

**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**

	<i>Hall N</i>	<i>Room L1</i>	<i>Room L2</i>	<i>Room L3</i>	
	<b>ICDC - Durability (Early Age Cracking)</b>	<b>Materials</b>	<b>Structures</b>	<b>Case Studies &amp; Major Projects</b>	
	<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					11:00
11:00	205: REVISION TO CIRIA C660 AND THE IMPLICATIONS FOR THE DESIGN FOR EARLY-AGE THERMAL CRACK CONTROL <b>Dr Phillip BAMFORTH</b>	8: HARNESSING DIGITAL IMAGE CORRELATION SYSTEM FOR ASSESSING FLEXURAL CHARACTERISTICS OF SFRC BASED ON WCA <b>A/Prof Jacek KATZER</b>	21: STRENGTH AND DUCTILITY OF HIGH-STRENGTH CONCRETE COLUMNS CONFINED WITH HIGH-STRENGTH STEEL TIES <b>Prof Stephen FOSTER</b>	7: INNOVATIVE USES FOR CONCRETE IN COMPLEX INFRASTRUCTURE REHABILITATION <b>Mr Will ZILLMANN</b>	11:00
11:20		16: THE PRODUCTION OF HIGH-QUALITY FLY ASHES BY USING CENTRIFUGAL MACHINE AND ITS APPLICATION TO PC AND PCA CONCRETE PRODUCTS <b>Mr Shuzo URA</b>	36: AXIAL LOAD-DEFORMATION BEHAVIOUR OF CFRP CONFINED CIRCULAR HOLLOW CONCRETE COLUMNS WITH INNER PVC TUBE <b>Mr Hussamaldeen GOAIZ</b>	27: SUPER HEAVY DUTY WHARF DESIGN - 100KPA AND BEYOND <b>Mr Luke CAMPBELL</b>	11:20
11:40	269: ALLOWABLE CRACK WIDTHS AND DESIGN FOR CRACK WIDTHS VERSUS AUSTRALIAN CODE MINIMUM REINFORCEMENT QUANTITIES <b>Mr Frank PAPWORTH</b>	44: FLEXURAL RESPONSES OF HYBRID HOOKED-END, SPIRAL STEEL AND SYNTHETIC FIBRE REINFORCED GEOPOLYMER COMPOSITES <b>Mr Musaad Zaheer Nazir KHAN</b>	35: AN EXPERIMENTAL STUDY ON SELF-CENTRING SEGMENTAL PRECAST RUBBERIZED CONCRETE COLUMNS <b>Dr Reza HASSANLI</b>	61: ADELAIDE CONVENTION CENTRE PLENARY BUILDING <b>Mr Tom WALLENT</b>	11:40
12:00	275: EARLY-AGE CRACKING IN CONCRETE STRUCTURES: MECHANISMS, ASSESSMENT AND CONTROL <b>Dr Vinh DAO</b>	67: INSIGHT OF FLY ASH BY CHARACTERIZATION OF INDIVIDUAL PARTICLES: INTERRELATIONS AMONG OXIDES AND NEW POTENTIAL CLASSIFICATION <b>Dr Taehwan KIM</b>	224: NUMERICAL AND ANALYTICAL INVESTIGATION OF LOAD TRANSFER THROUGH ECCENTRIC COLUMNS WITH DIFFERENT CROSS SECTIONS <b>Dr Damith MOHOTI</b>	101: THE SUNSHINE COAST UNIVERSITY HOSPITAL STRUCTURAL CASE STUDY <b>Mr Eric GROENEWALD</b>	12:00
12:20	297: CONCRETE WATER TANK DURABILITY EARLY AGE CRACK CONTROL WITH CONSTRUCTION PERFORMANCE FEEDBACK <b>Mr Rodney PAULL</b>	284: ASSESSMENT OF THE PERFORMANCE OF NEW SUPPLEMENTARY CEMENTITIOUS MATERIALS FROM LITHIUM PRODUCTION RESIDUES <b>Mr Robert MUNN</b>	40: LOAD BEARING CAPACITY OF THREE-SIDED RESTRAINED RC WALLS <b>Mr Nhat Minh HO</b>	198: ADELAIDE MEDICAL AND NURSING SCHOOLS PROJECT CASE STUDY <b>Mr Peter JAMESON</b>	12:20
12:30	298: GATEWAY WA CONCRETE BRIDGES EARLY AGE CRACK CONTROL AND CONSTRUCTION PERFORMANCE FEEDBACK <b>Mr Rodney PAULL</b>				12:30
12:40	330: Z7/06 CONCRETE CRACKING & CRACK CONTROL - LAUNCH OVERVIEW <b>Prof Ian GILBERT</b>	173: RESIDUAL FLEXURAL AND INDIRECT TENSILE STRENGTHS OF HEAT-TREATED SF-HSC <b>Dr Hau Yan LEUNG</b>	331: THE BEHAVIOUR OF STRUCTURAL MEMBERS MADE WITH CRUMBED RUBBER CONCRETE <b>Dr Reza HASSANLI</b>	202: SYDNEY METRO NORTHWEST <b>Dr Radu BLIUC</b>	12:40
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 <b>Mr Kenneth SPRING</b>	47: CHARACTERISATION OF AUTOGENOUS SHRINKAGE IN AUSTRALIAN CONCRETE <b>Prof Ian GILBERT</b>	23: NEW DESIGN GUIDELINES FOR FASTENERS TO CONCRETE IN AUSTRALIA <b>Dr Jessey LEE</b>	219: A CASE STUDY OF WEBB DOCK BERTH 4&5 REMEDIATION – FROM INVESTIGATION TO DESIGN AND CONSTRUCTION <b>Mr Nicholas CRITCHLEY</b>	14:00
14:20	294: EVALUATION OF ALKALI SILICA REACTION IN FLY ASH CONCRETE USING AN ACCELERATED PERFORMANCE TEST METHOD <b>Dr Anne HEISIG</b>	111: PROPOSED RECOMMENDED PRACTICE ON CORES AND NDT FOR STRENGTH ASSESSMENT OF EXISTING CONCRETE STRUCTURES – A REPLACEMENT FOR CIA Z11 <b>Mr Jonathon DYSON</b>	295: HIGH STRENGTH REINFORCEMENT – A BOOST FOR HIGH RISE STRUCTURES <b>Mr Torsten VOSS</b>	222: CONCRETE RESPONDING TO THE NEEDS OF NEW HOSPITAL BUILDINGS: PROJECT SHOWCASE <b>Mr David KENNEDY</b>	14:20
14:40	85: KINETIC BASED APPROACH FOR ALKALI SILICA REACTION-COMPARISON OF LABORATORY AND FIELD TESTS <b>Dr Nadarajah GOWRIPALAN</b>	308: SUSCEPTIBILITY OF GEOPOLYMER CONCRETE TO ALKALI AGGREGATE REACTIVITY (AAR) <b>Mr Chandani TENNAKOON</b>	213: EFFECTIVENESS OF VERTICAL STEEL REINFORCING BARS TO REINFORCED CONCRETE MASONRY WALLS UNDER COMPRESSION <b>Mr Jake RING</b>	29: CONCRETE DESIGN FOR THE NEW ROYAL ADELAIDE HOSPITAL <b>Mr Mark GOBOLOS</b>	14:40
15:00	180: ASSESSMENT OF TEST METHODS FOR ASR AGGREGATE REACTIVITY <b>Mr Wing Fung HA HAU</b>	195: PROPERTIES ON HYDRATION SETTING OF THE CALCIUM ALUMINATE BASED SLAG BEING SOLID BY THE AIR RAPID COOLING METHOD USING AIR <b>Dr Sunmi CHOI</b>	30: PROPOSED RECOMMENDED PRACTICE ON UPV AND UPE MEASUREMENT FOR CONCRETE STRENGTH AND DEFECT ASSESSMENT <b>Mr Reuben BARNES</b>	22: LOW-CARBON POST-TENSIONED CONCRETE <b>Dr Redmond LLOYD</b>	15:00
15:20	49: ROLE OF SCM COMPOSITION IN ITS EFFICACY TO MITIGATE ALKALI-SILICA REACTION <b>Ms Marie Joshua TAPAS</b>	216: SORPTIVITY AND CHLORIDE PERMEABILITY OF CONCRETE USING FERRONICKEL SLAG AS FINE AGGREGATE <b>Mr Ashish Kumer SAHA</b>	46: MODELING THE EFFECT OF ASR ON THE PERFORMANCE OF REINFORCED CONCRETE BEAMS BY USING ELASTO-PLASTIC MEMBRANE ELEMENTS <b>Dr Emre ERKMEN</b>	230: 478 GEORGE STREET, SYDNEY <b>Mr Phillip LATHOURAKIS</b>	15:20
15:40					15:40

**Afternoon Tea Break - Halls L & M**

Hall N					
16:10	<b>ICDC &amp; Durability</b> Chairperson: Mr Rodney Paull "FIB MODEL CODE 2020 - DURABILITY IMPLICATIONS" - INVITED SPEAKER - <b>Dr Stuart MATTHEWS</b>				16:10
16:40	<b>Hall N</b> <b>ICDC Durability</b> Chairperson: Dr Tian Sing Ng	<b>Room L1</b> <b>Materials</b> Chairperson: Mr Bruce Perry	<b>Room L2</b> <b>Repairs &amp; Retrofitting</b> Chairperson: Mr Nicholas Zizikos	<b>Room L3</b> <b>Innovations</b> Chairperson: Mr Con Komselis	16:40
16:40	63: THE EFFECT OF CRYSTALLINE TECHNOLOGY ON DURABILITY OF THE CONCRETE EXPOSED TO AGGRESSIVE ENVIRONMENTAL CONDITIONS <b>Dr Farhad NABAVI</b>	114: PORE NETWORK STRUCTURE AND SIMULATED WATER PERMEABILITY OF PORTLAND CEMENT-CARBON NANOTUBE NANOCOMPOSITES USING X-RAY COMPUTED MICROTOMOGRAPHY <b>Dr Alastair MACLEOD</b>	164: MICROWAVE NON-DESTRUCTIVE TESTING OF CONCRETE: A COMPARISON OF TWO-PORT AND ONE-PORT MEASUREMENT TECHNIQUES <b>Mr Alireza A. CHINIFORUSH</b>	105: DEVELOPMENT AND COMMERCIALISATION OF LOW CARBON, LOW SHRINKAGE, HIGHLY DURABLE ENVISIA® CONCRETE <b>Mr Jason CHANDLER</b>	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. <b>Mr Marton MAROSSZEKY</b>	148: ACCURACY OF POROSITY ESTIMATION OF POROUS CONCRETE USING RADIO-ISOTOPE METHOD <b>Ms Zizhe WANG</b>	14: FACTORS WITH SIGNIFICANT NEGATIVE INFLUENCE ON THE QUALITY AND DURABILITY OF FIBRE REINFORCED POLYMER (FRP) COMPOSITE STRENGTHENING OF CONCRETE STRUCTURES <b>Mr Fred ANDREWS-PHAEDONOS</b>	252: PHYSICOCHEMICAL ANALYSIS ON PHASE IN NAOH ACTIVATED FA-GGBS-SF GEOPOLYMER <b>Dr Takeshi YAMAMOTO</b>	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 <b>Dr Safat AL-DEEN</b>	151: FUNDAMENTAL STUDY ON THE SELF-HEALING OF CEMENTITIOUS MATERIALS BY SUPPLY OF CA <sup>2+</sup> AND CO <sub>3</sub> <sup>2-</sup> IONS UNDER THE CONTROL OF TEMPERATURE AND PH <b>Miss Risa SENGOKU</b>	133: INFLUENCE OF BOND DETERIORATION ON INTERMEDIATE CRACK DEBONDING FAILURES OF FRP-STRENGTHENED REINFORCED CONCRETE BEAMS <b>A/Prof Rebecca GRAVINA</b>	253: EFFECT OF COMBINED MIXING MATERIALS TO FLY ASH AND CURING CONDITIONS ON PHYSICAL PROPERTIES OF NAOH ACTIVATED GEOPOLYMER <b>Dr Michio KIKUCHI</b>	17:20
17:40	285: CONDITION AND REMAINING LIFE ASSESSMENT OF THE WANDOO B CONCRETE GRAVITY STRUCTURE <b>Mr Andrew PEEK, Mr Colin O'BRIEN</b>	266: RESEARCH INTO LOW TEMPERATURE-RISE AND ANTI-CRACKING MASS CONCRETE <b>Mr Guoyou LI</b>	106: PERFORMANCE OF CFRP RETROFIT OVER EPOXY AND MINERAL BONDERS <b>Mr Raghavendra Vasudeva UPADHYAYA</b>	214: MODERNIZATION OF CONSTRUCTION: MATERIALS TESTING AND APPLICATION WITH 3D PRINTING <b>Dr Didier LOOTENS</b>	17:40
18:30 - 20:30	<b>Welcome Reception</b> <b>Exhibition Halls L &amp; M</b>				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 - <b>Prof Tim IBELL</b>				09:00
09:45	"ECO-EFFICIENT CEMENTS: POTENTIAL SOLUTIONS FOR A LOW CO <sub>2</sub> . ECO-EFFICIENT CEMENT BASED MATERIALS INDUSTRY" KEY NOTE NO. 3 - <b>Prof Karen SCRIVENER</b>				09:45
10:30	<b>Morning Tea Break - Exhibition Halls L &amp; M</b>				10:30
11:00	<b>Hall N</b> <b>ICDC - Durability (Design Life)</b> <i>Chairperson: Ms Sue Freitag</i>	<b>Room L1</b> <b>Materials</b> <i>Chairperson: Mr Tony Thomas</i>	<b>Room L2</b> <b>Structures</b> <i>Chairperson: A/Prof Rebecca Gravina</i>	<b>Room L3</b> <b>Innovations</b> <i>Chairperson: Mr John Woodside</i>	11:00
11:00	332: MODEL CODE 2020 <b>Dr Stuart MATTHEWS</b>	62: INITIAL DEVELOPMENT OF BROWN COAL FLY ASH GEOPOLYMER CONCRETE BRICKS <b>Mr Muhamed KHODR</b>	287: STEEL FIBRE CONCRETE PAVEMENTS: THINNER & MORE DURABLE <b>Dr Tian Sing NG</b>	55: CONTROL OF CEMENTITIOUS COMPOSITE SURFACE BRIGHTNESS AND CONTRAST BY EFFLORESCENCE AND ITS APPLICATION TO ARCHITECTURAL SURFACE DESIGN <b>Prof Takahisa OKAMOTO</b>	11:00
11:20	66: DURABILITY DESIGN AND SERVICE LIFE: ENGINEERING AND LEGAL PERSPECTIVES <b>Mr Rick KREECK, Mr Cameron SCHOLES</b>	102: PERFORMANCE EVALUATION OF GEOPOLYMER AGAINST IN SITU AGGRESSIVE SEWER ENVIRONMENT <b>Mr Hammad Anis KHAN</b>	120: REFINED METHODS FOR ANALYSIS OF DEFLECTIONS; PRACTICAL APPLICATION OF RECENT RESEARCH <b>Mr Doug JENKINS</b>	79: TESTING POST-INSTALLED CHEMICAL ANCHORS TO TS101 APPENDIX B IN AUSTRALIAN CONCRETE SUBSTRATES <b>Mr Andrew COUMAROS</b>	11:20
11:40	175: DURABILITY ASSURANCE EXPERIENCES ON A MAJOR ROAD UPGRADE INFRASTRUCTURE PROJECT <b>Mr Warren GREEN</b>	299: THE EFFECT OF BORON IONS IN FLY ASH-BASED GEOPOLYMERS AND ALKALI ACTIVATED SLAG <b>Mr Ali BAGHERI</b>	209: INFLUENCE OF REBAR DIAMETER IN CONCRETE CRACKING STUDIED USING A DISCRETE CRACK APPROACH <b>Mr Marcelo CARVALHO</b>	116: INNOVATIVE PREFABRICATED CONCRETE CONSTRUCTION IN HIGH-RISE BUILDINGS <b>Mr Shan KUMAR</b>	11:40
12:00	248: EVALUATION OF SERVICE LIFE OF REINFORCED CONCRETE STRUCTURES SUBJECTED TO COMBINED EFFECTS OF ASR AND SUBSEQUENT CORROSION <b>Dr Shami NEJADI</b>	223: THE EFFECT OF ALKALI CONCENTRATION AND THE BINDER COMPOSITION ON THE ALKALI LEACHING IN GEOPOLYMER BINDERS <b>A/Prof Arnaud CASTEL Mr Mahdi BABAEE</b>	196: HEAVYWEIGHT CONCRETE MIX DELIVERS A KNOCKOUT FOR NEW NUCLEAR MEDICINE PROCESSING FACILITY <b>Mr Douglas FLETCHER</b>	271: STRUCTURAL APPLICATION OF STEEL FIBRES REINFORCED CONCRETE WITH AND WITHOUT CONVENTIONAL REINFORCEMENT <b>Dr Tian Sing NG</b>	12:00
12:20	178: EFFECT OF EXPOSURE ZONE CHANGES ON CONCRETE SERVICE LIFE PREDICTIONS OF SWIMMING POOLS <b>Dr Anthea AIREY</b>	169: EVALUATION OF CONCRETE STRENGTH REDUCTION DUE TO OVER COMPACTION <b>A/Prof Muhammad HADI Dr Warren SOUTH"</b>	183: A HYGRO-THERMO-CHEMICAL-MECHANICAL MODEL FOR THE SHRINKAGE PREDICTION IN COMPOSITE STEEL-CONCRETE FLOORS <b>Prof Gianluca RANZI</b>	279: THE EFFECT OF MOISTURE INTERLOCKING INFLUENCE OF GRAPHENE OXIDE IN LIMITING CARBONATION OF CEMENT-BASED MATRIX <b>Mrs Alyaa MOHAMMED</b>	12:20
12:40	52: OPTIMIZING DESIGN FOR SUSTAINABLE CONSTRUCTION THROUGH IMPROVED UNDERSTANDING OF IN-SITU STRENGTH <b>Dr Phillip BAMFORTH</b>	182: BEHAVIOUR OF GEOPOLYMER CONCRETES UNDER ACID ATTACK <b>Dr Mohammad ALBITAR</b>	272: THE LONG-TERM TENSION STIFFENING BEHAVIOUR OF FIBRE REINFORCED CONCRETE AND APPLICATIONS TO THE SERVICEABILITY LIMIT STATE <b>Mr Alexander STURM</b>	228: MECHANICAL PROPERTIES AND MICROSTRUCTURE ANALYSIS OF CA-BASED FLY ASH SYSTEM <b>Mr Jung-II SUH</b>	12:40
13:00	<b>Lunch Break - Exhibition Halls L &amp; M</b>				13:00
14:00	<b>Hall N</b> <b>ICDC - Durability</b> <i>Chairperson: Dr Anthea Airey</i>	<b>Room L1</b> <b>Materials</b> <i>Chairperson: Dr Reza Hassanli</i>	<b>Room L2</b> <b>Repairs &amp; Retrofitting</b> <i>Chairperson: Prof Vute Sirivivatnanon</i>	<b>Room L3</b> <b>Innovations</b> <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 <b>Mr Stuart CURTIS</b>	11: THE MECHANICAL PROPERTIES OF REACTIVE POWDER CONCRETE CONTAINING WASTE STEEL FIBRE RECOVERED FROM WASTE TYRES <b>A/Prof Muhammad HADI</b>	288: STUDY ON THE INHIBITION MECHANISM OF LITHIUM NITRITE FOR NEUTRALIZATION <b>Mr Takashi KUBOTA</b>	194: BRINGING COLLABORATIVE RESEARCH SOLUTIONS TO THE CONCRETE INDUSTRY: AUSTRALIAN CENTRE FOR INFRASTRUCTURE DURABILITY (ACID) <b>Dr Alastair MACLEOD</b>	14:00
14:20	126: DURABILITY PROPERTIES OF ENVISIA® - A LOWER CARBON CONCRETE <b>Mr David HOCKING</b>	37: TENSILE STRENGTH OF REACTIVE POWDER CONCRETE <b>Mr Hussamaldeen GOAIZ</b>	119: NUMERICAL ANALYSIS OF REINFORCED CONCRETE BEAMS STRENGTHENED WITH HIGH PERFORMANCE FIBRE REINFORCED CEMENTITIOUS COMPOSITES <b>Dr Xiaoshan LIN</b>	156: A REVIEW OF CONCRETE SEALANTS AGAINST CHLORIDE INGRESS <b>Mr Dilanka Madushan Govinna GOVINNAGE DON</b>	14:20
14:40	139: SPECTRAL ANALYSIS OF SURFACE WAVES AS A TOOL IN UNDERSTANDING EPOXY JOINTS <b>Miss Rebecca NEWBY, Mr Gulraiz IJAZ</b>	94: BEHAVIOUR OF SQUARE HSC COLUMNS REINFORCED WITH STEEL EQUAL ANGLE (SEA) SECTIONS UNDER AXIAL COMPRESSION <b>A/Prof Muhammad HADI</b>	304: MODELLING OF NSM CFRP STRIPS EMBEDDED IN CONCRETE AFTER EXPOSURE TO ELEVATED TEMPERATURE USING CEMENT-BASED ADHESIVES <b>Mr Awad JADOOE</b>	51: FINE CRUSHED AGGREGATE AS PARTIAL REPLACEMENT OF NATURAL SAND IN CEMENT MORTARS <b>Mr Dammika Piyumpath KATUKURUNDA WELLALA</b>	14:40
15:00	73: INFLUENCE OF PORE SIZE, STRUCTURE AND DISTRIBUTION ON THE PROPERTIES OF POROUS CONCRETE: A REVIEW <b>Prof Yan ZHUGE</b>	88: HIGH STRENGTH RUBBERISED CONCRETE INCORPORATING SILICA FUME <b>Dr Mohamed ELCHALAKANI</b>	290: CORROSION OF REINFORCED CONCRETE PRISMS CONTAMINATED BY CHLORIDES - PROPAGATION PHASE AND PREDICTION <b>Dr Veronique BOUTEILLER</b>	41: DURABILITY OF CONCRETE WITH ARTIFICIAL AGGREGATES FROM RETURNED CONCRETE <b>Dr Giorgio FERRARI</b>	15:00
15:20	68: EVALUATION OF CHLORIDE PENETRATION INTO GEOPOLYMER CONCRETE UNDER MARINE ENVIRONMENT <b>Prof Jay SANJAYAN</b>	91: COMBINATION OF GUAR GUM DERIVATIVES AND SUPERPLASTICIZERS, IMPACT ON PROPERTIES OF PORTLAND CEMENT-PASTES <b>Dr Alexandre GOVIN</b>	289: COMBINED EFFECT OF SILICATE BASED SURFACE PENETRANTS AND CALCIUM BASED REACTION MATERIAL FOR CONCRETE <b>Dr Hirotaka HAZEHARA</b>	210: THE EFFECT OF SIKA LOW-VISCOFUME ON THE RHEOLOGICAL AND HARDENED PROPERTIES OF HIGH PERFORMANCE CONCRETE <b>Mr Greg LANGTON</b>	15:20
15:40	<b>Afternoon Tea Break - Halls L &amp; M</b>				15:40
16:10	<b>Hall N</b> <i>Chairperson: Mr Michael van Koeverden</i> "CHALLENGING CONCRETE CONSTRUCTION PROJECTS IN THE USA" - INVITED SPEAKER - <b>Mr Mike SCHNEIDER</b>				16:10

16:40	<b>Hall N</b> <b>ICDC - Durability</b>	<b>Room L1</b> <b>Materials</b>	<b>Room L2</b> <b>Repair; Retrofit &amp; Construction</b>	<b>Room L3</b> <b>Precast Concrete</b>	16:40
	<i>Chairperson: Prof Harald Justnes</i>	<i>Chairperson: Mr Michael Booy</i>	<i>Chairperson: Mr Peter Jameson</i>	<i>Chairperson: Mr Loreto Taglienti</i>	
16:40	333: POST CRACKING BEHAVIOUR OF STEEL FIBRE REINFORCED CONCRETE: FROM MATERIAL TO STRUCTURE (CIA 2017 NATIONAL BURSARY WINNER) <b>Dr Ali AMIN</b>	254: SLN FERRONICKEL SLAG : A DURABLE AND SUSTAINABLE MATERIAL FOR THE CONSTRUCTION INDUSTRY IN THE PACIFIC REGION <b>Mr Frederic MARTIN</b>	50: AN EXPERIMENTAL INVESTIGATION OF SQUARE COLUMNS CIRCULARIZATION USING FRP- CONFINED CRUMB RUBBER CONCRETE <b>Dr Osama YOUSSEF</b>	28: BEHAVIOUR OF COMPOSITE LOAD-CARRYING PRECAST CONCRETE SANDWICH PANELS <b>Dr Ehab HAMED</b>	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 <b>Mr Stuart CURTIS</b>	237: HYDRATION KINETICS OF THE HIGH PERFORMANCE ULTRA LIGHTWEIGHT CEMENT COMPOSITES <b>Dr Xuemei LIU</b>	15: BACK TO BASICS IN APPLYING LEAN PRINCIPLES TO CONCRETE CONSTRUCTION <b>Dr Anne GARDNER</b>	76: DESIGN AND ERECTION OF PREFABRICATED (PRECAST) CONCRETE IN AUSTRALIA- WHY IS IT SO POORLY IMPLEMENTED! <b>Mr John WOODSIDE</b>	17:00
17:20	64: MODELLING DURABILITY OF CONCRETE BELOW GROUND <b>Mr Peter SLEEP</b>	122: UTILISATION OF RICE HUSK ASH AS A PARTIAL REPLACEMENT FOR CEMENT IN SELF-CONSOLIDATING CONCRETE <b>Prof Yan ZHUGE</b>	135: A STUDY FOR OPTIMUM JOINT SPACING IN ROLLER COMPACTED CONCRETE PAVEMENT <b>Mr Tetsya SOK</b>	137: UNDERGROUND RAIL STATIONS OF STRUCTURAL PRECAST. DESIGN CONSIDERATIONS <b>Dr Radu BLIUC</b>	17:20
17:40	281: COMPARISON OF DURABILITY AS MEASURED BY ELECTRICAL RESISTIVITY AND MIP <b>Ms Caitlin TIBBETTS,</b> <b>Dr Christopher FERRARO</b>	158: HOW TO ACHIEVE HIGH-STRENGTH GEOPOLYMERS CURED AT ROOM TEMPERATURE. <b>Mr Mohammad Ali YAZDI</b>	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 <b>Mr Frank PAPWORTH</b>	69: OPTIMISING STEAM CURING FOR PRECAST PRESTRESSED CONCRETE GIRDERS <b>Dr Daksh BAWEJA, Mr Zachariah ARNEIL</b>	17:40
19:00 - 23:00	<b>Awards for Excellence Gala Dinner</b> <b>Panorama Ballroom</b>				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 - <b>Mr Peter MCBEAN, Prof Des BULL</b>				09:00
09:45	"RECOGNISING THE DIFFERENT FORMS OF SULFATE ATTACK FOR PROVISION OF SULFATE RESISTANT CONCRETE" - KEY NOTE NO. 5 - <b>Prof Doug HOOTON</b>				09:45
10:30	<b>Morning Tea Break - Exhibition Halls L &amp; M</b>				10:30
11:00	<b>Hall N</b> <b>ICDC - Durability (Chloride Modelling)</b> <i>Chairperson: Mr Rodney Paull</i>	<b>Room L1</b> <b>Materials</b> <i>Chairperson: Prof Jay Sanjayan</i>	<b>Room L2</b> <b>Structures</b> <i>Chairperson: Dr Tom Vincent</i>	<b>Room L3</b> <b>Environmental</b> <i>Chairperson: Mr Ben O'Connor</i>	11:00
11:00	334: LINEAR PROPAGATION MODELS OF DETERIORATION PROCESS OF CONCRETE <b>Prof Carmen ANDRADE, Mr Warren GREEN*</b>	123: UNPRECEDENTED THICKNESS REDUCTIONS - TWISTED STEEL MICRO REBAR IN PAVEMENTS <b>Mr Luke PINKERTON</b>	211: CONTROL OF RANDOM CRACKING IN CONCRETE RESIDENTIAL PAVEMENTS <b>Mr Eric LUME</b>	239: AUTOGENOUS SHRINKAGE OF DIFFERENT BINDER SYSTEMS IN PORTLAND CEMENT-BASED AND GEOPOLYMER PASTES AND CONCRETE <b>Mr Amin NOUSHINI, Dr James ALDRED</b>	11:00
11:20	335: NATIONAL AND INTERNATIONAL CODE BASED DETERMINISTIC AND FULL PROBABILISTIC MODELLING TO DESCRIBE RELIABILITY OF VARIOUS AUSTRALASIAN MARINE STRUCTURES <b>Mr Frank PAPWORTH**</b>	98: THE EFFECT OF USING WASTE GLASS POWDER AS CEMENT REPLACEMENT IN CONCRETE <b>Miss Nafisa TAMANNA</b>	34: PERFORMANCE OF STEEL FIBRE REINFORCED CONCRETE IN RESISTING BLAST LOAD <b>Dr Withit PANSUK</b>	33: A METHOD OF UNCERTAINTY ANALYSIS FOR LIFE CYCLE EMBODIED CO <sub>2</sub> -E OF BUILDING AND STRUCTURAL MATERIALS IN AUSTRALIA <b>Mr Mehdi ROBATI</b>	11:20
11:40	244: OBSERVED MISUNDERSTANDING IN PRACTICE REGARDING MODELING OF CHLORIDE INGRESS INTO CONCRETE STRUCTURES <b>Mr Joost GULIKERS</b>	113: STRESS-STRAIN CURVE OF CONCRETE MADE OF THE COLD-BONDED FLY ASH AGGREGATE <b>Mr Daniel RAHME</b>	93: CONCRETE DESIGN FOR THE O-BAHN CITY ACCESS PROJECT <b>Mr Matthew CROSBIE</b>	89: EFFECTS OF MIX CONSTITUENTS ON EMBODIED ENERGY INDICES OF CEMENT MORTARS <b>Mr Max MCKINLEY, Mr Kirk VESSALAS</b>	11:40
12:00	165: MULTI-PHASE MODELLING OF MULTI-SPECIES TRANSPORT IN CEMENT BASED MATERIALS: A "DOUBLE MULTI" MODEL <b>A/Prof Qing-Feng LIU</b>	144: AN EXPERIMENTAL STUDY ON FLEXURAL AND SHEAR BEHAVIOUR OF REINFORCED CRUMBED RUBBER CONCRETE (CRC) BEAMS <b>Miss Agampodi Shayani Malruwani MENDIS</b>	72: RECTANGULAR CONCRETE COLUMNS REINFORCED WITH GLASS FIBRE-REINFORCED POLYMER (GFRP) REBARS SUBJECTED TO CONCENTRIC AND ECCENTRIC AXIAL LOADING <b>Dr Mohamed ELCHALAKANI</b>	134: BROOME WHARF EXTENSION OF LIFE PROJECT <b>Mr Ben MCFARLANE</b>	12:00
12:20	257: MODELLING OF CHLORIDE ION TRANSPORT IN SLAG BLENDED CEMENTITIOUS MATERIALS: INFLUENCE OF TORTUOSITY AND SURFACE ELECTRICAL PROPERTIES <b>Dr Elakneswaran YOGARAJAH</b>	215: ADVANCES IN CONCRETE RHEOLOGY <b>Mr Gary BOON</b>	177: A CASE FOR DEVELOPMENT OF A DESIGN GUIDE FOR HEAVILY - LOADED CONCRETE CONTAINER PAVEMENTS <b>Mr Anthony DAVIS</b>	147: SALT FROST SCALING OF CONCRETE - EFFECT OF GLUE SPALLING <b>Mr Matthias MUELLER</b>	12:20
12:40	246: CHLORIDE DIFFUSION AND CHLORIDE BINDING CAPACITY OF GEOPOLYMER CONCRETE WITH LOW, MODERATE AND HIGH CALCIUM CONTENTS <b>Mr Amin NOUSHINI, Dr James ALDRED</b>	121: EFFECT OF RUN-OF-STATION FLY ASH AND OTHER SCMS ON VARIOUS PROPERTIES OF CONCRETE <b>Mr Farzad MOGHADDAM</b>	231: PULL-OUT STRENGTH OF CAST-IN HEADED ANCHORS IN PREFABRICATED CONCRETE ELEMENTS <b>Mr Fariborz MOEINADDINI</b>	32: A NEW ERA FOR DISPOSAL OF WET WASTE CONCRETE <b>Mr Donald THOMAS</b>	12:40
13:00	<b>Lunch Break - Exhibition Halls L &amp; M</b>				13:00
14:00	<b>Hall N</b> <b>ICDC - Durability</b> <i>Chairperson: Dr Alastair Mcleod</i>	<b>Room L1</b> <b>Materials</b> <i>Chairperson: Mr David Cockburn</i>	<b>Room L2</b> <b>History of concrete &amp; Special Interests</b> <i>Chairperson: Mr Gareth Weldon</i>	<b>Room L3</b> <b>Innovations</b> <i>Chairperson: Mr Ralph Belperio</i>	14:00
14:00	154: MICROSTRUCTURE PROPERTIES OF CARBONATED CEMENT PASTE <b>Mr Vineet SHAH</b>	138: FLUIDITY ASSESSMENT OF GROUTING MORTAR BY RHEOLOGICAL PROPERTIES <b>Miss Ailifeila AIERKEN</b>	236: THE USE OF HIGH FLUIDITY CONCRETES FOR THE TARBAN CREEK BRIDGE REHABILITATION <b>Mr Huber MADRIO</b>	140: LATEST DEVELOPMENTS IN ADMIXTURE TECHNOLOGY <b>Mr Bruno D'SOUZA</b>	14:00
14:20	302: ALKALI-CARBONATE REACTION IN CONCRETE - NEED FOR FURTHER INVESTIGATION IN AUSTRALIA <b>Mr Ion DUMITRU</b>	152: INFLUENCE OF HIGH-SO <sub>3</sub> CLINKER ON CEMENT PHYSICAL PROPERTIES <b>Mr Makio YAMASHITA</b>	65: NEW DEVELOPMENTS IN CONCRETE PIPE SPECIFICATION <b>Mr Andrew RUFFLES</b>	124: ABANDONMENT OF BERESFIELD WATER INFRASTRUCTURE WITH AN INNOVATIVE CEMENT GROUT <b>Mr James O'GRADY</b>	14:20
14:40	42: MECHANICAL AND DURABILITY PROPERTIES OF A CONCRETE USING MAGNESIUM SILICATE HYDRATE BINDER SYSTEM <b>Dr Allan SCOTT</b>	226: DESIGN OF SHOTCRETE FOR A SOIL NAIL WALL USING NON-LINEAR FINITE ELEMENT ANALYSIS <b>Mr Daniel PRUDENCIO, Mr David BROWN</b>	20: THE HISTORY OF REINFORCED CONCRETE DESIGN FROM THE LATE 60S TO 2000S IN AUSTRALIA <b>Mr John WOODSIDE</b>	191: SHRINKAGE PROPERTIES OF ULTRA-HIGH PERFORMANCE CONCRETE (UHPC): AN EXPERIMENTAL STUDY <b>Mr Tianyu XIE</b>	14:40
15:00	255: MECHANICAL PROPERTIES AND DURABILITY CHARACTERISTICS OF REACTIVE POWDER CONCRETE DEVELOPED USING FINE QUARTZ SAND <b>Prof Shamsad AHMAD</b>	192: REACTIVE AGGREGATES' RESPONSE IN LOW CALCIUM FLY ASH GEOPOLYMER CONCRETE <b>Dr Didar Singh CHEEMA</b>	185: GUIDE TO HISTORICAL REINFORCEMENT <b>Mr Scott MUNTER</b>	204: HEALTH MONITORING OF CONCRETE USING ULTRASONIC IMAGING <b>Prof Abhijit MUKHERJEE</b>	15:00
15:20	<b>Afternoon Tea Break - Halls L &amp; M</b>				15:20
15:50 - 16:30	<b>Hall N</b> <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.'