Infrastructure Service Life Douglas HAMLIN, Brendan STEAD | Emerging opportunities and challenges for natural and manufactured pozzolans: an Australian Perspective Craig HEIDRICH | | 42: the Latest Developments In The Management Of Cathodic Protection Systems Atef CHEAITANI | 14:40 - 15:00 |

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| 15:00 - 15:20 | 147: The innovation process and its importance for the uptake of lower carbon concretes Jason CHANDLER | 230: Effects of corrosion on the behaviour of short reinforced concrete T-beams exposed to high temperatures Saugat HUMAGAIN | 131: Torsional behaviour of GFRP-reinforced concrete pontoon decks with and without an edge cutout Xian YANG | CIA Durability Updates CIA Z7/05 Durability Modelling Reinforcement Corrosion in Concrete Structures with: Frank Papworth Rodney Paull CIA Durability Committee Update for 2024 Actions | 209: Forensic investigation & recommendations for aging public swimming pool infrastructure John TUXWORTH | 15:00 - 15:20 |
| 15:20 - 15:50 | AFTERNOON TEA & EXHIBITION BREAK | | | | | 15:20 - 15:50 |
| Meeting Room 1-3 | | | | | | |
| 15:50 - 16:10 | CLOSING CEREMONY Remarks from Concrete 2023 Chair and handing over to Concrete 2025 | | | | | 15:50 - 16:10 |