



Corrosion & Prevention 2016 Program

The ACA reserve the right to exclude any paper and to alter without notice any of the arrangements, timetables and programs relating to the conference.

Issued: Monday 5 September 2016. # Indicates Provisional acceptance into the program.

Sunday 13 November 2016

13.00 – 18.30	Registration Desk Opens Level 5 Foyer, SkyCity Convention Centre	
17.30 – 18.30	First Time Delegates Function <i>Sponsored by Galvanizers Association of Australia</i> SkyCity Convention Centre	
18.30 – 21.30	Welcome Reception & Exhibition Opening <i>Sponsored by Dulux Protective Coatings</i> New Zealand Room, Level 5, SkyCity Convention Centre	

Monday 14 November 2016

8.30	Conference Opening & Starting of Ed Potter Corrosion Clock Auckland Room 1 & 2, Level 4, SkyCity Convention Centre	
9:00	Plenary 1: Nick Laycock, Shell, Qatar Corrosion Control in Wet Gas Pipelines Auckland Room 1 & 2, Level 4, SkyCity Convention Centre Chair: Raman Singh	
9:45	Plenary 2: Howard Combs, Carboline, USA Emerging Technologies for Pipeline Coatings – For Directional Drilling <i>Sponsored by Carboline</i> Auckland Room 1 & 2, Level 4, SkyCity Convention Centre Chair: Raman Singh	



10.30 Morning Tea


	Stream A Auckland Room 1 & 2, Level 4 Coatings Chair: Willie Mandeno	Stream B Auckland Room 3 & 4, Level 4 Concrete Chair: Nicholas Critchley	Stream C Epsom Room 1, Level 4 Oil & Gas Chair: Graham Carlisle	Stream D Epsom Room 2, Level 4 Research Chair: Bruce Hinton
11.00	<i>Confusion and Delusion in Coating Documentation</i> R Francis R A Francis Consulting 032	<i>Using Galvanic Cathodic Protection to Repair and Protect Severely Corroded Structures</i> D Whitmore Vector Corrosion Technologies 046	<i>Corrosion Management Planning and its Role in PIM Strategy</i> M Ko Quest Integrity 093	<i>On the Role of Quantum Mechanics in Corrosion Processes</i> D Macdonald University of California, Berkeley 118
11.30	<i>New Generation Coatings for Protection with Polyaspartics</i> F Zhang Covestro 038	<i>Review of the Cathodic Protection System for Wharves 4 & 5 at Port of Brisbane after 15 years of Operation</i> A Cheaitani Remedial Technology 039	<i>New Concepts in Life Extension of Cathodic Protection Systems for Brownfield Offshore Assets</i> D Flanery Deepwater Australasia 108	<i>Electrochemical Corrosion Behaviour of a Ni-rich Ni-Ti Alloy in 3.56wt% nacl</i> K Dahm Callaghan Innovation 102
12.00	<i>Duplex Coatings in New Zealand: Case Studies illustrating a Durable Outcome</i> A Arya Galvanizers Association of Australia 104	<i>Developments in Galvanic Anode Technology for Reinforced Concrete Repairs, including the latest Technological Innovations</i> A Sarkady BASF Australia 095	<i>Visualizing Dynamic Corrosion and Coating Disbondment Processes on Simulated Pipeline Conditions</i> M Tan Deakin University 061	<i>Effect of Microstructure in relation to Heat Affected Zone (HAZ) Corrosion of Mild Steel Welds in Marine Environments</i> I Chaves The University of Newcastle 034

12.30 Lunch

12.45	ACA Foundation Ltd AGM Auckland Room 3 & 4, Level 4, SkyCity Convention Centre			
-------	--	--	--	--

	Stream A Coatings Chair: Dean Wall	Stream B Concrete Chair: Jack Tinnea	Stream C Oil & Gas Forum Chairs: F Barouky & P Fleming	Stream D Research, Education & Implementation Chair: Kamachi Mudali
13.30	<i>Graphene for Durable Corrosion Resistance: Current Status and Challenges</i> R Singh Monash University 064	<i>Preserving New Zealand's Infrastructure for the Future – Case studies showing the long term benefits of Cathodic Protection on Mounded LPG Tanks and a Wharf Structure suffering from ALWC</i> J Galanos Corrosion Control Engineering 163	<i>An Introduction & Overview of the CUI Project Including Call for Contributors</i> D Lake ATTAR <i>Protecting Pipelines in Complex Environmental Conditions such as HDD, Shore-crossing, Stray Current Affected Areas</i> M Tan Deakin University <i>MEG Corrosion Behaviour Study</i> V Ghodkay Curtin University	<i>Corrosion Behaviour of some Commercial Alloys in CO₂ Gas at High Temperature</i> J Zhang University of NSW 043
14.00	<i>Epoxy Based Materials for Elevated Temperature end uses: What do we really Know?</i> M O'Keeffe AkzoNobel 075	<i>Durability Risks in Buildings and Asset Protection Review and Case Studies</i> H Khan Parchem 020		<i>Adsorption and Thermodynamics Study of the Inhibition of Corrosion of Mild Steel in HCL Medium using Coconut Pulp Waste Extract</i> S Sobri Universiti Putra Malaysia 014

14.30	<i>Chromate vs Chromate-free Primers</i> B Martin Defence Technology Agency 029	<i>A Study of Initiation and Active Reinforcement Corrosion in Conventional Reinforced Concrete</i> R Melchers The University of Newcastle 052	<i>Topic TBC</i> M Ellem Shell Todd Oil Services	<i>The Effect of Dissolved Oxygen and Cl/NO₂ – on the Corrosion Inhibition of Sodium Nitrate in Bicarbonate/Chloride Solution</i> G Eyu Queensland University of Technology 110
15.00	Afternoon Tea			
	Stream A <i>Coatings Forum</i> Chair: Peter Dove	Stream B <i>Asset & Integrity Management</i> Chair: Johnathon Morris	Stream C <i>Cathodic Protection</i> Chair: Bruce Ackland	Stream D <i>Research, Water & MIC</i> Chair: David Nicholas
15.30	<i>What do we want from our/the PCCP?</i> P Dove GHD <i>Hazardous Coatings Removal</i> I Donohue Freyssinet	<i>Protecting New Buildings against Corrosion – the Role of a Durability Appraisal</i> L Boulton Les Boulton & Associates 019	<i>Registration of Impressed Current Cathodic Protection Systems with Electrolysis Committee – Learnings and Recommendations</i> B McGuinness Freyssinet Australia 146	<i>Microbiologically Influenced Corrosion of Copper and it's Alloys – A Review</i> S Wade Swinburne University 084
16.00	<i>AS2312 – Warranty Guidelines</i> T Riding Jotun <i>Fire Proofing in the New Zealand Building Industry</i> G Moran Carboline	<i>Remanufacturing Corrosion Control Coatings</i> M Haselkorn Rochester Institute of Technology 123	<i>Offshore Wind Monopile Foundations - Internal Corrosion Mitigation by Cathodic Protection</i> R Jacob The CP Consultancy 021	<i>Microbiologically Influenced Corrosion in Wastewater Treatment Plants</i> S Furman AECOM 145
16.30		<i>Life Extension of Reactor Internals by Modern Weld Techniques</i> R Collier Ballance Agri-Nutrients 124	<i>An Overview of Finite Element Models used for CP Applications</i> F Varela Deakin University 083	<i>Identification in Bacterial Types in various Atmospheric Corrosion Sites using Standard Test Kits</i> R Jeffrey The University of Newcastle 031
17.00		<i># Gippsland Water Factory – A Case Study Over 3 Years</i> J Rigby REMEDY Asset Protection 148	<i># Impressed Current Cathodic Protection to a Prestressed Concrete Structure – Ten Years of Success</i> M Ali GHD 154	<i>Case Studies of Sleeved Ductile Iron Pipe Assessments</i> M Dafter Hunter H ₂ O 023
18.30 – 21.30	Young Corrosion Group Event <i>Sponsored by Galvanizers Association of Australia</i> The Bluestone Room, 9-11 Durham Ln, Auckland			
Tuesday 15 November 2016				
9.00	Plenary 3 - PF Thompson Lecture: Patricia Shaw, BRANZ, New Zealand Corrosion of Polymeric Materials Auckland Room 1 & 2, Level 4, SkyCity Convention Centre Chair: Brian Hickinbottom			
9.30	Introduction to Corrosion <i>Sponsored by International Paint/AkzoNobel</i> Epsom Room 3, Level 4			
9.45	Plenary 4: Digby Macdonald, Departments of Nuclear Engineering & Materials Science and Engineering, University of California, USA Photo-Electrochemical Study of the Passive State Auckland Room 1 & 2, Level 4, SkyCity Convention Centre Chair: Brian Hickinbottom			
10.30	Morning Tea			
	Stream A Auckland Room 1 & 2, Level 4 <i>Materials Selection & Design</i> Chair: Patricia Shaw	Stream B Auckland Room 3 & 4, Level 4 <i>Concrete Corrosion & Repair</i> Chair: Frank Collins	Stream C Epsom Room 1, Level 4 <i>Asset Management</i> Chair: Tracey Sherman	Stream D Epsom Room 2, Level 4 <i>Research</i> Chair: Ian MacLeod
11.00	<i>Using Intumescent Coatings to Achieve Building Code Compliance on Steel Structures</i> C Partington AkzoNobel 015	<i>Corrosion Control of Alaskan Bridges</i> J Tinnea Tinnea & Associates 121	<i>Live Transmission Line Corrosion Surveying</i> D Lake ATTAR 155	<i>Application of the STEM Program to Corrosion Engineering</i> G Keller OSD/LMI 059
11.30	<i>Ropes-Degradation of Natural, Synthetic and Steel Wire Products</i> A James Defence Technology Agency 026	<i>Hybrid Corrosion Protection Reinforced Concrete Structures</i> G Glass Concrete Preservation Technologies 164	<i>The Effects of Light Rail Systems on Underground Assets</i> J Grapiglia Corrosion Control Engineering 033	<i>EIS and Mott-Schottky to Study the Passive Film Properties of 316L and its Susceptibility to Pitting Corrosion in CO₂ Environments</i> Y Abdulwahhab Curtin University 144

12.00	<i>Coastal Residence Constructed from Weathering Steel</i> W Mandeno Opus International Consultants 126	<i>Acidification Induced Deterioration of Concrete Cathodic Protection Systems and its Management</i> W Green Vinsi Partners Consulting Engineers 115	<i>Corrosion of Underground Vehicle Diesel Exhaust Scrubber Tanks</i> S Krismer Bureau Veritas 096	<i>Assessing Hydrogen Embrittlement Susceptibility of Automotive MS-AHSS using the Linearly Increasing Stress Test</i> J Venezuela University of Queensland 140
12.30	Lunch			
	Stream A Coatings Chair: Ricky Collins	Stream B Concrete Forum Chairs: W Green & F Blin	Stream C Asset Management Chair: Raed El Sarraf	Stream D Mechanisms, Modelling & Prediction Chair: David Williams
13.30	<i>Refurbishment of Makatote Viaduct, New Zealand</i> G Matthews TBS Group 139	<i>An Independent Consultant's Experiences & Experiences in the US with Electrochemical Treatments the 3 Forms of 'CP' of Concrete</i> J Tinnea Tinnea & Associates	<i>Online Asset Management and Operational Optimisation through Online Integrity Monitoring</i> J Grapiglia Corrosion Control Engineering 008	<i>The Use and Mis-Use of the Tafel Equation in Corrosion Science</i> A Betts Dublin Institute of Technology 080
14.00	<i>Corrosion Studies on Surface Treated Tialn and Alcrn Coatings in 3.5% Nacl</i> L Ward RMIT University 090	<i>Experiences Various with Impressed Current Cathodic Protection of Concrete</i> B Ackland Bruce Ackland & Associates <i>Experiences Various with Galvanic Anode Treatment of Concrete</i> D Whitmore Vector Corrosion	<i>Mitigating Corrosion under Insulation in a Gas Processing Facility 10 years on</i> M O'Keeffe AkzoNobel 077	<i>Corrosion of Copper Alloys on Historic Shipwrecks and Materials Performance</i> I MacLeod Western Australian Maritime Museum 105
14.30	<i>Capabilities and Limitations of Direct Current and Electrochemical Impedance Mapping In Measuring Cathodic Disbondment of Coatings using Multi-Electrode Array</i> F Mahdavi Deakin University 166	<i>Experiences Various with Hybrid Treatment of Concrete</i> G Glass Concrete Preservation Technologies	<i>Corrosion Investigation and Repair of a Corrugated Aluminium Highway Culvert</i> W Mandeno Opus International Consultants 125	<i>Materials within New Zealand Geothermal Environments</i> Z Li BRANZ 113
15.00	Afternoon Tea			
	Stream A Contractor Forum Chair: Justin Rigby	Stream B Concrete Chair: Gareth Glass	Stream C Asset Management & Defence Chair: Les Boulton	Stream D Research & Research Forum Chair: Timothy Koo
15.30	<i>How do we Introduce Painter Training?</i> P Dove GHD <i>How Contractors & Consultants can Collaborate to Select and Specify the Optimum Corrosion Protection System</i>	<i>Service Life Prediction of Reinforced Concrete Exposed to Marine Water</i> L Aldridge Deakin University 103	<i>Corrosion Based Reliability Centred Maintenance on a MRH 90 Helicopter</i> S Russo QinetiQ 165	<i>Long-Term Pitting Corrosion of 6060 Aluminium Alloy Immersed in Natural Seawater</i> M Liang The University of Newcastle 070
16.00	<i>Contractor Engagement with the ACA and its Members</i> J Rigby REMEDY Asset Protection	<i>Long Term Structural Health Monitoring of a Structure Deteriorating due to Chloride Induced Corrosion</i> S Connolly BG&E Materials Technology 040	<i>Atmospheric Corrosivity of RNZAF Airbases</i> B Withy Defence Technology Agency 028	Research Forum <i>Growing the Research Technical Group</i> 1. Corrosion research updates & newsletters 2. Grants & seed funding 3. Corrosion education 4. Call for Research Technical Committee members 5. Poster sessions
16.30		<i># Service Life Extension of State Highway 16 Bridges – New Zealand's First Hybrid Corrosion Protection Application</i> C Christodoulou AECOM 065	<i># Influence of Corrosion Products on Localized Corrosion of Carbon Steel in Natural Seawater</i> AM Grolleau DCNS Research 074	<i>Advances in Corrosion Research</i> 1. News, newspapers, awards updates 2. Corrosion breakthroughs & techniques 3. Equipment & facilities for corrosion research <i>Corrosion Research Discussion</i> 1. Hybrid Cathodic Protection <i>Other Issues</i> 1. Research & applied industry technologies
19.00 – 24.00	ACA Annual Awards Dinner <i>Sponsored by Denso Australia</i> The Langham Auckland, 83 Symonds St, Grafton, Auckland			

Wednesday 16 November 2016

	Stream A Auckland Room 1 & 2, Level 4 <i>Asset Management</i> Chair: Ron Berry	Stream B Auckland Room 3 & 4, Level 4 <i>Mechanisms, Modelling & Prediction</i> Chair: Scott Wade	Stream C Epsom Room 1, Level 4 <i>Cathodic Protection Forum</i> Chair: Mark Sigley	Stream D Epsom Room 2, Level 4 <i>Research</i> Chair: John Duncan
9.30	<i>The Role of Corrosion Management in Asset Management</i> J Morris Opus International Consultants 082	<i>Agar as an Analogue for Soil in Corrosion Studies: Where to Next?</i> A Spark CSIRO & RMIT University 068	<i>CP and Stray Current Management in NZ</i> M Sigley FirstGas	<i>Green Rare Earth Compounds as Corrosion Inhibitors for Steel</i> A Somers Deakin University 141
10.00	<i>Asset Management against Corrosion, Transpower New Zealand</i> S Horn Transpower 156	<i>Romanoff's Soil Corrosion Data Deconstructed</i> R Melchers The University of Newcastle 053	<i>CP Registration Regulations</i> P Wade Energy Safe Victoria	<i>Corrosion Inhibition Assessment of Marine Grade Al Alloys using a Rapid Screening Technique</i> L Ward RMIT University 085
10.30	<i>External Threats and Internal Opportunities: Two Cases of Firms' Growth in the New Zealand Corrosion and Prevention Industry</i> W Thomson Anode Engineering 069	<i>The Corrosion of Stainless Steel Components in Aggressive Water Environments</i> R Jeffrey The University of Newcastle 017	<i>Stray Current Corrosion Acceptance Criteria for Reinforcement in Concrete – which Standard to follow?</i> M Ali GHD	<i># Inhibitive Effectiveness of Hydrazine Oxygen Scavenger on the Corrosion-Under-Insulation of External Pipeline Surfaces</i> I Gadala The University of British Columbia 111
11.00	Morning Tea			
11.30	Plenary 5: Kamachi Mudali, Homi Bhabha National Institute (HBNI) University, DAE Materials and Coating Technologies for Hostile Corrosive Environments Auckland Room 1 & 2, Level 4, SkyCity Convention Centre Chair: Brad Dockrill			
12.15	Plenary 6: David Williams, University of Auckland Advancement of Corrosion Science through New Experimental Methods Auckland Room 1 & 2, Level 4, SkyCity Convention Centre Chair: Brad Dockrill			
13.00	Lunch			
	Stream A <i>Asset Management Forum</i> Chair: Mike Boardman	Stream B <i>Concrete</i> Chair: Paul Vince	Stream C <i>Cathodic Protection</i> Chair: Brian Martin	Stream D <i>Research</i> Chair: Rob Melchers
14.00	Invited Speaker <i>Results of the International Measures of Prevention, Application and Economics of Corrosion Technologies (IMPACT) Study</i> Sandy Williamson NACE International	<i>Concrete Corrosion Damage Modelling in 3D</i> F Collins Deakin University 042	<i>Application of 'Smart' TR Technology to Reduce Installation and Operating Costs of Impressed Current CP Systems in Long Structures</i> D Celine Omniflex 153	<i>Relationship between Microstructure and Elemental Segregation to the Long-Term Corrosion Performance of Cast Iron Water Pipes</i> D Nicholas Nicholas Corrosion 016
14.30	Asset Management Forum w/ Asset Management Council Chair: Mike Boardman Program TBC	<i>Effect of Pore Characteristics and Chloride Binding on Time-Dependent Chloride Diffusion into Cementitious Material</i> L Aldridge Deakin University 089	<i>An Overview on Cathodic Shielding Produced by Disbonded Coatings</i> M Latino Deakin University 060	<i>The Electrokinetics of Magnesium - Active and Passive Corrosion States</i> H Flitt Queensland University of Technology 078
15.00		<i># A Preliminary Study of the Capillary Flow of Saline Solution and Ethanol Ingress in Cementitious Materials</i> LC Huang Deakin University 062	<i>Major Wharf Rehabilitation – A Case Study of the Construction Methods and Practices Utilised to Safeguard Ongoing Structure Durability</i> N Critchley Freyssinet Australia 094	<i>Factors Involved in the Long-Term Corrosion of Buried Cast Iron</i> R Petersen The University of Newcastle 067
15.30		<i>The use of Cementitious Coatings to re-line Old Concrete, Brick Manholes and Sewer Structures</i> D Johnstone AkzoNobel 119	<i>Retrofitting Impressed Current Cathodic Protection to an Existing MSCL Water Network in Metropolitan Melbourne</i> C Blackney, D O'Keefe Select Solutions 063	<i>Extreme Value Analysis of Carbon Steel Pitting Corrosion under Deoxygenated Seawater</i> X Wang University of Newcastle 071
16.00 – 16.30	Closing Session Auckland Room 1 & 2, Level 4, SkyCity Convention Centre			
16.30 – 18.30	Farewell Function Sponsored by Les Boulton & Associates Bar 21, SkyCity			