



15th International Conference on Bulk Materials Storage, Handling and Transportation

7-9 July 2026

Esplanade Hotel Fremantle, Western Australia

ICBMH 2026 2026 Fremantle Australia

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Monday, 06/07/2026

17.30 - 19.30

Welcome / Cocktail Reception
Esplanade Hotel Fremantle by Rydges, Ball and Chain Bar

Tuesday, 07/07/2026



Day 1 - Sponsored by Fenner Conveyors



8.15 - 08.45

Conference Registration, Prince Regent Room

8.45 - 9.00

Welcome by Conference Chair, Em Prof Mark Jones, TUNRA Bulk Solids

9.00 - 9.30

Sponsor Address - Fenner Conveyors

9.30 - 10.00

Orion Room

10.00 - 10.30

Plenary Presentation: Dr Jenny Yu - Continental

Conveyor Belt Reinforcement Review and Outlook

Plenary Presentation: Professor Jin Ooi, University of Edinburgh

A Mesoscale DEM Approach to Bulk Solids Handling Applications

Morning Tea (Orion Room)

Session Chair

Pneumatic Conveying
Admiralty Gulf Room
Mark Jones

Belt Conveying - Monitoring & Diagnostics
Orion Room
Craig Wheeler

Storage & Handling
King Sound Room
David Hastie

10.30 - 10.55

Keynote Paper: Informed Utilisation of Air Classification: Towards Advancing Sustainable Powder Processing

Hamed J Sarnavi, Atul Sharma, Baldeep Kaur, Mike Bradley

The Wolfson Centre for Bulk Solids Handling Technology, UK

Keynote Paper: New Smart Monitoring Technologies for Belt Conveyors

Shaun R Santana and Brett E DeVries

Flexco, USA

Keynote Paper: Revision to Australian Standard AS4324.1 Mobile equipment for continuous handling of bulk materials – General requirements for the design of steel structures

Richard Morgan

Aspec Engineering, Australia

10.55 - 11.20

Impacts and Implications of Particle Exchange Delays in Horizontal Slug Flow Pneumatic Conveying

Ognjen Orozovic

Bechtel, Australia

Condition-Based Monitoring of Belt Conveyor Idlers Using a Mobile Acoustic Sensor Unit

Hendrik Käßmeyer, Stephan Henschler, Carsten Schmidt, Benjamin Küster, Robert Schneider, Sylvio Simon, Ludger Overmeyer

Institut für Integrierte Produktion Hannover gGmbH, Germany

A Review of Fatigue Prediction and Remediation in Bulk Materials Handling Structures

Luke Stone

Hatch, Australia

11.20 - 11.45

Particle Slug Evolution in Low-Velocity Slug Flow Pneumatic Conveying

Chehan L K Y Yapa Mudiyansele, Atul Sharma, Michael S A Bradley, Daniel Shinn

The Wolfson Centre for Bulk Solids Handling Technology, UK

AI-Enabled Conveyor Monitoring and Smart Tensioning Systems: Practical Implementation and Data-Driven Evaluation in Mining Conveyors

Sonja Volhein

Hosch, Australia

Motivations for Improved Methods to Predict Bulk Material Loads

Shaun Reid

Agilitus, Australia

11.45 - 12.10

Modelling the Unstable Zone in Horizontal Slug Flow Pneumatic Conveying

Ognjen Orozovic

Bechtel, Australia

Reducing Conveyor Belt Failures by Implementing Conveyor Diagnostics Systems

James D Hunter

Wagener Vulcanizers, Australia

Wall Friction and Flow Behaviour of Bulk Materials: Effects of Liner Hardness, Surface Roughness, and Particle Properties

Jayne O'Shea and Tiago Cousseau

TUNRA Bulk Solids, Australia

12.10 - 13.45

Lunch Break

	General Topics on Materials Handling - Wear Admiralty Gulf Room	Belt Conveying - Monitoring & Diagnostics Orion Room	Storage & Handling King Sound Room
Session Chair	Mark Jones	Michael Carr	Tim Donohue
13.45 - 14.10	<p>Keynote Paper: Wear Assessment of Mining Components: Bridging the Gap Between Laboratory and Field Tests</p> <p><i>Dr Tiago Cousseau</i> TUNRA Bulk Solids, Australia</p>	<p>Application of Distributed Acoustic Sensing for Proactive Maintenance in Conveyor Systems</p> <p><i>Rachael Laudehr</i> Rema Tip Top, Australia</p>	<p>Overview and Analysis of Variable Bulk Density Janssen Based Approaches</p> <p><i>Ognjen Orozovic</i> Bechtel, Australia</p>
14.10 - 14.35	<p>Effect of Manganese Content on Abrasive Wear Resistance of Hadfield Steels: Correlation between Jaw Crusher and Crushing Pin-on-Disc Tests</p> <p><i>A.B., Furtado, R.N.J.F., Silva and P.C., Machado</i> Institute of Technology, Federal University of Pará, Brazil</p>	<p>Conveyor Monitoring through Fibre Optic Cables - Reducing Downtime, Increasing Safety and Improving Preventative Maintenance</p> <p><i>Matthew Cook</i> Hawk Measurement Systems, Australia</p>	<p>Modelling and Monitoring Stability of Iron Ore Stockpiles</p> <p><i>Andrew Grima, Jayan S. Vinod, Shafna Kaliparambil Jamal and Dodangoda Liyanage Uttara Deshanee</i> University of Wollongong, Australia</p>
14.35 - 15.00	<p>Engineering Considerations for the Use of Magnetic Wear Panels in Fixed Plant Protection</p> <p><i>Paul Duthy</i> Elastotec, Australia</p>	<p>Bridging the Skills Gap in Mine Maintenance for Bulk Materials Handling</p> <p><i>Sonja Volhejn</i> Hosch, Australia</p>	<p>Dewatering of Tailings using a Passive Pilot Test Rig</p> <p><i>Thomas Bunn</i> University of Newcastle and TUNRA Bulk Solids, Australia</p>
15.00 - 15.30	Afternoon Tea - Orion Room / Alan W Roberts introduces his newly published book "The Theory and Practice of Bulk Materials Handling"		
	General Topics on Materials Handling - Wear Admiralty Gulf Room	Belt Conveying - Monitoring & Diagnostics Orion Room	Storage & Handling King Sound Room
Session Chair	Tim Donohue	Craig Wheeler	David Hastie
15.30 - 15.55	<p>Modelling (DEM) and Testing (sensor) of a Wear Plate for Chutes</p> <p><i>Daniel Grasser and Con Kamaras</i> TUNRA Bulk Solids and BMH Global, Australia</p>	<p>Smart Conveyors for a Break-Down Free Future: Operational Excellence Through Real-Time Idler Intelligence</p> <p><i>Ryan Norris</i> Vayeron, Australia</p>	<p>Assessment of Conveyability of Iron Ore Tailings for Dry Disposal</p> <p><i>Priscilla Freire, David Bradney, Jayne O'Shea, Gil Ribeiro Vilela Neto, José Pedro da Silva</i> TUNRA Bulk Solids, Australia and Samarco SA, Brazil</p>
15.55 - 16.20	<p>Improvements in Wear Protection for Slurry Boxes, Launderers and Wet Transfer Chutes</p> <p><i>Jon Hepburn</i> Elastotec, Australia</p>	<p>Precision at the Edge: Automating Conveyor Belt Skirt Wear Inspection — Gap and Liner Height Measurement with Robotics and AI</p> <p><i>Lachlan Campbell, Paul Collins, Nick Galm, Dr Yanyang Gu</i> Geobotica, Australia</p>	<p>Reducing Hangup and Downtime in Bauxite Handling</p> <p><i>Bart Fox</i> Kinder Australia</p>
16.20 - 16.45	Computational Modelling Workshop hosted by TUNRA Bulk Solids		
16.45 - 17.10		<p>All Talk, No Torque: Closing the Loop Between Conveyor Intelligence and Physical Intervention</p> <p><i>Joshua Pritchard</i> Auto Track, Australia</p>	<p>Surge Bin Reclaim Bi-Directional Belt Feeder</p> <p><i>Bin Chen and Elia Khoury</i> TUNRA Bulk Solids and RCR Mining, Australia</p>
		<p>The Twofold Problem of Belt Scale Accuracy</p> <p><i>Ian Burrell</i> Control Systems Technology, Australia</p>	<p>Maximising Value: Life Extension Strategies for Aging Materials Handling Machines</p> <p><i>Adam Mayers</i> Aspec Engineering, Australia</p>
17.00 - 18.00	Informal Drinks - Marine Bar Lounge		

8.50 - 9.00	<p>Welcome by Conference Chair, Em Prof Mark Jones, TUNRA Bulk Solids Sponsor Address - Kinder Australia Orion Room</p>		
Session 1	<p>Computational Simulation & Calibration Admiralty Gulf Room</p>	<p>Belt Conveying - Pulleys and Drives Orion Room</p>	<p>Storage and Handling King Sound Room</p>
Session Chair	<p>Andre Katterfeld</p>	<p>Jayne O'Shea</p>	<p>Mark Jones</p>
09.00 - 09.25	<p>Keynote Paper: Shape matters: DEM Modelling of Coarse Cohesionless Materials for Bulk Handling and Transport <i>Wouter Schuitemaker, Hao Shi, Niels de Vries, Dingena Schott</i> TU Delft, The Netherlands</p>	<p>Keynote Paper: Pulley Lagging and Belt Interaction for Power Transmission and Service Life <i>Brad Lawson, Andrew Jennings, Peter Robinson, Jason Willis, Mariana Ballestrin, Caroline G. D. Oliveira</i> Conveyor Dynamics, USA, University of Newcastle and Elastotec, Australia</p>	<p>Tracking Powder Discharge from a Vessel using Cavity Sound Pressure Amplitude <i>Mohammad Barzegar, Clive E Davies, Miles C E Grafton</i> AUT, Massey University, New Zealand</p>
09.25 - 09.50	<p>Shear Cell investigation of 2 Common DEM Adhesion Models, and a Comparison of Results in a Transfer Chute <i>Richard Elliott</i> Rockfield Technologies, Australia</p>	<p>The Effect of Pressure and Velocity-Dependent Coefficient of Friction on Shear Distribution in the Contact Arc of Conveyor Drives <i>Jason Willis and Ashleigh Kirkland</i> University of Newcastle, Australia</p>	<p>Experimental and DEM Investigation of Cohesionless Discharge from Flexible Intermediate Bulk Containers <i>Mitchell Boots, Mark Jones, Peter Robinson, Craig Wheeler, Alan Roberts</i> TUNRA Bulk Solids and University of Newcastle, Australia</p>
10.00 - 10.30	<p>Morning Tea (Orion Room)</p>		
Session 2	<p>Computational Simulation & Calibration Admiralty Gulf Room</p>	<p>Belt Conveying - Pulleys and Drives Orion Room</p>	<p>Storage and Handling King Sound Room</p>
Session Chair	<p>Andrew Grima</p>	<p>Craig Wheeler</p>	<p>David Hastie</p>
10.30 - 10.55	<p>Simulating Behaviour of Extreme Moisture Content Materials with Combined SPH and DEM Modelling <i>Liam J Withey, Shaun C Reid, Daniel G Ausling</i> Agilitus, Australia</p>	<p>Pulleys and Drives - Frictional Interactions in Conveyor Drive Systems <i>Ashleigh Kirkland</i> University of Newcastle, Australia</p>	<p>Screw Feeder Design for Reliable Performance: An Industrial Case Study <i>Bin Chen and Alan Roberts</i> TUNRA Bulk Solids, Australia</p>
10.55 - 11.20	<p>Wet Transfer Chute Design in Mineral Processing: Addressing DEM Limitations Through Advanced Coupled SPH Simulations <i>Chris Linton and Paul Stevenson</i> EMTek, Australia</p>	<p>Simulation-Based Analysis of Driving Idlers as Intermediate Drives in Belt Conveyor Systems <i>Carsten Schmidt and Ludger Overmeyer</i> Leibniz Universität Hannover, Germany</p>	<p>Energy & Environment Tailings to Topsoil: Advances in Coal Tailings Utilisation for Soil Health <i>Ken Williams</i> University of Newcastle, Australia</p>
11.20 - 11.45	<p>Modelling the Transition from Compacted to Free-Flowing Behaviour in Stockpiled Bulk Materials Using DEM <i>Ben McPherson</i> TUNRA Bulk Solids, Australia</p>	<p>Belt Conveying -Splicing, Cutting & Vulcanising Advances in Mechanical Splicing for Steel Cord Conveyor Belts <i>Brett E DeVries</i> Flexco, USA</p>	<p>Quantitative Assessment of Airscrape's capability to Generate Pressure Differentials under Varying Conditions <i>Bradley R Owen and Jacob O Kerr</i> Kinder Australia</p>
11.45 - 12.10	<p>Optimisation of a Static Grizzly Grid Design using Discrete Element Method <i>Marcel R. Castanheira, Guilherme P. Oliveira</i> Vale, Brazil</p>	<p>AI-Driven Verification of Conveyor Splice Integrity: A Real-Time QA/QC Framework for High-Reliability Belt Systems <i>Beau Weiss</i> Belt Wise, Australia</p>	<p>Optimising Water Droplet Spectrum for Effective Dust Suppression in Bulk Materials Handling in the Mining Industry <i>Subhankar Biswas, Jon Roberts, and Xia Zhao</i> Jacobs and University of Wollongong, Australia</p>

12.10 - 13.45	Lunch Break		
Session 3	Computational Simulation & Calibration Admiralty Gulf Room	Belt Conveying - Splicing, Cutting & Vulcanising Orion Room	Energy & Environment King Sound Room
Session Chair	Ben McPherson	Michael Carr	Andrew Grima
13.45 - 14.10	Coupled DEM-FEM Simulations of a Peristaltic Surface Conveyor <u>Hanna Westphal</u> Otto von Guericke University Magdeburg, Germany	Optimizing Life Cycle Costs with High-Quality Vulcanizing Presses <u>James D Hunter</u> Wagener Vulcanizers, Australia	Field Deployment of 100 Low-Cost Dust Monitors for Environmental and Operational Insights <u>Aleksej Lavrinec</u> University of Newcastle, Australia
14.10 - 14.35	Application of Adjustable Guides to Reduce Clogging and Misalignment in Ship Loaders <u>Marcel R. Castanheira</u> , <u>Guilherme P. Oliveira</u> , <u>Savio A. Mello</u> Vale, Brazil	Engineering Approach to Greenfield Overland Conveyor Splice Design and Validation <u>Brendan Hong Teck Beh</u> Fenner Conveyors, Australia	Comparative Analysis of Spray Nozzle Performance for Dust Suppression of Coal and Silica Dusts <u>Xia Zhao</u> , <u>Jon Roberts</u> , <u>Ting Ren</u> , <u>Ming Qiao</u> University of Wollongong, Australia
14.35 - 15.00	Analysis of a Powder feeding System under Micro Gravity Conditions <u>André Katterfeld</u> Otto von Guericke University Magdeburg, Leibniz University Hannover, Germany	Enhancing Safety and Sustainability in Cutting Steel Cord Conveyor Belts <u>Karsten M Volzke</u> Wagener Vulcanizers, Australia	Developing an Engineering Technology Readiness Level for Recyclables in the Pacific Islands <u>Beth Foster and Ken Williams</u> University of Newcastle, Australia
15.00 - 15.25	Froude-Based Calibration Refinement for Physical Scale Modelling of Iron Ore Transfer Chutes <u>Aleef Rahman</u> , <u>Liz Del Cid</u> , <u>Corin Holmes</u> , <u>Jie Guo</u> Jenike and Johanson, USA	Research on the Design Calculation Method of Linear Friction Tripper Booster Drive <u>SONG Guanting and SONG Weiqiang</u> CCTEG Shenyang Engineering Company and Northeastern University, China	
15.25	Afternoon Tea (Orion Room)		
17.30 - 10.00 pm	Conference Dinner Bathers Beach House Fremantle		

8.50 - 9.00	<p>Welcome by Conference Chair, Em Prof Mark Jones, TUNRA Bulk Solids</p> <p><i>Sponsor Address - Flexco Australia</i></p> <p>Orion Room</p>
9.00 - 9.30	<p>Plenary Presentation: Dr Eric Fimbinger, Technical University of Leoben</p> <p><i>Virtual Prototyping of Raw Materials Processing Equipment</i></p> <p>Orion Room</p>
9.30 - 10.00	<p>Plenary Presentation: Jodie Kimber - Westfarmers Chemical, Energy and Fertilizers</p> <p><i>Move It Better or Emit More: Why Bulk Materials Handling is the Missing Lever in Industrial Decarbonisation</i></p> <p>Orion Room</p>

10.00 - 10.30	Morning Tea (Orion Room)
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Session 1	Computational Simulation & Calibration Admiralty Gulf Room	Belt Conveying - Conveyor Belts Orion Room	Belt Conveying - Idlers & Rollers King Sound Room
Session Chair	Alex Lavrinec	Craig Wheeler	Tim Donohue
10.30 - 10.55	<p>Keynote Paper: Quantifying Mechanical Degradation of Direct Reduced Iron Under Impact Load Conditions</p> <p><i>Katharina Skoff, Michael Prenner</i> University of Leoben, Austria</p>	<p>Keynote Paper: What's Changing in Australian Conveyor Belt Standards: Understanding Alignments and Revisions</p> <p><i>Jayne O'Shea</i> TUNRA Bulk Solids, Australia</p>	<p>Keynote Paper: Contamination Assessment in Idler Rollers: Challenges and New Insights</p> <p><i>Tiago Cousseau, Joe L. Rougetel, Yusuf Badat</i> TUNRA Bulk Solids, Australia</p>
10.55 - 11.20	<p>Experimental and Simulation-Based Investigation of Particle Degradation Due to Impact from Great Drop Heights</p> <p><i>Hendrik Otto, Richard Spaargaren, Lisa Wonner, Mohsin Ajmal, André Katterfeld</i> IBAF GmbH, ESI Eurosil BV and Otto von Guericke University Magdeburg, Germany</p>	<p>Engineering High-performance Conveyor Belts with Super Low Rolling Resistance and High Abrasion Resistance</p> <p><i>Dylan Riddell, Kim Wah Beh, Sam Kodikara, Hua Chen, Pathum Rathugamage, Dr. Jenny Z. Yu, Dr. Stephan Hoette</i> Continental, Australia</p>	<p>Impact Time and Force Estimation for Conveyor Loading Using Explicit Dynamic FEA</p> <p><i>Ramin Saremi and Isaac M Rapanaro</i> CPS Conveyor, Australia</p>
11.20 - 11.45	<p>DEM-Based Surrogate Modelling for SAG Mill Energy Spectra Optimization</p> <p><i>Tahir Jauhar, Dasun Balasooriya, Ben Wilks, Stephan Chalup, Michael Carr, Craig Wheeler, Dean Ellis</i> University of Newcastle, Australia</p>	<p>Ultra Strength Flex (UsFlex) Belting as an Alternative to Steel Cord Belting in Severe Duty Iron Ore applications</p> <p><i>Michael John Finlen</i> Fenner Conveyors, Australia</p>	<p>Development and Validation of a 20-inch >20kg Roller and complementary Idlers and Ground Module System for Overland Conveyors</p> <p><i>Shawn Ryan, Jayne O'Shea, Tiago Cosseau, Yusuf Badat</i> Big Roller™ Overland Conveyor Company, TUNRA Bulk Solids, Australia</p>
11.45 - 12.10	<p>Particle-Size Scaling in DEM Characterisation of Coal-Measure Sandstone Fragments for Bulk-Solids Handling</p> <p><i>Jipei Chen, Itmam Abedin, Jon Roberts, David Hastie, Ting Ren</i> University of Wollongong, Australia</p>	<p>The World's Strongest Belt – Executing an unprecedented Belt Replacement</p> <p><i>Cameron T Portelli and Sridhar Mullapudi</i> Continental, Australia</p>	<p>A case Study on Improved Polyurethane Performance for Impact Areas</p> <p><i>Jessie Zhang</i> CPS Conveyor, Australia</p>

12.10 - 13.45	Lunch Break
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Session 2	Transportation & Logistics Admiralty Gulf Room	Belt Conveying - Conveyor Belts Orion Room	Belt Conveying -Non-conventional Conveyors King Sound Room
Session Chair	Andre Katterfeld	Andrew Grima	Eric Fimbinger
13.45 - 14.10	Keynote Paper: Benchmarking Dry Bulk Terminal Unloading Performance Using Open Data and OEE Analysis <i>Dingena Schott</i> TU Delft, The Netherlands	DEM Analysis of The Effect of Belt Conveyor Geometry on Surcharge Angle <i>Thomas P Walkemeyer</i> Sedgman Onyx, Australia	Sandwich Belt Conveyors: Direct High Angle Path, Unlimited Tonnage for IPCC <i>Joseph A. dos Santos and Marcus J. dos Santos</i> Dos Santos International, USA
14.10 - 14.35	Refurbishment of Shiploader Wharf Rails <i>Paul Munzenberger</i> Aspec Engineering, Australia	Characterizing Strain Response Patterns Across the Width of Conveyor Belts During Operation <i>Jakob Müller, Michael Prenner, Nikolaus A. Sifferlinger</i> Montanuniversität Leoben, Austria	Design, Construction and Performance of the First Rail-Running Conveyor in a Mining Environment <i>Craig Wheeler, Michael Carr, Peter Robinson, Angus Foley and Martin Lurie</i> The University of Newcastle, Australia
14.35 - 15.00	Towards Efficient Multi-dimensional Grab Design Optimisation <i>Mikhail Anisimov, Haluk Akay, Dingena Schott</i> TU Delft, The Netherlands		Experiments and Simulations of Main Resistance for Pouch Belt Conveyor in Horizontal Straight Sections <i>Jingye Tian, David B Hastie, Jon Roberts, Peter W Wypych</i> University of Wollongong, Australia, Fujian Longking Co Ltd, China
15:00 - 15:30	Afternoon Tea (Orion Room)		
Session 3	Transportation & Logistics Admiralty Gulf Room	Belt Conveying - Design, Optimisation & Operation Orion Room	Belt Conveying - Non-conventional Conveyors King Sound Room
Session Chair	Mark Jones	Jayne O'Shea	David Hastie
15.30 - 15.55	Moisture Mobility in Bulk Solids Systems: from Safety to Separation <i>Ken Williams</i> University of Newcastle, Australia	Energy and Cost Optimisation for World's Longest Conveyor <i>Nicholas Russell</i> Worley, Australia	Research on Full Life Cycle Testing Method for the Transverse Stiffness of Pipe Conveyor Belts SHEN Huimin, YE Yangzheng, GAO Changyong, <u>SONG Weiqang</u> Zhejiang Double Arrow Rubber Co., Ltd, China and Northeastern University, China
15.55 - 16.20	General Topics on Materials Handling	Dune Express - The World's 2nd Longest Conveyor System <i>Andrew Jennings and Bradley Lawson</i> Conveyor Dynamics Inc (CDI), USA	
16.20 - 16.45	Keynote Paper: Data Driven insights for Sustainable TLO Lifecycle Management <i>Richard Elliott and Brent Lane</i> Rockfield Technologies, Australia	The Development of a Dynamic Analysis Model for the Rail-Running Conveyor <i>Angus Foley, Peter Robinson, Michael Carr, Craig Wheeler</i> The University of Newcastle, Australia	
16.45 - 17.10	Blocked Chute Monitoring Technology <i>Matthew Cook</i> Hawk Measurement Systems, Australia	Design of a Large-Scale Downhill Belt Conveyor System JI Hongbo, YANG Fan, <u>SONG Weiqang</u> Northwestern University, China	
17.10 - 17.15		Conference Closure	