

**28th Biennial National Conference of the Concrete Institute of Australia also host to the
3rd International Congress on Durability of Concrete (ICDC)
MONDAY 23 October 2017 - WEDNESDAY 25 October 2017
Adelaide Convention Centre**

Monday, 23 October 2017

Hall N

Chairperson: Prof Julie Mills

WELCOME TO COUNTRY - Major "Moogy" Sumner

WELCOME - CONFERENCE CHAIR - Prof Julie MILLS

WELCOME ICDC - Mr Rodney PAULL & Prof Harald JUSTNES

WELCOME CIA NATIONAL PRESIDENT - Mr Michael VAN KOEVERDEN

"DISRUPTION AND TECHNOLOGY – IS THE CONSULTING/DESIGN/CONSTRUCTION INDUSTRY MOVING FORWARD QUICKLY ENOUGH?"

KEY NOTE 1 - Mrs Louise ADAMS

Morning Tea Break - Exhibition Halls L & M

Hall N ICDC - Durability (Early Age Cracking)		Room L1 Materials	Room L2 Structures	Room L3 Case Studies & Major Projects
<i>Chairperson: Dr Daksh Baweja</i>		<i>Chairperson: Dr Warren South</i>	<i>Chairperson: Dr Phillip Visintin</i>	<i>Chairperson: Mr Leo Noicos</i>
09:00				09:00
09:15				09:15
09:30				09:30
09:45				09:45
10:30				10:30
11:00	205: REVISION TO CIRIA C660 AND THE IMPLICATIONS FOR THE DESIGN FOR EARLY-AGE THERMAL CRACK CONTROL Dr Phillip BAMFORTH	8: HARNESSING DIGITAL IMAGE CORRELATION SYSTEM FOR ASSESSING FLEXURAL CHARACTERISTICS OF SFRC BASED ON WCA A/Prof Jacek KATZER	21: STRENGTH AND DUCTILITY OF HIGH-STRENGTH CONCRETE COLUMNS CONFINED WITH HIGH-STRENGTH STEEL TIES Prof Stephen FOSTER	7: INNOVATIVE USES FOR CONCRETE IN COMPLEX INFRASTRUCTURE REHABILITATION Mr Will ZILLMANN
11:00		16: THE PRODUCTION OF HIGH-QUALITY FLY ASHES BY USING CENTRIFUGAL MACHINE AND ITS APPLICATION TO PC AND PCA CONCRETE PRODUCTS Mr Shuzo URA	36: AXIAL LOAD-DEFORMATION BEHAVIOUR OF CFRP CONFINED CIRCULAR HOLLOW CONCRETE COLUMNS WITH INNER PVC TUBE Mr Hussamaldeen GOAIZ	27: SUPER HEAVY DUTY WHARF DESIGN - 100KPA AND BEYOND Mr Luke CAMPBELL
11:20				11:20
11:40	269: ALLOWABLE CRACK WIDTHS AND DESIGN FOR CRACK WIDTHS VERSUS AUSTRALIAN CODE MINIMUM REINFORCEMENT QUANTITIES Mr Frank PAPWORTH	44: FLEXURAL RESPONSES OF HYBRID HOOKED-END, SPIRAL STEEL AND SYNTHETIC FIBRE REINFORCED GEOPOLYMER COMPOSITES Mr Musaad Zaheer Nazir KHAN	35: AN EXPERIMENTAL STUDY ON SELF-CENTRING SEGMENTAL PRECAST RUBBERIZED CONCRETE COLUMNS Dr Reza HASSANLI	61: ADELAIDE CONVENTION CENTRE PLENARY BUILDING Mr Tom WALLENT
12:00	275: EARLY-AGE CRACKING IN CONCRETE STRUCTURES: MECHANISMS, ASSESSMENT AND CONTROL Dr Vinh DAO	67: INSIGHT OF FLY ASH BY CHARACTERIZATION OF INDIVIDUAL PARTICLES: INTERRELATIONS AMONG OXIDES AND NEW POTENTIAL CLASSIFICATION Dr Taehwan KIM	224: NUMERICAL AND ANALYTICAL INVESTIGATION OF LOAD TRANSFER THROUGH ECCENTRIC COLUMNS WITH DIFFERENT CROSS SECTIONS Dr Damith MOHOTTI	101: THE SUNSHINE COAST UNIVERSITY HOSPITAL STRUCTURAL CASE STUDY Mr Eric GROENEWALD
12:20	297: CONCRETE WATER TANK DURABILITY EARLY AGE CRACK CONTROL WITH CONSTRUCTION PERFORMANCE FEEDBACK Mr Rodney PAULL	284: ASSESSMENT OF THE PERFORMANCE OF NEW SUPPLEMENTARY CEMENTITIOUS MATERIALS FROM LITHIUM PRODUCTION RESIDUES Mr Robert MUNN	40: LOAD BEARING CAPACITY OF THREE-SIDED RESTRAINED RC WALLS Mr Nhat Minh HO	198: ADELAIDE MEDICAL AND NURSING SCHOOLS PROJECT CASE STUDY Mr Peter JAMESON
12:30	298: GATEWAY WA CONCRETE BRIDGES EARLY AGE CRACK CONTROL AND CONSTRUCTION PERFORMANCE FEEDBACK Mr Rodney PAULL			
12:40	330: Z7/06 CONCRETE CRACKING & CRACK CONTROL - LAUNCH OVERVIEW Prof Ian GILBERT	173: RESIDUAL FLEXURAL AND INDIRECT TENSILE STRENGTHS OF HEAT-TREATED SF-HSC Dr Hau Yan LEUNG	331: THE BEHAVIOUR OF STRUCTURAL MEMBERS MADE WITH CRUMBED RUBBER CONCRETE Dr Rezza HASSANLI	202: SYDNEY METRO NORTHWEST Dr Radu BLIUC
13:00				13:00
14:00				14:00
14:00	26: PETROGRAPHIC CHARACTERISATION OF ALKALI-SILICA REACTION IN CONCRETE: AN INDUSTRY PERSPECTIVE WITH CASE STUDIES Dr Anne HEISIG	47: CHARACTERISATION OF AUTOGENOUS SHRINKAGE IN AUSTRALIAN CONCRETE Prof Ian GILBERT	23: NEW DESIGN GUIDELINES FOR FASTENERS TO CONCRETE IN AUSTRALIA Dr Jessey LEE	219: A CASE STUDY OF WEBB DOCK BERTH 4&5 REMEDIATION – FROM INVESTIGATION TO DESIGN AND CONSTRUCTION Mr Nicholas CRITCHLEY
14:20	294: EVALUATION OF ALKALI SILICA REACTION IN FLY ASH CONCRETE USING AN ACCELERATED PERFORMANCE TEST METHOD Dr Anne HEISIG	111: PROPOSED RECOMMENDED PRACTICE ON CORES AND NDT FOR STRENGTH ASSESSMENT OF EXISTING CONCRETE STRUCTURES – A REPLACEMENT FOR CIA Z11 Mr Jonathon DYSON	295: HIGH STRENGTH REINFORCEMENT – A BOOST FOR HIGH RISE STRUCTURES Mr Torsten VOSS	222: CONCRETE RESPONDING TO THE NEEDS OF NEW HOSPITAL BUILDINGS: PROJECT SHOWCASE Mr David KENNEDY, Mr Tom WALLENT, Mr James TREZONA
14:40	85: KINETIC BASED APPROACH FOR ALKALI SILICA REACTION-COMPARISON OF LABORATORY AND FIELD TESTS Dr Nadarajah GOWRIPALAN	169: EVALUATION OF CONCRETE STRENGTH REDUCTION DUE TO OVER COMPACTION A/Prof Muhammad HADI, Dr Warren SOUTH	213: EFFECTIVENESS OF VERTICAL STEEL REINFORCING BARS TO REINFORCED CONCRETE MASONRY WALLS UNDER COMPRESSION Mr Jake RING	29: CONCRETE DESIGN FOR THE NEW ROYAL ADELAIDE HOSPITAL Mr Mark GOBOLOS
15:00	180: ASSESSMENT OF TEST METHODS FOR ASR AGGREGATE REACTIVITY Mr Wing Fung HA HAU	195: PROPERTIES ON HYDRATION SETTING OF THE CALCIUM ALUMINATE BASED SLAG BEING SOLID BY THE AIR RAPID COOLING METHOD USING AIR Dr Sunmi CHOI	30: PROPOSED RECOMMENDED PRACTICE ON UPV AND UPE MEASUREMENT FOR CONCRETE STRENGTH AND DEFECT ASSESSMENT Mr Reuben BARNES	22: LOW-CARBON POST-TENSIONED CONCRETE Dr Redmond LLOYD
15:20	49: ROLE OF SCM COMPOSITION IN ITS EFFICACY TO MITIGATE ALKALI-SILICA REACTION Ms Marie Joshua TAPAS	216: SORPTIVITY AND CHLORIDE PERMEABILITY OF CONCRETE USING FERRONICKEL SLAG AS FINE AGGREGATE Mr Ashish Kumer SAHA	46: MODELING THE EFFECT OF ASR ON THE PERFORMANCE OF REINFORCED CONCRETE BEAMS BY USING ELASTO-PLASTIC MEMBRANE ELEMENTS Dr Emre ERKMEN	230: 478 GEORGE STREET, SYDNEY Mr Phillip LATHOURAKIS
15:40				15:40
Afternoon Tea Break - Halls L & M				

Hall N					
ICDC & Durability					
Chairperson: Mr Rodney Paull					
FIB MODEL CODE 2020 - DURABILITY IMPLICATIONS - INVITED SPEAKER - Dr Stuart MATTHEWS					
Hall N	Room L1	Room L2	Room L3		
ICDC Durability	Materials	Repairs & Retrofitting	Innovations		
Chairperson: Dr Tian Sing Ng	Chairperson: Mr Bruce Perry	Chairperson: Mr Nicholas Zizkos	Chairperson: Mr Con Komselis		
16:10				16:10	
16:40				16:40	
16:40	63: THE EFFECT OF CRYSTALLINE TECHNOLOGY ON DURABILITY OF THE CONCRETE EXPOSED TO AGGRESSIVE ENVIRONMENTAL CONDITIONS Dr Farhad NABAHI	114: PORE NETWORK STRUCTURE AND SIMULATED WATER PERMEABILITY OF PORTLAND CEMENT-CARBON NANOTUBE NANOCOMPOSITES USING X-RAY COMPUTED MICROTOMOGRAPHY	164: MICROWAVE NON-DESTRUCTIVE TESTING OF CONCRETE: A COMPARISON OF TWO-PORT AND ONE-PORT MEASUREMENT TECHNIQUES Mr Alireza A. CHINIFORUSH	105: DEVELOPMENT AND COMMERCIALISATION OF LOW CARBON, LOW SHRINKAGE, HIGHLY DURABLE ENVISIA® CONCRETE Mr Jason CHANDLER	16:40
17:00	291: LESSONS LEARNED FROM TEN YEARS OF DURABILITY PLANNING ON CONCRETE STRUCTURES – WHAT'S WORKING, AND WHAT COULD BE DONE BETTER ON MAJOR PROJECTS. Mr Marton MAROSSZEKY	148: ACCURACY OF POROSITY ESTIMATION OF POROUS CONCRETE USING RADIO-ISOTOPE METHOD Ms Zizhe WANG	14: FACTORS WITH SIGNIFICANT NEGATIVE INFLUENCE ON THE QUALITY AND DURABILITY OF FIBRE REINFORCED POLYMER (FRP) COMPOSITE STRENGTHENING OF CONCRETE STRUCTURES Mr Fred ANDREWS-PHAEDONOS	252: PHYSICO-CHEMICAL ANALYSIS ON PHASE IN NAOH ACTIVATED FA-GGBS-SF GEOPOLYMER Dr Takeshi YAMAMOTO	17:00
17:20	100: DURABILITY PROBLEM OF MILITARY AIRFIELD RIGID PAVEMENTS DUE TO COMBINED INFLUENCE OF CHEMICAL OIL SPILLS AND REPEATED THERMAL SHOCKS FROM JET FIGHTER EXHAUST Dr Safat AL-DEEN	151: FUNDAMENTAL STUDY ON THE SELF-HEALING OF CEMENTITIOUS MATERIALS BY SUPPLY OF CA2+ AND CO32- IONS UNDER THE CONTROL OF TEMPERATURE AND PH Miss Risa SENGOKU	133: INFLUENCE OF BOND DETERIORATION ON INTERMEDIATE CRACK DEBONDING FAILURES OF FRP-STRENGTHENED REINFORCED CONCRETE BEAMS A/Prof Rebecca GRAVINA	253: EFFECT OF COMBINED MIXING MATERIALS TO FLY ASH AND CURING CONDITIONS ON PHYSICAL PROPERTIES OF NAOH ACTIVATED GEOPOLYMER Dr Michio KIKUCHI	17:20
17:40	285: CONDITION AND REMAINING LIFE ASSESSMENT OF THE WANDOO B CONCRETE GRAVITY STRUCTURE Mr Andrew PEEK, Mr Colin O'BRIEN	266: RESEARCH INTO LOW TEMPERATURE-RISE AND ANTI-CRACKING MASS CONCRETE Mr Guoyou LI	106: PERFORMANCE OF CFRP RETROFIT OVER EPOXY AND MINERAL BONDERS Dr T.g SUNTHARAVADIVEL	214: MODERNIZATION OF CONSTRUCTION: MATERIALS TESTING AND APPLICATION WITH 3D PRINTING Dr Didier LOOTENS	17:40
18:30 - 20:30	Welcome Reception Exhibition Halls L & M			18:30 - 20:30	

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Tuesday, 24 October 2017

Chairperson: A/Prof Rebecca Gravina

09:00	"EXTRAORDINARY POSSIBILITIES FOR CONCRETE STRUCTURES" - KEY NOTE NO. 2 - Prof Tim IBELL				09:00
09:45	"ECO-EFFICIENT CEMENTS: POTENTIAL SOLUTIONS FOR A LOW CO ₂ ECO-EFFICIENT CEMENT BASED MATERIALS INDUSTRY" KEY NOTE NO. 3 - Prof Karen SCRIVENER				09:45
10:30	Morning Tea Break - Exhibition Halls L & M				10:30
11:00	Hall N <i>ICDC - Durability (Design Life)</i> <i>Chairperson: Ms Sue Freitag</i>	Room L1 <i>Materials</i> <i>Chairperson: Mr Tony Thomas</i>	Room L2 <i>Structures</i> <i>Chairperson: A/Prof Rebecca Gravina</i>	Room L3 <i>Innovations</i> <i>Chairperson: Mr John Woodside</i>	11:00
11:00	332: MODEL CODE 2020 Dr Stuart MATTHEWS	62: INITIAL DEVELOPMENT OF BROWN COAL FLY ASH GEOPOLYMER CONCRETE BRICKS Mr Muhamed KHODR	287: STEEL FIBRE CONCRETE PAVEMENTS: THINNER & MORE DURABLE Dr Tian Sing NG	55: CONTROL OF CEMENTITIOUS COMPOSITE SURFACE BRIGHTNESS AND CONTRAST BY EFFLORESCENCE AND ITS APPLICATION TO ARCHITECTURAL SURFACE DESIGN Prof Takahisa OKAMOTO	11:00
11:20	66: DURABILITY DESIGN AND SERVICE LIFE: ENGINEERING AND LEGAL PERSPECTIVES Mr Rick KREECK, Mr Cameron SCHOLEES	102: PERFORMANCE EVALUATION OF GEOPOLYMER AGAINST IN SITU AGGRESSIVE SEWER ENVIRONMENT Mr Hammad Anis KHAN	120: REFINED METHODS FOR ANALYSIS OF DEFLECTIONS; PRACTICAL APPLICATION OF RECENT RESEARCH Mr Doug JENKINS	79: TESTING POST-INSTALLED CHEMICAL ANCHORS TO TS101 APPENDIX B IN AUSTRALIAN CONCRETE SUBSTRATES Mr Andrew COUMAROS	11:20
11:40	175: DURABILITY ASSURANCE EXPERIENCES ON A MAJOR ROAD UPGRADE INFRASTRUCTURE PROJECT Mr Warren GREEN	299: THE EFFECT OF BORON IONS IN FLY ASH-BASED GEOPOLYMERS AND ALKALI ACTIVATED SLAG Mr Ali BAGHERI	209: INFLUENCE OF REBAR DIAMETER IN CONCRETE CRACKING STUDIED USING A DISCRETE CRACK APPROACH Mr Marcelo CARVALHO	116: INNOVATIVE PREFABRICATED CONCRETE CONSTRUCTION IN HIGH-RISE BUILDINGS Mr Shan KUMAR	11:40
12:00	248: EVALUATION OF SERVICE LIFE OF REINFORCED CONCRETE STRUCTURES SUBJECTED TO COMBINED EFFECTS OF ASR AND SUBSEQUENT CORROSION Dr Shami NEJADI	223: THE EFFECT OF ALKALI CONCENTRATION AND THE BINDER COMPOSITION ON THE ALKALI LEACHING IN GEOPOLYMER BINDERS A/Prof Arnaud CASTEL, Mr Mahdi BABAEE	196: HEAVYWEIGHT CONCRETE MIX DELIVERS A KNOCKOUT FOR NEW NUCLEAR MEDICINE PROCESSING FACILITY Mr Douglas FLETCHER	271: STRUCTURAL APPLICATION OF STEEL FIBRES REINFORCED CONCRETE WITH AND WITHOUT CONVENTIONAL REINFORCEMENT Dr Tian Sing NG	12:00
12:20	178: EFFECT OF EXPOSURE ZONE CHANGES ON CONCRETE SERVICE LIFE PREDICTIONS OF SWIMMING POOLS Dr Anthea AIREY	308: SUSCEPTIBILITY OF GEOPOLYMER CONCRETE TO ALKALI AGGREGATE REACTIVITY (AAR) Mr Chandani TENNAKOON	183: A HYGRO-THERMO-CHEMICAL-MECHANICAL MODEL FOR THE SHRINKAGE PREDICTION IN COMPOSITE STEEL-CONCRETE FLOORS Prof Gianluca RANZI	279: THE EFFECT OF MOISTURE INTERLOCKING INFLUENCE OF GRAPHENE OXIDE IN LIMITING CARBONATION OF CEMENT-BASED MATRIX Mrs Alyaa MOHAMMED	12:20
12:40	52: OPTIMIZING DESIGN FOR SUSTAINABLE CONSTRUCTION THROUGH IMPROVED UNDERSTANDING OF IN-SITU STRENGTH Dr Phillip BAMFORTH	182: BEHAVIOUR OF GEOPOLYMER CONCRETES UNDER ACID ATTACK Dr Mohammad ALBITAR	272: THE LONG-TERM TENSION STIFFENING BEHAVIOUR OF FIBRE REINFORCED CONCRETE AND APPLICATIONS TO THE SERVICEABILITY LIMIT STATE Mr Alexander STURM	228: MECHANICAL PROPERTIES AND MICROSTRUCTURE ANALYSIS OF CA-BASED FLY ASH SYSTEM Mr Jung-II SUH	12:40
13:00	Lunch Break - Exhibition Halls L & M				13:00
14:00	Hall N <i>ICDC - Durability</i> <i>Chairperson: Dr Anthea Airey</i>	Room L1 <i>Materials</i> <i>Chairperson: Dr Reza Hassanli</i>	Room L2 <i>Repairs & Retrofitting</i> <i>Chairperson: Prof Vute Sirivivatnanon</i>	Room L3 <i>Innovations</i> <i>Chairperson: Mr Calum Wheeler</i>	14:00
14:00	99: PLANNING AND SPECIFYING FOR HIGH PERFORMANCE STRUCTURES - AND A CLOSER LOOK AT SOME CRITICAL CONCRETING PROCESSES Mr Stuart CURTIS	11: THE MECHANICAL PROPERTIES OF REACTIVE POWDER CONCRETE CONTAINING WASTE STEEL FIBRE RECOVERED FROM WASTE TYRES A/Prof Muhammad HADI	288: STUDY ON THE INHIBITION MECHANISM OF LITHIUM NITRITE FOR NEUTRALIZATION Mr Takashi KUBOTA	194: BRINGING COLLABORATIVE RESEARCH SOLUTIONS TO THE CONCRETE INDUSTRY: AUSTRALIAN CENTRE FOR INFRASTRUCTURE DURABILITY (ACID) Prof Frank COLLINS	14:00
14:20	126: DURABILITY PROPERTIES OF ENVISIA® - A LOWER CARBON CONCRETE Mr David HOCKING	37: TENSILE STRENGTH OF REACTIVE POWDER CONCRETE Mr Hussamaldeen GOAIZ	119: NUMERICAL ANALYSIS OF REINFORCED CONCRETE BEAMS STRENGTHENED WITH HIGH PERFORMANCE FIBRE REINFORCED CEMENTITIOUS COMPOSITES Dr Xiaoshan LIN	156: A REVIEW OF CONCRETE SEALANTS AGAINST CHLORIDE INGRESS Mr Dilanka Madushan Govinna GOVINDAGE DON	14:20
14:40	139: SPECTRAL ANALYSIS OF SURFACE WAVES AS A TOOL IN UNDERSTANDING EPOXY JOINTS Miss Rebecca NEWBY, Mr Gulraiz IJAZ	94: BEHAVIOUR OF SQUARE HSC COLUMNS REINFORCED WITH STEEL EQUAL ANGLE (SEA) SECTIONS UNDER AXIAL COMPRESSION A/Prof Muhammad HADI	304: MODELLING OF NSM CFRP STRIPS EMBEDDED IN CONCRETE AFTER EXPOSURE TO ELEVATED TEMPERATURE USING CEMENT-BASED ADHESIVES Mr Awad JADOOE	51: FINE CRUSHED AGGREGATE AS PARTIAL REPLACEMENT OF NATURAL SAND IN CEMENT MORTARS Mr Dammika Piyumath KATUKURUNDA WELLALA	14:40
15:00	146: THE DURABILITY OF THE MORTAR USING CAO·2AL2O3 IN CHLORIDE ATTACKED ENVIRONMENT Mr Masataka USHIRO	88: HIGH STRENGTH RUBBERISED CONCRETE INCORPORATING SILICA FUME Dr Mohamed ELCHALAKANI	290: CORROSION OF REINFORCED CONCRETE PRISMS CONTAMINATED BY CHLORIDES - PROPAGATION PHASE AND PREDICTION Dr Veronique BOUTELLER	41: DURABILITY OF CONCRETE WITH ARTIFICIAL AGGREGATES FROM RETURNED CONCRETE Dr Giorgio FERRARI	15:00
15:20	73: INFLUENCE OF PORE SIZE, STRUCTURE AND DISTRIBUTION ON THE PROPERTIES OF POROUS CONCRETE: A REVIEW A/Prof Yan ZHUGE	91: COMBINATION OF GUAR GUM DERIVATIVES AND SUPERPLASTICIZERS, IMPACT ON PROPERTIES OF PORTLAND CEMENT-PASTES Dr Alexandre GOVIN	289: COMBINED EFFECT OF SILICATE BASED SURFACE PENETRANTS AND CALCIUM BASED REACTION MATERIAL FOR CONCRETE Dr Hirotaka HAZEHARA	210: THE EFFECT OF SIKA LOW-VISCOFUME ON THE RHEOLOGICAL AND HARDENED PROPERTIES OF HIGH PERFORMANCE CONCRETE Mr Greg LANGTON	15:20
15:40	Afternoon Tea Break - Halls L & M				15:40
16:10	Hall N <i>Chairperson: Mr Michael van Koevorden</i> "CHALLENGING CONCRETE CONSTRUCTION PROJECTS IN THE USA" - INVITED SPEAKER - Mr Mike SCHNEIDER				16:10

16:40	Hall N ICDC - Durability Chairperson: Prof Harald Justnes	Room L1 Materials Chairperson: Mr Michael Booy	Room L2 Repair, Retrofit & Construction Chairperson: Mr Peter Jamieson	Room L3 Precast Concrete Chairperson: Mr Loreto Taglienti	16:40
16:40	333: POST CRACKING BEHAVIOUR OF STEEL FIBRE REINFORCED CONCRETE: FROM MATERIAL TO STRUCTURE (CIA 2017 NATIONAL BURSARY WINNER) Mr Stuart CURTIS	254: SLN FERRONICKEL SLAG : A DURABLE AND SUSTAINABLE MATERIAL FOR THE CONSTRUCTION INDUSTRY IN THE PACIFIC REGION Mr Frederic MARTIN	50: AN EXPERIMENTAL INVESTIGATION OF SQUARE COLUMNS CIRCULARIZATION USING FRP- CONFINED CRUMB RUBBER CONCRETE Dr Osama YOUSSEF	28: BEHAVIOUR OF COMPOSITE LOAD-CARRYING PRECAST CONCRETE SANDWICH PANELS Dr Ehab HAMED	16:40
17:00	232: LIMITATIONS OF PERFORMANCE-BASED SPECIFICATIONS FOR PREDICTING SERVICE LIFE - INFLUENCE OF CURING AND CRACKING BEHAVIOUR AT LOW WATER/BINDER RATIOS Mr Stuart CURTIS	237: HYDRATION KINETICS OF THE HIGH PERFORMANCE ULTRA LIGHTWEIGHT CEMENT COMPOSITES Dr Xuemei LIU	15: BACK TO BASICS IN APPLYING LEAN PRINCIPLES TO CONCRETE CONSTRUCTION Dr Anne GARDNER	76: DESIGN AND ERECTION OF PREFABRICATED (PRECAST) CONCRETE IN AUSTRALIA- WHY IS IT SO POORLY IMPLEMENTED! Mr John WOODSIDE	17:00
17:20	64: MODELLING DURABILITY OF CONCRETE BELOW GROUND Dr Norwood HARRISON	122: UTILISATION OF RICE HUSK ASH AS A PARTIAL REPLACEMENT FOR CEMENT IN SELF-CONSOLIDATING CONCRETE Prof Yan ZHUGE	135: A STUDY FOR OPTIMUM JOINT SPACING IN ROLLER COMPACTED CONCRETE PAVEMENT Mr Tetsya SOK	137: UNDERGROUND RAIL STATIONS OF STRUCTURAL PRECAST. DESIGN CONSIDERATIONS Dr Radu BLIUC	17:20
17:40	281: COMPARISON OF DURABILITY AS MEASURED BY ELECTRICAL RESISTIVITY AND MIP Ms Caitlin TIBBETTS, Dr Christopher FERRARO	158: HOW TO ACHIEVE HIGH-STRENGTH GEOPOLYMERS CURED AT ROOM TEMPERATURE. Mr Mohammad Ali YAZDI	280: A PROPOSED RECOMMENDED PRACTICE ON MATURITY MEASUREMENT FOR IN-SITU STRENGTH ASSESSMENT AS A MEANS TO INDICATE TIMES FOR CURING CESSATION, STRESSING, STRIPPING AND LOADING Mr Frank PAPWORTH	69: OPTIMISING STEAM CURING FOR PRECAST PRESTRESSED CONCRETE GIRDEERS Dr Daksh BAWEJA, Mr Zachariah ARNEIL	17:40
19:00 - 23:00	Awards for Excellence Gala Dinner Panorama Ballroom				19:00 - 23:00

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Wednesday, 25 October 2017

Chairperson: Mr Mark Gobolos

09:00	"SEISMIC DESIGN IN AUSTRALIA POST CHRISTCHURCH" - KEY NOTE 4 - Mr Peter MCBEAN, Prof Des BULL				09:00
09:45	"RECOGNISING THE DIFFERENT FORMS OF SULFATE ATTACK FOR PROVISION OF SULFATE RESISTANT CONCRETE" - KEY NOTE NO. 5 - Prof Doug HOOTON				09:45
10:30	Morning Tea Break - Exhibition Halls L & M				10:30
11:00	Hall N ICDC - Durability (Chloride Modelling) <i>Chairperson: Mr Rodney Paull</i>	Room L1 Materials <i>Chairperson: Prof Jay Sanjayan</i>	Room L2 Structures <i>Chairperson: Dr Tom Vincent</i>	Room L3 Environmental <i>Chairperson: Mr Ben O'Connor</i>	11:00
11:00	334: LINEAR PROPAGATION MODELS OF DETERIORATION PROCESS OF CONCRETE Prof Carmen ANDRADE, Mr Warren GREEN*	123: UNPRECEDENTED THICKNESS REDUCTIONS - TWISTED STEEL MICRO REBAR IN PAVEMENTS Mr Luke PINKERTON	211: CONTROL OF RANDOM CRACKING IN CONCRETE RESIDENTIAL PAVEMENTS Mr Eric LUME	239: AUTOGENOUS SHRINKAGE OF DIFFERENT BINDER SYSTEMS IN PORTLAND CEMENT-BASED AND GEOPOLYMER PASTES AND CONCRETE Mr Amin NOUSHINI, Dr James ALDRED	11:00
11:20	335: NATIONAL AND INTERNATIONAL CODE BASED DETERMINISTIC AND FULL PROBABILISTIC MODELLING TO DESCRIBE RELIABILITY OF VARIOUS AUSTRALASIAN MARINE STRUCTURES	98: THE EFFECT OF USING WASTE GLASS POWDER AS CEMENT REPLACEMENT IN CONCRETE Miss Nafisa TAMANNA	34: PERFORMANCE OF STEEL FIBRE REINFORCED CONCRETE IN RESISTING BLAST LOAD Dr Withit PANSUK	33: A METHOD OF UNCERTAINTY ANALYSIS FOR LIFE CYCLE EMBODIED CO2-E OF BUILDING AND STRUCTURAL MATERIALS IN AUSTRALIA Mr Mehdi ROBATI	11:20
11:40	244: OBSERVED MISUNDERSTANDING IN PRACTICE REGARDING MODELING OF CHLORIDE INGRESS INTO CONCRETE STRUCTURES Mr Joost GULIKERS	113: STRESS-STRAIN CURVE OF CONCRETE MADE OF THE COLD-BONDED FLY ASH AGGREGATE Mr Daniel RAHME	93: CONCRETE DESIGN FOR THE O-BAHN CITY ACCESS PROJECT Mr Matthew CROSBIE	89: EFFECTS OF MIX CONSTITUENTS ON EMBODIED ENERGY INDICES OF CEMENT MORTARS Mr Max MCKINLEY, Mr Kirk VESSALAS	11:40
12:00	165: MULTI-PHASE MODELLING OF MULTI-SPECIES TRANSPORT IN CEMENT BASED MATERIALS: A "DOUBLE-MULTI" MODEL A/Prof Qing-Feng LIU	144: AN EXPERIMENTAL STUDY ON FLEXURAL AND SHEAR BEHAVIOUR OF REINFORCED CRUMBED RUBBER CONCRETE (CRC) BEAMS Miss Agampodi Shayani Malruwani MENDIS	72: RECTANGULAR CONCRETE COLUMNS REINFORCED WITH GLASS FIBRE-REINFORCED POLYMER (GFRP) REBARS SUBJECTED TO CONCENTRIC AND ECCENTRIC AXIAL LOADING Dr Mohamed ELCHALAKANI	134: BROOME WHARF EXTENSION OF LIFE PROJECT Mr Ben MCFARLANE	12:00
12:20	257: MODELLING OF CHLORIDE ION TRANSPORT IN SLAG BLENDED CEMENTITIOUS MATERIALS: INFLUENCE OF TORTUOSITY AND SURFACE ELECTRICAL PROPERTIES Dr Etakneswaran YOGARAJAH	215: ADVANCES IN CONCRETE RHEOLOGY Mr Gary BOON	177: A CASE FOR DEVELOPMENT OF A DESIGN GUIDE FOR HEAVILY - LOADED CONCRETE CONTAINER PAVEMENTS Mr Anthony DAVIS	147: SALT FROST SCALING OF CONCRETE - EFFECT OF GLUE SPALLING Mr Matthias MUELLER	12:20
12:40	246: CHLORIDE DIFFUSION AND CHLORIDE BINDING CAPACITY OF GEOPOLYMER CONCRETE WITH LOW, MODERATE AND HIGH CALCIUM CONTENTS Mr Amin NOUSHINI, Dr James ALDRED	121: EFFECT OF RUN-OF-STATION FLY ASH AND OTHER SCMS ON VARIOUS PROPERTIES OF CONCRETE Mr Farzad MOGHADDAM	231: PULL-OUT STRENGTH OF CAST-IN HEADED ANCHORS IN PREFABRICATED CONCRETE ELEMENTS Mr Fariborz MOEINADDINI	32: A NEW ERA FOR DISPOSAL OF WET WASTE CONCRETE Mr Donald THOMAS	12:40
13:00	Lunch Break - Exhibition Halls L & M				13:00
14:00	Hall N ICDC - Durability <i>Chairperson: Prof Frank Collins</i>	Room L1 Materials <i>Chairperson: Mr David Cockburn</i>	Room L2 History of concrete & Special Interests <i>Chairperson: Mr Gareth Weldon</i>	Room L3 Innovations <i>Chairperson: Mr Ralph Belperio</i>	14:00
14:00	154: MICROSTRUCTURE PROPERTIES OF CARBONATED CEMENT PASTE Mr Vineet SHAH	138: FLUIDITY ASSESSMENT OF GROUTING MORTAR BY RHEOLOGICAL PROPERTIES Miss Ailifeila AIERKEN	236: THE USE OF HIGH FLUIDITY CONCRETES FOR THE TARBAN CREEK BRIDGE REHABILITATION Mr Huber MADRIO	140: LATEST DEVELOPMENTS IN ADMIXTURE TECHNOLOGY Mr Bruno D'SOUZA	14:00
14:20	302: ALKALI-CARBONATE REACTION IN CONCRETE - NEED FOR FURTHER INVESTIGATION IN AUSTRALIA Mr Ion DUMITRU	152: INFLUENCE OF HIGH-SO3 CLINKER ON CEMENT PHYSICAL PROPERTIES Mr Makio YAMASHITA	65: NEW DEVELOPMENTS IN CONCRETE PIPE SPECIFICATION Mr Andrew RUFFLES	124: ABANDONMENT OF BERESFIELD WATER INFRASTRUCTURE WITH AN INNOVATIVE CEMENT GROUT Mr James O'GRADY	14:20
14:40	42: MECHANICAL AND DURABILITY PROPERTIES OF A CONCRETE USING MAGNESIUM SILICATE HYDRATE BINDER SYSTEM Dr Allan SCOTT	226: DESIGN OF SHOTCRETE FOR A SOIL NAIL WALL USING NON-LINEAR FINITE ELEMENT ANALYSIS Mr Daniel PRUDENCIO, Mr David BROWN	20: THE HISTORY OF REINFORCED CONCRETE DESIGN FROM THE LATE 60S TO 2000S IN AUSTRALIA Mr John WOODSIDE	191: SHRINKAGE PROPERTIES OF ULTRA-HIGH PERFORMANCE CONCRETE (UHPC): AN EXPERIMENTAL STUDY Mr Tianyu XIE	14:40
15:00	255: MECHANICAL PROPERTIES AND DURABILITY CHARACTERISTICS OF	192: REACTIVE AGGREGATES' RESPONSE IN LOW CALCIUM FLY ASH	185: GUIDE TO HISTORICAL REINFORCEMENT	204: HEALTH MONITORING OF CONCRETE USING ULTRASONIC	15:00
15:20	Afternoon Tea Break - Halls L & M				15:20
15:50 - 16:30	Hall N <i>Chairperson: Mr Tom Benn</i> CONFERENCE CHAIR PAST PRESIDENT - THANK YOU CHAIR - ICDC INVITATION TO 2019				15:50 - 16:30

* Warren Green will present this paper on behalf of Professor Andrade. This paper has previously been presented at ACA Brian Cherry International Concrete Symposium, July 2017, Melbourne.
 ** This paper has been presented in the fib Symposium, Nov 2016 - Cape Town, 'Performance-based approaches for concrete structures'.