

PROVISIONAL PROGRAM

Monday 21 June 2021

07:00 - 14:00	Exhibition Build
14:00 - 17:00	Exhibitor Move In
14:00 - 18:00	Registration Desk Open
17:30 - 19:00	Welcome Reception, CORE 2020 Exhibition

Tuesday 22 June 2021

07:00 - 18:00	Registration Desk Open
07:15 - 08:00	Presenter and Session Chair Breakfast , Compulsory for all chairs and presenters for the day
07:00 - 19:00	Exhibition Open
08:15 - 09:50	PLENARY SESSION
08:15 - 08:35	Welcome to Country
08:35 - 08:40	Welcome: Karen Tighe , Master of Ceremonies
08:40 - 08:50	RTSA Welcome: Maneesh Gupta , RTSA Executive Chair
08:50 - 09:00	Official Opening: Graham Holden , Conference Organising Committee Chair
09:00 - 09:15	Ministerial Address: Hon. Rita Saffioti MLA , WA State Minister for Transport
09:15 - 09:50	Keynote Address: Lyle Bicknell , Principal Urban Designer, City of Seattle
09:50 - 10:25	Morning Tea

10:30 - 12:35 CONCURRENT SESSIONS

	1A Track Maintenance	1B Rolling Stock Vehicle Design and Manufacture	1C Signals and Train Control Systems	1D Operating Safety and Human Factors
10:30	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? Jademond Kiang, SNC-lavalin Atkins, NSW, Australia	Level Crossing Performance Modelling Using Timed Petri Nets Steven Gibson, RGB Assurance, 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
11:00	Inertial Standards Development for Track Maintenance Colin Cole, Central Queensland University, QLD, Australia	A Collaborative Approach to Bringing Railcar Manufacturing to Western Australia Garry Taylor, Public Transport Authority, WA, Australia	Taking Over From Thameslink: The Factors That Will Determine How Australia Can Lead the Automation Race Georgina Hartwell, WSP, NSW, Australia	Unifying Workload and Situation Awareness Assessments in Heavy Rail Through Application of MBSE Tools William Scott, University of Wollongong, SA, Australia
11:30	Automating an \$70m/Year Track Renewals Program Lachlan Prescott, Aurizon Network, QLD, Australia	TBC	Sydney Automatic Train Protection Program – Technology Integration in a Brownfield Moving Baseline Oliver Lake, Sydney Trains, NSW, Australia	Sleep Apnoea: An Under Diagnosed Threat to Railway Safety James Michel, Marsh Rail Practice, Marsh and McLennan, DC, United States

	1A Track Maintenance	1B Rolling Stock Vehicle Design and Manufacture	1C Signals and Train Control Systems	1D Operating Safety and Human Factors
12:00	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 Gary Evans, Australian Rail Track Corporation, SA, Australia	Signal Colour-Misconceptions from Prescription Lenses Worn by Train Drivers Gregoire Larue, ACRI, QLD, Australia
12:30 - 13:30 Lunch served in the Exhibition Hall				
13:35 - 15:35 CONCURRENT SESSIONS				
	2A Track Sleepers Ballast	2B Wheel/Rail Interaction	2C Safety, Prevention and Investigation	2D Transit Planning and Urban Design
13:35	TBC	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 Roger Martinez, Wi-tronix, NSW, Australia	Total Rail: An Integrated Approach TC Chew, Arup, London, UK
14:05	Expanding Our Understanding of the Not So Insignificant Rail Expansion Joint Andrew Matthews, GHD Pty Ltd, 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	Preparation of the Pedestrian Management Plans for Epping to Chatswood Rail Line Station Link Programme Pietro Crovato, Jacobs, NSW, Australia
14:35	TBC	Parallel Computing Rail Heat Transfer Simulation for Track Measured Temperature Data Chris Bosomworth, Central Queensland University, QLD, Australia	Kaikoura Earthquake – Use of Remote Monitoring and Operational Controls for Reopening the Main North Line Mr Daniel Headifen, KiwiRail, Wellington, New Zealand	Rail Network Long-Term Planning: Comparing Challenges and Practices in Switzerland and Australia Julien Morizet, WSP Australia Pty Limited, Vic, Australia
15:05	Improved Performance of Mechanically Stabilised Capping/ Structural Fill Layers Under Cyclic Loading Rajesh Bhavsar, Geofabrics Australasia Pty Ltd, Vic, 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 Russell McMullan, City Rail Link Ltd, Auckland, New Zealand	Key Factors for a Successful Modern Tramway in a Dense Urban Environment Patrick Desforges, Systra, NSW, Australia
15:35 - 16:00 Afternoon Tea served in the Exhibition Hall				

16:05 - 17:35 CONCURRENT SESSIONS				
16:05	3A Track Formation and Geotechnical <i>Session sponsored by</i> ARTC	3B Rolling Stock Brake and Adhesion Systems	3C Environmental Issues and Energy Efficiency	3D Bridges and Structures
	Inland Rail – Earthworks Value Engineering Mark Drechsler, Smec Australia Pty Ltd, SA, Australia	Optimum Brake Control Via Multi-Mode Shifting of Slip Control Zone Sundar Shrestha, Centre for Railway Engineering, QLD, Australia	Are Hybrids Just Hype? Frank Szanto, Downer Rail, NSW, Australia	Kiwirail Long-Term Rail Bridge Renewal Management Through a Structures Health Prioritisation Process Rudolph Kotze, Kiwirail, New Zealand, New Zealand
	Design of Rail Formation and Subgrade – Matching Testing to Design Parameters Andy Doe, ARTC, QLD, Australia	Applied Air Flow as a Diagnostic Tool: Benefits of Greater Assessment of Measurable Air Flow Karen Carriere, WABTEC CORP, Manitoba, Canada	Lessons Learned in How to Model Strategic Noise Impacts From Entire Freight Rail Networks Cost Effectively Luke Zoontjens, SLR Consulting Australia, WA, Australia	Rail Structure Interaction – An Essential Methodology for Improving Bridge Safety and Passenger Comfort David Crump, GHD Ltd, VIC, Australia
17:05	Track Support Floating Soil Beam on Helical Piles - Canadian National Railway Bala Subdivision Edward Wu, CN, Ontario, Canada Mario Ruel, CN, Ontario, Canada	From Friction Measurement to Track Damage Indexes in High Adhesion Locomotive Studies Maksym Spiryagin, Central Queensland University, QLD, Australia	Rapid Charging Concept for Hybrid Heavy Haul Locomotive Consists Shah Ahmad, Centre for Railway Engineering, CQ University, QLD, Australia	TBC
17:40 - 19:00 Networking Session				

Wednesday 23 June 2021

07:00 - 18:00	Registration Desk Open			
07:15 - 08:00	Presenter and Session Chair Breakfast , Compulsory for all chairs and presenters for the day			
07:00 - 19:00	Exhibition Open			
08:30 - 10:00 DAY 2 PLENARY SESSION				
08:30 - 08:35	Welcome Day 2: Karen Tighe, Master of Ceremonies			
08:35 - 08:50	Young Professional Scholarship Presentations			
08:50 - 09:25	Keynote Address: Lido Costa, Rio Tinto			
09:25 - 10:00	Keynote Address: Anne O'Neil, P.E., CSEP, Systems Engineering Catalyst and Industry Advisor, Anne O'Neil Consultants			
10:00 - 10:30	Morning Tea			
10:35 - 12:35 CONCURRENT SESSIONS				
10:35	4A Track Conditioning Monitoring and Data Analytics	4B Rolling Stock Vehicle Dynamics	4C Overhead Traction Systems	4D Engineering Design Systems and Research
	Broken Rail Detection – A Reliable and Accurate Onboard Solution Justin Niven, Siemens Mobility, WA, Australia	Assessing Wagon Instability in Long Trains Using Parallel Co-Simulation Technique Qing Wu, CQUniversity, QLD, Australia	Smart Emergency Steel Support Design for Overhead Line Equipment Andrew Tay, Rhomberg Rail Australia, WA, Australia Robert Stacey, Public Transport Authority, WA, 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

	4A Track Conditioning Monitoring and Data Analytics	4B Rolling Stock Vehicle Dynamics	4C Overhead Traction Systems	4D Engineering Design Systems and Research
11:05	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	Remote Isolating and Rail Connecting - The Conception of the e DT and the Feeder Circuit Status Evaluator David Stuart-Smith, Arup, NSW, Australia	Mirroring Futures - MCX Vs FRMCS Rodrigo Alvarez, Rail Systems Australia, WA, Australia
11:35	Artificial Intelligence for the Automation of Rail and Corridor Inspections Nicholas Smith, Airsight, NSW Australia	On-Board Wheel Flat Detection for Heavy Haul Wagons Using Ultra-Low Power Sensor Nodes Eseban Bernal, Centre for Railway Engineering, CQUniversity, QLD, Australia	New Dynamic DC Fault Level Modelling for Railway Networks Medhat Al Zaman, Middleton Group, VIC, Australia	Netflix for Rollingstock – Driver Video on Demand Stephen Endicott, Public Transport Authority of Western Australia, WA, Australia
12:05	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	The Operator Pathway to Remote Isolation Troy Guo, Australian Rail Technology, NSW, Australia	The Internet of Trains (IoT) – A Perspective on Technology in a Modern Railway Yang Phay, Public Transport Authority, WA, Australia

12:35 - 13:30 **Lunch** served in the Exhibition Hall

13:35 - 15:35 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
13:35				
14:05	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	What's Behind the 'Why'? The Importance of Human Centred Infrastructure Design Stuart Allabush, WSP, NSW, Australia
14:35	Thermal Modelling to Optimise the Vertical Alignment of Aluminothermic Welds Cong Qiu, Institute of Railway Technology, VIC, Australia	Potential to Adopt Condition-Based Maintenance to Optimise Obsolescence Management for Rolling Stock in Western Australia Adriane Ho, Aurecon Australasia Pty Ltd, WA, Australia	Minimising Vehicle to Tram Collisions Mike Ford, Jacobs, VIC, Australia Anna Loughnan, Jacobs, VIC, Australia	TBC
15:05	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	TBC	Communication of Complex Project Information Using Diagrammatic Tools - Sydney Metro Northwest OTS IC Allen Ho, GHD, NSW, Australia

15:40 - 16:10 **Afternoon Tea**

16:15 - 17:00 Closing Session

16:15 - 17:00 **Keynote Address:** Anne O'Neil, P.E., CSEP, Systems Engineering Catalyst and Industry Advisor, Anne O'Neil Consultants

19:00 - Late **Gala Dinner**, Sponsored by 