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 Center

Monday, 23 October 2017

09:00	**Hall N - Plenary**				09:00
09:00	**WELCOME - CONFERENCE CHAIR - PROF JULIE MILLS**				09:00
09:15	**WELCOME ICDC - MR RODNEY PAULL & DR HARALD JUSTNES**				09:15
09:30	**WELCOME CIA - MR MICHAEL VAN KOEVERDEN**				09:30
09:45	KEY NOTE 1 - **MS LOUISE ADAMS** *(Sponsored by BASF)* "DISRUPTION AND TECHNOLOGY – IS THE CONSULTING/DESIGN/CONSTRUCTION INDUSTRY MOVING FORWARD QUICKLY ENOUGH?"				09:45
10:30	**Morning Tea Break**	**Morning Tea Break**	**Morning Tea Break**	**Morning Tea Break**	10:30
11:00	***Hall N : ICDC - Durability (Early Age Cracking)***	***Room L1 : Materials***	***Room L2 : Structures***	***Room L3 : Case Studies & Major Projects***	11:00
	Chairperson: Anthea Airey	*Chairperson: Warren South*	*Chairperson: Phillip Visintin*	*Chairperson: Leo Noicos*	
11:00	205: REVISION TO CIRIA C660 AND THE IMLICATIONS FOR THE DESIGN FOR EARLY-AGE THERMAL CRACK CONTROL **Phillip BAMFORTH**	8: HARNESSING DIGITAL IMAGE CORRELATION SYSTEM FOR ASSESSING FLEXURAL CHARACTERISTICS OF SFRC BASED ON WCA **Jacek KATZER**	21: STRENGTH AND DUCTILITY OF HIGH-STRENGTH CONCRETE COLUMNS CONFINED WITH HIGH-STRENGTH STEEL TIES **Stephen James FOSTER**	7: INNOVATIVE USES FOR CONCRETE IN COMPLEX INFRASTRUCTURE REHABILITATION **Peter MARCHANT**	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 **Kazuyuki TORII**	94: BEHAVIOUR OF SQUARE HSC COLUMNS REINFORCED WITH STEEL EQUAL ANGLE (SEA) SECTIONS UNDER AXIAL COMPRESSION **Muhammad HADI**	27: 'SUPER' HEAVY DUTY WHARF DESIGN - 100KPA AND BEYOND **Luke CAMPBELL**	11:20
11:40	269: ALLOWABLE CRACK WIDTHS AND DESIGN FOR CRACK WIDTH VERSUS AUSTRALIAN CODE MINIMUM REINFORCEMENT QUANTITIES **Frank PAPWORTH**	44: FLEXURAL RESPONSES OF HYBRID HOOKED-END, SPIRAL STEEL AND SYNTHETIC FIBRE REINFORCED GEOPOLYMER COMPOSITES **Musaad Zaheer Nazir KHAN**	36: AXIAL LOAD-DEFORMATION BEHAVIOUR OF CFRP CONFINED CIRCULAR HOLLOW CONCRETE COLUMNS WITH INNER PVC TUBE **Hussamaldeen GOAIZ**	61: ADELAIDE CONVENTION CENTRE PLENARY BUILDING **Tom WALLENT**	11:40
12:00	275: EARLY-AGE CRACKING IN CONCRETE STRUCTURES: MECHANISMS, ASSESSMENT AND CONTROL **Vinh DAO**	67: INSIGHT OF FLY ASH BY CHARACTERIZATION OF INDIVIDUAL PARTICLES: INTERRELATIONS AMONG OXIDES AND NEW POTENTIAL CLASSIFICATION **Taehwan KIM**	35: AN EXPERIMENTAL STUDY ON SELF-CENTRING SEGMENTAL PRECAST RUBBERIZED CONCRETE COLUMNS **Reza HASSANLI**	101: THE SUNSHINE COAST UNIVERSITY HOSPITAL STRUCTURAL CASE STUDY **Eric GROENEWALD**	12:00
12:20	297: CONCRETE WATER TANK DURABILITY EARLY AGE CRACK CONTROL WITH CONSTRUCTION PERFORMANCE FEEDBACK **Rodney PAULL**	284: ASSESSMENT OF THE PERFORMANCE OF NEW SUPPLEMENTARY CEMENTITIOUS MATERIALS FROM LITHIUM PRODUCTION RESIDUES **Robert MUNN**	224: NUMERICAL AND ANALYTICAL INVESTIGATION OF LOAD TRANSFER THROUGH ECCENTRIC COLUMNS WITH DIFFERENT CROSS SECTIONS **Damith MOHOTTI**	198: ADELAIDE MEDICAL AND NURSING SCHOOLS PROJECT CASE STUDY **Peter JAMESON**	12:20
12:40	298: GATEWAY WA CONCRETE BRIDGES EARLY AGE CRACK CONTROL AND CONSTRUCTION PERFORMANCE FEEDBACK **Rodney PAULL**	173: RESIDUAL FLEXURAL AND INDIRECT TENSILE STRENGTHS OF HEAT-TREATED SF-HSC **Hau Yan LEUNG**	40: LOAD BEARING CAPACITY OF THREE-SIDE RESTRAINED RC WALLS **Nhat Minh HO**	202: SYDNEY METRO NORTHWEST **Radu BLIUC**	12:40
13:00	**Lunch Break** *Sponsored by Societe Le Nickel*				13:00
14:00	***Hall N : ICDC - Durability***	***Room L1 : Materials***	***Room L2 : Structures***	***Room L3 : Case Studies & Majoe Projects***	14:00
	Chairperson: Frank Papworth	*Chairperson: Tony Mignone*	*Chairperson: Gianluca Ranzi*	*Chairperson: Adrian Spencer*	
14:00	26: PETROGRAPHIC CHARACTERISATION OF ALKALI-SILICA REACTION IN CONCRETE: AN INDUSTRY PERSPECTIVE WITH CASE STUDIES **Kenneth SPRING**	47: CHARACTERISATION OF AUTOGENOUS SHRINKAGE IN AUSTRALIAN CONCRETE **Ian GILBERT**	23: NEW DESIGN GUIDELINES FOR FASTENERS TO CONCRETE IN AUSTRALIA **Jessey LEE**	219: A CASE STUDY OF WEBB DOCK BERTH 4&5 REMEDIATION – FROM INVESTIGATION TO DESIGN AND CONSTRUCTION **Nicholas CRITCHLEY**	14:00
14:20	294: EVALUATION OF ALKALI SILICA REACTION IN FLY ASH CONCRETE USING AN ACCELERATED PERFORMANCE TEST METHOD **Anne HEISIG**	111: PROPOSED RECOMMENDED PRACTICE ON CORES AND NDT FOR STRENGTH ASSESSMENT OF EXISTING CONCRETE STRUCTURES – A REPLACEMENT FOR CIA Z11 **Jonathon DYSON**	295: HIGH STRENGTH REINFORCEMENT – A BOOST FOR HIGH RISE STRUCTURES **Torsten VOSS**	222: CONCRETE RESPONDING TO THE NEEDS OF NEW HOSPITAL BUILDINGS: PROJECT SHOWCASE **David KENNEDY, Tom WALLENT, James TREZONA**	14:20
14:40	85: KINETIC BASED APPROACH FOR ALKALI SILICA REACTION-COMPARISON OF LABORATORY AND FIELD TESTS **Nadarajah GOWRIPALAN**	169: EVALUATION OF CONCRETE STRENGTH REDUCTION DUE TO OVER COMPACTION **Muhammad HADI**	213: EFFECTIVENESS OF VERTICAL STEEL REINFORCING BARS TO REINFORCED CONCRETE MASONRY WALLS UNDER COMPRESSION **Jake RING**	29: CONCRETE DESIGN FOR THE NEW ROYAL ADELAIDE HOSPITAL **Mark GOBOLOS**	14:40
15:00	180: ASSESSMENT OF TEST METHODS FOR ASR AGGREGATE REACTIVITY **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 **Sunmi CHOI**	30: PROPOSED RECOMMENDED PRACTICE ON UPV AND UPE MEASUREMENT FOR CONCRETE STRENGTH AND DEFECT ASSESSMENT **Reuben BARNES**	22: LOW-CARBON POST-TENSIONED CONCRETE **Redmond LLOYD**	15:00
15:20	49: ROLE OF SCM COMPOSITION IN ITS EFFICACY TO MITIGATE ALKALI-SILICA REACTION **Marie Joshua TAPAS**	216: SORPTIVITY AND CHLORIDE PERMEABILITY OF CONCRETE USING FERRONICKEL SLAG AS FINE AGGREGATE **Ashish Kumer SAHA**	46: MODELING THE EFFECT OF ASR ON THE PERFORMANCE OF REINFORCED CONCRETE BEAMS BY USING ELASTO-PLASTIC MEMBRANE ELEMENTS **Emre ERKMEN**		15:20
15:40	**Afternoon Tea Break**	**Afternoon Tea Break**	**Afternoon Tea Break**	**Afternoon Tea Break**	15:40
	Hall N - Plenary				
16:10	***ICDC & Durability*** *Chairperson: Rodney Paull* INVITED SPEAKER - **DR STUART MATTHEWS** "FIB MODEL CODE 2020 - DURABILITY IMPLICATIONS"				16:10
16:40	***Hall N : ICDC 7 Durability***	***Room L1 : Materials***	***Room L2 : Repairs & Retrofitting***	***Room L3 : Innovations***	16:40
	Chairperson: Tian Sing Ng	*Chairperson: Bruce Perry*	*Chairperson: Nicholas Zizikos*	*Chairperson: Con Komselis*	
16:40	63: THE EFFECT OF CRYSTALLINE TECHNOLOGY ON DURABILITY OF THE CONCRETE EXPOSED TO AGGRESSIVE ENVIRONMENTAL CONDITIONS **Farhad NABAVI**	114: PORE NETWORK STRUCTURE AND SIMULATED WATER PERMEABILITY OF PORTLAND CEMENT-CARBON NANOTUBE NANOCOMPOSITES USING X-RAY COMPUTED MICROTOMOGRAPHY **Alastair MACLEOD**	164: MICROWAVE NON-DESTRUCTIVE TESTING OF CONCRETE: A COMPARISON OF TWO-PORT AND ONE-PORT MEASUREMENT TECHNIQUES **Alireza A. CHINIFORUSH**	39: FACTORS AFFECTING THE PERFORMANCE OF 100% CLAY BASED GEOPOLYMER CONCRETE **Muhammad Mukhlesur RAHMAN**	16:40
17:00	84: APPLICATION AND DEVELOPMENT OF CORROSION PROTECTION TECHNOLOGY IN COASTAL NUCLEAR POWER PLANT STRUCTURES **Jiyun ZHOU**	148: ACCURACY OF POROSITY ESTIMATION OF POROUS CONCRETE USING RADIO-ISOTOPE METHOD **Zizhe WANG**	14: FACTORS WITH SIGNIFICANT NEGATIVE INFLUENCE ON THE QUALITY AND DURABILITY OF FIBRE REINFORCED POLYMER (FRP) COMPOSITE STRENGTHENING OF CONCRETE STRUCTURES **Fred ANDREWS-PHAEDONOS**	105: DEVELOPMENT AND COMMERCIALISATION OF LOW CARBON, LOW SHRINKAGE, HIGHLY DURABLE ENVISIA® CONCRETE **Jason CHANDLER**	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 **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 **Risa SENGOKU**	133: INFLUENCE OF BOND DETERIORATION ON INTERMEDIATE CRACK DEBONDING FAILURES OF FRP-STRENGTHENED REINFORCED CONCRETE BEAMS **Rebecca GRAVINA**	252: PHYSICOCHEMICAL ANALYSIS ON PHASE IN NAOH ACTIVATED FA-GGBS-SF GEOPOLYMER **Takeshi YAMAMOTO**	17:20
17:40	285: CONDITION AND REMAINING LIFE ASSESSMENT OF THE WANDOO B CONCRETE GRAVITY STRUCTURE **Andrew PEEK, Colin O'BRIEN**	266: RESEARCH INTO LOW TEMPERATURE-RISE AND ANTI-CRACKING MASS CONCRETE **Guoyou LI**	106: PERFORMANCE OF CFRP RETROFIT OVER EPOXY AND MINERAL BONDERS **Raghavendra VASUDEVA UPADHYAYA**	253: EFFECT OF COMBINED MIXING MATERIALS TO FLY ASH AND CURING CONDITIONS ON PHYSICAL PROPERTIES OF NAOH ACTIVATED GEOPOLYMER **Michio KIKUCHI**	17:40
18:30 - 20:30	**Exhibition Hall** **Welcome Reception** *(Sponsored by Sika)*				18:30 - 20:30

Themes
Case Studies & Major Projects
Durability
Environmental
History and Development of Concrete
Innovations in Concrete
Materials
Precast Concrete
Repair and Retrofit
Structures

CONCRETE 2017
Advances in Concrete Materials and Structures
22 - 25 October 2017 | Adelaide, South Australia

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MONDAY 23 October 2017 - WEDNESDAY 25 October 2017
Adelaide Convention Center

Tuesday, 24 October 2017

09:00 — Hall N - Plenary

Chairperson: A/Prof Rebecca Gravina

09:00 — KEY NOTE NO. 2 - **PROF TIM IBELL** "EXTRAORDINARY POSSIBILITIES FOR CONCRETE STRUCTURES"

09:45 — KEY NOTE NO. 3 - **DR KAREN SCRIVENER** *(Sponsored by FOSROC)*
"ECO-EFFICIENT CEMENTS: POTENTIAL SOLUTIONS FOR A LOW CO2, ECO-EFFICIENT CEMENT BASED MATERIALS INDUSTRY"

10:30 — Morning Tea Break

11:00	***Hall N : ICDC - Durability (Design Life)***	***Room L1 : Materials***	***Room L2 : Structures***	***Room L3 : Innovations***	11:00
	Chairperson: Sue Freitag	*Chairperson: Tony Thomas*	*Chairperson: Rebecca Gravina*	*Chairperson: John Woodside*	
11:00	MODEL CODE 2020 - STUART MATTHEWS	62: INITIAL DEVELOPMENT OF BROWN COAL FLY ASH GEOPOLYMER CONCRETE BRICKS **Muhamed KHODR**	287: STEEL FIBRE CONCRETE PAVEMENTS: THINNER & MORE DURABLE **Tian Sing NG**	55: CONTROL OF CEMENTTITIOUS COMPOSITE SURFACE BRIGHTNESS AND CONTRAST BY EFFLORESCENCE AND ITS APPLICATION TO ARCHITECTURAL SURFACE DESIGN **Takahisa OKAMOTO**	**11:00**
11:20	66: DURABILITY DESIGN AND SERVICE LIFE: ENGINEERING AND LEGAL PERSPECTIVES **Rick KREECK, Cameron SCHOLES**	102: PERFORMANCE EVALUATION OF GEOPOLYMER AGAINST IN SITU AGGRESSIVE SEWER ENVIRONMENT **Hammad Anis KHAN**	120: REFINED METHODS FOR ANALYSIS OF DEFLECTIONS; PRACTICAL APPLICATION OF RECENT RESEARCH **Doug JENKINS**	79: TESTING POST-INSTALLED CHEMICAL ANCHORS TO TS101 APPENDIX B IN AUSTRALIAN CONCRETE SUBSTRATES **Andrew COUMAROS**	**11:20**
11:40	175: DURABILITY ASSURANCE EXPERIENCES ON A MAJOR ROAD UPGRADE INFRASTRUCTURE PROJECT **Warren GREEN**	299: THE EFFECT OF BORON IONS IN FLY ASH-BASED GEOPOLYMERS AND ALKALI ACTIVATED SLAG **Ali BAGHERI**	209: INFLUENCE OF REBAR DIAMETER IN CONCRETE CRACKING STUDIED USING A DISCRETE CRACK APPROACH **Marcelo CARVALHO**	116: INNOVATIVE PREFABRICATED CONCRETE CONSTRUCTION IN HIGH-RISE BUILDINGS **Shan KUMAR**	**11:40**
12:00	248: EVALUATION OF SERVICE LIFE OF REINFORCED CONCRETE STRUCTURES SUBJECTED TO COMBINED EFFECTS OF ASR AND SUBSEQUENT CORROSION **Shami NEJADI**	145: PROPERTIES OF FLY ASH BASED GEOPOLYMER CONCRETE **Rafat SIDDIQUE**	196: HEAVYWEIGHT CONCRETE MIX DELIVERS A KNOCKOUT FOR NEW NUCLEAR MEDICINE PROCESSING FACILITY **Douglas FLETCHER**	214: MODERNIZATION OF CONSTRUCTION: MATERIALS TESTING AND APPLICATION WITH 3D PRINTING **Didier LOOTENS**	**12:00**
12:20	178: EFFECT OF EXPOSURE ZONE CHANGES ON CONCRETE SERVICE LIFE PREDICTIONS OF SWIMMING POOLS **Anthea AIREY**	223: THE EFFECT OF ALKALI CONCENTRATION AND THE BINDER COMPOSITION ON THE ALKALI LEACHING IN GEOPOLYMER BINDERS **Mahdi BABAEE**	183: A HYGRO-THERMO-CHEMICAL-MECHANICAL MODEL FOR THE SHRINKAGE PREDICTION IN COMPOSITE STEEL-CONCRETE FLOORS **Gianluca RANZI**	271: STRUCTURAL APPLICATION OF STEEL FIBRES REINFORCED CONCRETE WITH AND WITHOUT CONVENTIONAL REINFORCEMENT **Tian Sing NG**	**12:20**
12:40	52: OPTIMIZING DESIGN FOR SUSTAINABLE CONSTRUCTION THROUGH IMPROVED UNDERSTANDING OF IN-SITU STRENGTH **Phillip BAMFORTH**	308: SUSCEPTIBILITY OF GEOPOLYMER CONCRETE TO ALKALI AGGREGATE REACTIVITY (AAR) **Jay SANJAYAN**	272: THE LONG-TERM TENSION STIFFENING BEHAVIOUR OF FIBRE REINFORCED CONCRETE AND APPLICATIONS TO THE SERVICEABILITY LIMIT STATE **Alexander STURM**		**12:40**

13:00 — Lunch Break
Sponsored by Ramestreid

14:00	***Hall N : ICDC - Durability***	***Room L1 : Materials***	***Room L2 : Repairs & Retrofitting***	***Room L3 : Innovations***	14:00
	Chairperson: Daksh Baweja	*Chairperson: Reza Hassanli*	*Chairperson: Vute Sirivivatnanon*	*Chairperson: Calum Wheeler*	
14:00	99: PLANNING AND SPECIFYING FOR HIGH PERFORMANCE STRUCTURES - AND A CLOSER LOOK AT SOME CRITICAL CONCRETING PROCESSES **Stuart CURTIS**	11: THE MECHANICAL PROPERTIES OF REACTIVE POWDER CONCRETE CONTAINING WASTE STEEL FIBRE RECOVERED FROM WASTE TYRES **Muhammad HADI**	288: STUDY ON THE INHIBITION MECHANISM OF LITHIUM NITRITE FOR NEUTRALIZATION **Takashi KUBOTA**	194: BRINGING COLLABORATIVE RESEARCH SOLUTIONS TO THE CONCRETE INDUSTRY: AUSTRALIAN CENTRE FOR INFRASTRUCTURE DURABILITY (ACID) **Frank COLLINS**	**14:00**
14:20	126: DURABILITY PROPERTIES OF ENVISIA® – A LOWER CARBON CONCRETE **David HOCKING**	37: TENSILE STRENGTH OF REACTIVE POWDER CONCRETE **Hussamaldeen GOAIZ**	119: NUMERICAL ANALYSIS OF REINFORCED CONCRETE BEAMS STRENGTHENED WITH HIGH PERFORMANCE FIBRE REINFORCED CEMENTITIOUS COMPOSITES **Xiaoshan LIN**	156: A REVIEW OF CONCRETE SEALANTS AGAINST CHLORIDE INGRESS **Dilanka Madushan Govinna GOVINNAGE DON**	**14:20**
14:40	139: SPECTRAL ANALYSIS OF SURFACE WAVES AS A TOOL IN UNDERSTANDING EPOXY JOINTS **Rebecca NEWBY**	88: HIGH STRENGTH RUBBERISED CONCRETE INCORPORATING SILICA FUME **Mohamed ELCHALAKANI**	304: MODELLING OF NSM CFRP STRIPS EMBEDDED IN CONCRETE AFTER EXPOSURE TO ELEVATED TEMPERATURE USING CEMENT-BASED ADHESIVES **Awad JADOOE**	51: FINE CRUSHED AGGREGATE AS PARTIAL REPLACEMENT OF NATURAL SAND IN CEMENT MORTARS **Dammika Piyumpath KATUKURUNDA WELLALA**	**14:40**
15:00	146: THE DURABILIRY OF THE MORTAR USING CAO·2AL2O3 IN CHLORIDE ATTACKED ENVIRONMENT **Masataka USHIRO**	91: COMBINATION OF GUAR GUM DERIVATIVES AND SUPERPLASTICIZERS, IMPACT ON PROPERTIES OF PORTLAND CEMENT-PASTES **Alexandre GOVIN**	290: CORROSION OF REINFORCED CONCRETE PRISMS CONTAMINATED BY CHLORIDES – PROPAGATION PHASE AND PREDICTION **Veronique BOUTEILLER**	41: DURABILITY OF CONCRETE WITH ARTIFICIAL AGGREGATES FROM RETURNED CONCRETE **Giorgio FERRARI**	**15:00**
15:20	281: COMPARISON OF DURABILITY AS MEASURED BY ELECTRICAL RESISTIVITY AND MIP **Caitlin TIBBETTS, Christopher FERRARO**	108: EFFECT OF CEMENT REPLACEMENT BY SILICA FUME ON COMPRESSIVE STRENGTH OF GLASS FIBER REINFORCED CONCRETE **Liaqat Ali QURESHI**	289: COMBINED EFFECT OF SILICATE BASED SURFACE PENETRANTS AND CALCIUM BASED REACTION MATERIAL FOR CONCRETE **Hirotaka HAZEHARA**	210: THE EFFECT OF SIKA LOW-VISCOFUME ON THE RHEOLOGICAL AND HARDENED PROPERTIES OF HIGH PERFORMANCE CONCRETE **Greg LANGTON**	**15:20**

15:40 — Afternoon Tea Break

Hall N - Plenary

16:10 — *Chairperson: Michael van Koeverden*
INVITED SPEAKER - **MR MIKE SCHNEIDER** "CHALLENGING CONCRETE CONSTRUCTION PROJECTS IN THE USA"

16:40	***Hall N : ICDC - Durability***	***Room L1 : Materials***	***Room L2 : Repair; Retrofit & Construction***	***Room L3 : Precast Concrete***	16:40
	Chairperson: Harald Justnes	*Chairperson: Michael Booy*	*Chairperson: Peter Jamieson*	*Chairperson: Loreto Taglienti*	
16:40	DR ALI AMIN "POST CRACKING BEHAVIOUR OF STEEL FIBRE REINFORCED CONCRETE: FROM MATERIAL TO STRUCTURE" (CIA 2017 NATIONAL BURSARY WINNER)	254: SLN FERRONICKEL SLAG : A DURABLE AND SUSTAINABLE MATERIAL FOR THE CONSTRUCTION INDUSTRY IN THE PACIFIC REGION **Frederic MARTIN**	50: AN EXPERIMENTAL INVESTIGATION OF SQUARE COLUMNS CIRCULARIZATION USING FRP-CONFINED CRUMB RUBBER CONCRETE **Osama YOUSSF**	28: BEHAVIOUR OF COMPOSITE LOAD-CARRYING PRECAST CONCRETE SANDWICH PANELS **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 **Stuart CURTIS**	245: UTILISATION OF LIME KILN DUST AS A WATER RESISTANT ADDITIVE IN HOT MIX ASPHALT **Peerapong JITSANGIAM**	15: BACK TO BASICS IN APPLYING LEAN PRINCIPLES TO CONCRETE CONSTRUCTION **Anne GARDNER**	76: DESIGN AND ERECTION OF PREFABRICATED (PRECAST) CONCRETE IN AUSTRALIA- WHY IS IT SO POORLY IMPLEMENTED! **John WOODSIDE**	**17:00**
17:20	64: MODELLING DURABILITY OF CONCRETE BELOW GROUND **Norwood HARRISON**	237: HYDRATION KINETICS OF THE HIGH PERFORMANCE ULTRA LIGHTWEIGHT CEMENT COMPOSITES **Xuemei LIU**	135: A STUDY FOR OPTIMUM JOINT SPACING IN ROLLER COMPACTED CONCRETE PAVEMENT **Seong Jae HONG**	137: UNDERGROUND RAIL STATIONS OF STRUCTURAL PRECAST. DESIGN CONSIDERATIONS **Radu BLIUC**	**17:20**
17:40	182: BEHAVIOUR OF GEOPOLYMER CONCRETES UNDER ACID ATTACK **M ALBITAR**	122: UTILISATION OF RICE HUSK ASH AS A PARTIAL REPLACEMENT FOR CEMENT IN SELF-CONSOLIDATING CONCRETE **Yan ZHUGE**	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 **Frank PAPWORTH**	69: OPTIMISING STEAM CURING FOR PRECAST PRESTRESSED CONCRETE GIRDERS **Zachariah ARNEIL**	**17:40**

19:30 - 23:00 — Panorama Ballroom
Awards for Excellence Gala Dinner
(Jointly sponsored by FOSROC and BASF)

Themes
Case Studies & Major Projects
Durability
Environmental
History and Development of Concrete
Innovations in Concrete
Materials
Precast Concrete
Repair and Retrofit
Structures

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Adelaide Convention Center

Wednesday, 25 October 2017

09:00	**Hall N - Plenary**			**09:00**
	Chairperson: Mark Gobolos			
09:00	KEY NOTE 4 - **MR PETER MCBEAN AND PROF DES BULL** "SEISMIC DESIGN IN AUSTRALIA POST CHRISTCHURCH"			**09:00**
09:45	KEY NOTE NO. 5 - **PROF DOUG HOOTON** "RECOGNISING THE DIFFERENT FORMS OF SULFATE ATTACK FOR PROVISION OF SULFATE RESISTANT CONCRETE"			**09:45**
10:30	**Morning Tea Break**			**10:30**
11:00	***Hall N : ICDC - Durability (Chloride Modelling)***	***Room L1 : Materials***	***Room L2 : Sturctures***	***Room L3 : Environmental***	**11:00**
	Chairperson: Warren Green	*Chairperson: Jay Sanjayan*	*Chairperson: Tom Vincent*	*Chairperson: Ben O'Connor*	
11:00	282: ON SITE CORROSION MEASUREMENT AND PROPAGATION CORROSION MODELS **Carmen ANDRADE**	123: UNPRECEDENTED THICKNESS REDUCTIONS - TWISTED STEEL MICRO REBAR IN PAVEMENTS **Luke PINKERTON**	211: CONTROL OF RANDOM CRACKING IN CONCRETE RESIDENTIAL PAVEMENTS **Eric LUME**	33: A METHOD OF UNCERTAINTY ANALYSIS FOR LIFE CYCLE EMBODIED CO2-E OF BUILDING AND STRUCTURAL MATERIALS IN AUSTRALIA **Mehdi ROBATI**	**11:00**
11:20	283: STATISTICAL DISTRIBUTION OF CHLORIDE THRESHOLD VALUES AND ITS INCORPORATION INTO PREDICTION MODELS **Carmen ANDRADE**	98: THE EFFECT OF USING WASTE GLASS POWDER AS CEMENT REPLACEMENT IN CONCRETE **Nafisa TAMANNA**	34: PERFORMANCE OF STEEL FIBER REINFORCED CONCRETE IN RESISTING BLAST LOAD **Withit PANSUK**	89: EFFECTS OF MIX CONSTITUENTS ON EMBODIED ENERGY INDICES OF CEMENT MORTARS **Max MCKINLEY**	**11:20**
11:40	OBSERVED MISUNDERSTANDING IN PRACTICE REGARDING MODELING OF CHLORIDE INGRESS INTO CONCRETE STRUCTURES	113: STRESS-STRAIN CURVE OF THE CONCRETE MADE OF THE COLD-BONDED FLY ASH AGGREGATE **Daniel RAHME**	93: CONCRETE DESIGN FOR THE O-BAHN CITY ACCESS PROJECT **Matthew CROSBIE**	134: BROOME WHARF EXTENSION OF LIFE PROJECT **Ben MCFARLANE**	**11:40**
12:00	165: MULTI-PHASE MODELLING OF MULTI-SPECIES TRANSPORT IN CEMENT BASED MATERIALS: A "DOUBLE-MULTI" MODEL **Qing-Feng LIU**	144: AN EXPERIMENTAL STUDY ON FLEXURAL AND SHEAR BEHAVIOUR OF REINFORCED CRUMBED RUBBER CONCRETE (CRC) BEAMS **Safat AL-DEEN**	72: RECTANGULAR CONCRETE COLUMNS REINFORCED WITH GLASS FIBRE-REINFORCED POLYMER (GFRP) REBARS SUBJECTED TO CONCENTRIC AND ECCENTRIC AXIAL LOADING **Mohamed ELCHALAKANI**	147: SALT FROST SCALING OF CONCRETE - EFFECT OF GLUE SPALLING **Matthias MUELLER**	**12:00**
12:20	257: MODELLING OF CHLORIDE ION TRANSPORT IN SLAG BLENDED CEMENTITIOUS MATERIALS: INFLUENCE OF TORTUOSITY AND SURFACE ELECTRICAL PROPERTIES **Elakneswaran YOGARAJAH**	215: ADVANCES IN CONCRETE RHEOLOGY **Gary BOON**	177: A CASE FOR DEVELOPMENT OF A DESIGN GUIDE FOR HEAVILY - LOADED CONCRETE CONTAINER PAVEMENTS **Anthony DAVIS**	239: AUTOGENOUS SHRINKAGE OF DIFFERENT BINDER SYSTEMS IN PORTLAND CEMENT-BASED AND GEOPOLYMER PASTES AND CONCRETE **Amin NOUSHINI, James ALDRED**	**12:20**
12:40	246: CHLORIDE DIFFUSION AND CHLORIDE BINDING CAPACITY OF GEOPOLYMER CONCRETE WITH LOW, MODERATE AND HIGH CALCIUM CONTENTS **Amin NOUSHINI, James ALDRED**	121: EFFECT OF RUN-OF-STATION FLY ASH AND OTHER SCMS ON VARIOUS PROPERTIES OF CONCRETE **Farzad MOGHADDAM**	231: PULL-OUT STRENGTH OF CAST-IN HEADED ANCHORS IN PREFABRICATED CONCRETE ELEMENTS **Fariborz MOEINADDINI**	132: BEHAVIOURS OF HEADED SHEAR CONNECTOR FOR COMPOSITE STEEL-CONCRETE STRUCTURES INCORPORATING GEOPOLYMER CONCRETE **Balbir SINGH**	**12:40**
13:00	**Lunch Break** *Sponsored by Krystol Group*				**13:00**
14:00	***Hall N : ICDC - Durability***	***Room L1 : Materials***	***Room L2 : History of concrete & Special Intertests***	***Room L3 : Innovations***	**14:00**
	Chairperson: Frank Collins	*Chairperson: Mark Ellis*	*Chairperson: Gareth Weldon*	*Chairperson: Ralph Belperio*	
14:00	154: MICROSTRUCTURE PROPERTIES OF CARBONATED CEMENT PASTE **Vineet SHAH**	138: FLUIDITY ASSESSMENT OF GROUTING MORTAR BY RHEOLOGICAL PROPERTIES **Ailifeila AIERKEN**	236: THE USE OF HIGH FLUIDITY CONCRETES FOR THE TARBAN CREEK BRIDGE REHABILITATION **Huber MADRIO**	32: A NEW ERA FOR DISPOSAL OF WET WASTE CONCRETE **Donald THOMAS**	**14:00**
14:20	302: ALKALI-CARBONATE REACTION IN CONCRETE – NEED FOR FURTHER INVESTIGATION IN AUSTRALIA **Ion DUMITRU**	152: INFLUENCE OF HIGH-SO3 CLINKER ON CEMENT PHYSICAL PROPERTIES **Makio YAMASHITA**	230: 478 GEORGE STREET, SYDNEY **Phillip LATHOURAKIS**	140: LATEST DEVELOPMENTS IN ADMIXTURE TECHNOLOGY **Bruno D'SOUZA**	**14:20**
14:40	73: INFLUENCE OF PORE SIZE, STRUCTURE AND DISTRIBUTION ON THE PROPERTIES OF POROUS CONCRETE: A REVIEW **Yan ZHUGE**	226: DESIGN OF SHOTCRETE FOR A SOIL NAIL WALL USING NON-LINEAR FINITE ELEMENT ANALYSIS **Daniel PRUDENCIO, David BROWN**	65: NEW DEVELOPMENTS IN CONCRETE PIPE SPECIFICATION **Andrew RUFFLES**	124: ABANDONMENT OF BERESFIELD WATER INFRASTRUCTURE WITH AN INNOVATIVE CEMENT GROUT **James O'GRADY**	**14:40**
15:00	42: MECHANICAL AND DURABILITY PROPERTIES OF A CONCRETE USING MAGNESIUM SILICATE HYDRATE BINDER SYSTEM **Allan SCOTT**	300: THE EFFECT OF STEEL FIBERS ON THE MECHANICAL PROPERTIES OF BOROALUMINOSILICATE GEOPOLYMESR **Ali MAGHSOODPOOR**	20: THE HISTORY OF REINFORCED CONCRETE DESIGN FROM THE LATE 60S TO 2000S IN AUSTRALIA. **John WOODSIDE**	191: SHRINKAGE PROPERTIES OF ULTRA-HIGH PERFORMANCE CONCRETE (UHPC): AN EXPERIMENTAL STUDY **Tianyu XIE**	**15:00**
15:20	255: MECHANICAL PROPERTIES AND DURABILITY CHARACTERISTICS OF REACTIVE POWDER CONCRETE DEVELOPED USING FINE QUARTZ SAND **Shamsad AHMAD**	192: REACTIVE AGGREGATES' RESPONSE IN LOW CALCIUM FLY ASH GEOPOLYMER CONCRETE **Didar Singh CHEEMA**	185: GUIDE TO HISTORICAL REINFORCEMENT **Scott MUNTER**	204: HEALTH MONITORING OF CONCRETE USING ULTRASONIC IMAGING **Abhijit MUKHERJEE**	**15:20**
15:40	**Afternoon Tea Break**				**15:40**
	Hall N - Plenary				
	Chairperson: Tom Benn				
16:15	**CONFERENCE CHAIR**				**16:15**
16:25	**PAST PRESIDENT - THANK YOU**				**16:25**
16:35	**CHAIR - ICDC**				**16:35**
16:45	**INVITATION TO 2019**				**16:45**

Themes
Case Studies & Major Projects
Durability
Environmental
History and Development of Concrete
Innovations in Concrete
Materials
Precast Concrete
Repair and Retrofit
Structures

CONCRETE 2017
Advances in Concrete Materials and Structures
22 - 25 October 2017 | Adelaide, South Australia