

PROVISIONAL PROGRAM

Monday 11 May 2020

0700 - 1400	Exhibition Build
1400 - 1700	Exhibitor Move In
1400 - 1800	Registration Desk Open
1730 - 1900	Welcome Reception, CORE 2020 Exhibition

Tuesday 12 May 2020

0700 - 1800	Registration Desk Open			
0715 - 0800	Presenter and Session Chair Breakfast , Compulsory for all chairs and presenters for the day			
0700 - 1900	Exhibition Open			
0815 - 1000	PLENARY SESSION			
0815 - 0835	Welcome to Country			
0835 - 0840	Welcome , Master of Ceremonies			
0840 - 0850	RTSA Welcome			
0850 - 0900	Official Opening			
0900 - 0915	Minister Address			
0915 - 0950	Keynote Address			
0950 - 1025	Morning Tea			
1030 - 1235	CONCURRENT SESSIONS			
	1A Track Maintenance	1B Rolling Stock Vehicle Design and Manufacture	1C Signals and Train Control Systems	1D Bridges and Structures
1030	A Reappraisal of Head Wear Limits for Heat Treated Rails Under Heavy Haul Conditions Iman Salehi, Institute of Railway Technology VIC, Australia	Light Rail Passengers - Are They Protected in a Crash? Jadmond Kiang, SNC-lavalin Atkins, NSW, Australia	Level Crossing Performance Modelling Using Timed Petri Nets Steven Gibson, RGB Assurance, WA, Australia	Kiwirail Long-Term Rail Bridge Renewal Management Through a Structures Health Prioritisation Process Rudolph Kotze, Kiwirail, New Zealand, New Zealand
1100	Inertial Standards Development for Track Maintenance Colin Cole, Central Queensland University, QLD, Australia	Bringing Railcar Manufacture to Western Australia, a Collaborative Approach Graham Bentley, Aurecon Australasia Pty Ltd, WA, Australia	Can We Break the Mould With ETCS L2 in Australia? Georgina Hartwell, WSP, NSW, Australia	Making Heritage Listed Rail Infrastructure Future-Ready With Technology Tanya Budzakovski, WSP, NSW, Australia
1130	Automating an \$80m/Year Track Renewals Program Lachlan Prescott, Aurizon Network, QLD, Australia	The Development of an Improved Forged Knuckle Karl Hofmann, Hofmann Engineering	Sydney Automatic Train Protection Program – Technology Integration in a Brownfield Moving Baseline Oliver Lake, Sydney Trains, NSW, Australia	Rail Structure Interaction – an Essential Methodology for Improving Bridge Safety and Passenger Comfort Bernard Shepherd, GHD Ltd, VIC, Australia

1200	Advanced Rail-Defect Management with Rail Milling Richard Stock, Linmag, Austria, Austria	Does Demonstration of Design Compliance Also Demonstrate Engineering Due Diligence? Alexander Bidanov, SNC Lavalin Rail & Transit, NSW, Australia	The Potential Benefits of Advanced Train Management System (ATMS) Ian Fox, Australian Rail Track Corporation, SA, Australia	Resilient Reconstruction - the Challenges of Repairing Aging Bridge Stock Following the Kaikoura Earthquake Steve Procter, NCTIR, Canterbury, New Zealand
1230 - 1330 Lunch served in the Exhibition Hall				
1335 - 1535 CONCURRENT SESSIONS				
	2A Track Sleepers Ballast	2B Wheel/Rail Interaction	2C Safety, Prevention and INvestigation	2D Transit Planning and Urban Design
1335	Modal Analysis Advancements in Concrete Sleeper and Ballast Condition Assessment Dwayne Nielsen, Central Queensland University, QLD, Australia	RCF and Wear Prediction to Develop a Rail Maintenance Regime for New Metro Train Infrastructure Robert Schweiger, John Holland, SA, Australia	Visual Intelligence and Connected Event and Video Recorder to Enhance Train Operations and Safety J. David Semple, Wi-tronix, NSW, Australia	Developing a Public Transport Plan for Melbourne with a 30-Year Horizon Max Michell, Freelance, VIC, Australia
1405	Estimation of the Sleeper/Ballast Pressure Distribution Without Disturbing the Track Support and Interrupting the Revenue Service Iman Salehi, Institute of Railway Technology, VIC, Australia	Rail Profile Grinding Strategy for The ARTC Hunter Valley Heavy Haul Network Darrien Welsby, Institute of Railway Technology, VIC, Australia	Delivering a Safe Railway: Safety Case Approach Applied to Passenger Operations on Sydney Metro Northwest Andrew Ward, John Holland, NSW, Australia	An Innovative, Real-Time Pedestrian Simulation for Sizing Assessments: the Case of South Bank Station in Brisbane Federico Marcantognini, Jacobs Group, NSW, Australia
1435	Rail Track Buckling Modelling and Simulation Analysis Yan Sun, Central Queensland University, Queensland, Australia	Parallel Computing Rail Heat Transfer Simulation for Track Measured Temperature Data Chris Bosomworth, Central Queensland University, QLD, Australia	Project Assurance: Bringing Together Interdisciplinary Assurance to Support the Whole Ben Mynott, Public Transport Authority, WA, Australia	Effective Crowd Management During Major Rail Construction Activities - Using Dynamic Pedestrian Modelling/ Planning Methodology Pietro Crovato, Jacobs, NSW, Australia
1505	Effect of Chloride Penetration on Concrete Sleeper Service Life Thuraichamy Suntharavadivel, Central Queensland University, QLD, Australia	Managing the Wheel Rail Interface – the Benefit of Comprehensive Wheel/Rail Study at the Project Phase. Harry De Lange, Roy Hill, WA, Australia	A Rail Case Study: Developing a Systems Assurance Report Using a Goal Structuring Notation Lauren Thompson, Aurecon, VIC, Australia	Tram Traction Substations – Not Just a Power Engineering Design Guy Hodgkinson, Middleton Group, VIC, Australia
1535 - 1600 Afternoon Tea served in the Exhibition Hall				
1605 - 1735 CONCURRENT SESSIONS				
	3A Track Formation and Geotechnical	3B Rolling Stock Brake and Adhesion Systems	3C Overhead Traction Systems	3D Operating Safety and Human Factors
1605	Design of Rail Formation and Subgrade – Matching Testing to Design Parameters Andy Doe, ARTC, QLD, Australia	Optimum Brake Control Via Multi-Mode Shifting of Slip Control Zone Sundar Shrestha, Centre for Railway Engineering, QLD, Australia	Smart Emergency Steel Support Design for Overhead Line Equipment Andrew Tay, Rhomberg Rail Australia, WA, Australia	Early Human Factors Analysis – a Risk-Based Approach for Understanding What Should Be Done and When Andrew Sutherland, HF Integration Pty Ltd, WA, Australia

1635	Performance-Based Earthworks Specifications for Inland Rail Mark Drechsler, SMEC Australia Pty Ltd, SA, Australia	Applied Air Flow as a Diagnostic Tool: Benefits of Greater Assessment of Measurable Air Flow Karen Carriere, WABTEC CORP, Manitoba, Canada	Remote Isolating and Rail Connecting - The Conception of the e DT and the Feeder Circuit Status Evaluator David Stuart-Smith, Arup, NSW, Australia	Unifying Workload and Situation Awareness Assessments in Heavy Rail Through Application of MBSE Tools William Scott, University of Wollongong, SA, Australia
1705	Track Support Floating Soil Beam on Helical Piles - Canadian National Railway Bala Subdivision Edward Wu, CN, Ontario, Canada	From Friction Measurement to Track Damage Indexes in High Adhesion Locomotive Studies Maksym Spiryagin, Central Queensland University, QLD, Australia	New Dynamic DC Fault Level Modelling for Railway Networks Medhat Al Zaman, Middleton Group, VIC, Australia	Sleep Apnoea: an Under Diagnosed Threat to Railway Safety James Michel, Marsh Rail Practice, Marsh and McLennan, DC, United States

1740 - 1900 **Poster Showcase and Networking Session**

Wednesday 13 May 2020

0700 - 1800	Registration Desk Open			
0715 - 0800	Presenter and Session Chair Breakfast , Compulsory for all chairs and presenters for the day			
0700 - 1900	Exhibition Open			
0830 - 1000	DAY 2 PLENARY SESSION			
0830 - 0835	Welcome Day 2			
0835 - 0850	Young Professional Scholarship Presentations			
0850 - 0925	Keynote Address			
0925 - 1000	Keynote Address			
1000 - 1030	Morning Tea			
1035 - 1235	CONCURRENT SESSIONS			
	4A Track Conditioning Monitoring and Data Analytics	4B Rolling Stock Vehicle Dynamics	4C Environmental Issues and Energy Efficiency	4D Engineering Design Systems
1035	Broken Rail Detection – a Reliable and Accurate Onboard Solution Roy Leslie, Siemens Mobility, WA, Australia	Assessing Wagon Instability in Long Trains Using Parallel Co-Simulation Technique Qing Wu, CQUniversity, QLD, Australia	Are Hybrids Just Hype? Frank Szanto, Downer Rail, NSW, Australia	What's Behind the 'Why'? The Importance of Human Centred Infrastructure Design Sam McWilliam, WSP, NSW, Australia
1105	Developments in the Rail Profile Quality Index Darrien Welsby, Institute of Railway Technology, VIC, Australia	Rolling Stock and Twist Test Inputs Ian Goldney, SNC-Lavalin, QLD, Australia	Lessons Learned in How to Model Strategic Noise Impacts from Entire Freight Rail Networks Cost Effectively Luke Zoontjens, SLR Consulting Australia, WA, Australia	Digital Engineering – Driving Innovation Through the Wellington Metro Upgrade Andy Lyon, KiwiRail, WLG, New Zealand

1135	Leveraging New Technologies and Big Data for the Optimisation of Speed Restrictions Glenn Hardie, Institute of Railway Technology, VIC, Australia	Detection of Vehicle Hunting Behaviour Using Fibre Bragg Grating Sensors for Heavy Haul Applications Naveen Muthuraj, Institute of Railway Technology, VIC, Australia	Experience With an Energy Storage Unit on a 1,500 Volt DC Railway Ian Cook, Metro Trains Melbourne, VIC, Australia	Collaborative Rail R&D – Successes, Challenges and Future Opportunities Stuart Thomson, Rail Manufacturing CRC, VIC, Australia
1205	Using Augmented Reality to Assist Track Inspectors for Turnout Inspections Siva Naidoo, Institute of Railway Technology, VIC, Australia	Why Change AS7524 Couplers and Drawgear? Scott Simson, Bradken, NSW, Australia	Computational Modelling of Energy Recuperation Systems and Energy Saving Performance Benchmark in an Australian DC Railway John-Mark Merhi, WSP, NSW, Australia	Communication of Complex Project Information Using Diagrammatic Tools – Sydney Metro Northwest OTS IC Allen Ho, GHD, NSW, Australia

1235 - 1330 **Lunch** served in the Exhibition Hall

1335 - 1535 CONCURRENT SESSIONS

	5A Track- Rail Welding	5B Rolling Stock Vehicle / Track Interaction	5C Light Rail	5D Communications Systems
	Poster Showcase	Poster Showcase	Poster Showcase	Poster Showcase
1335				
1405	Key Issues in Managing Field Welding of Rail John Cookson, Institute of Railway Technology, VIC, Australia	Modernisation of Dynamic Load Factors Andrei Khaidurov, Aurizon, QLD, Australia	Entering The Wireless World – Using Technology with Light Rail to Shape a Modern City Scott Ney, WSP, NSW, Australia	Managing Complexity on Digital Systems; a Model-Based Systems Engineering Approach Donovan Roodt, Shoal Group, NSW Australia & Malaeka Nadeem, Transport for NSW, NSW, Australia
1435	Thermal Modelling to Optimise the Vertical Alignment of Aluminothermic Welds Cong Qiu, Institute of Railway Technology, VIC, Australia	Holistic Approach to Rolling Stock Maintenance to Minimise Vehicle Dynamics and Track Deterioration Nithurshan Nadarajah, Institute of Railway Technology, VIC, Australia	Minimising Vehicle to Tram Collisions Mike Ford, Jacobs, VIC, Australia	Mirroring Futures – MCX Vs FRMCS Rodrigo Alvarez, Rail Systems Australia, WA, Australia
1505	Basic Mechanical Properties and Ratcheting Behaviour of Flash Butt Welds in High Strength Steel Rails Hang Su, Monash University, VIC, Australia	Implementing New Wheel and Rail Profiles Using Digital Data on the Central Queensland Coal Network William Schuh, Aurizon, QLD, Australia	The Evolution of Tram Terminus Design in the Melbourne Urban Environment Ben Droscher, Jacobs, VIC, Australia	Netflix for Rollingstock – Driver Video on Demand Stephen Endicott, Public Transport Authority of Western Australia, WA, Australia

1540 - 1610 **Afternoon Tea**

1615 - 1700 Closing Session

1615 - 1700 **Keynote Address**

1900 - Late **Gala Dinner**, Sponsored by 