WCRR 🇨🇴 2025

2025 JOINT CONFERENCE | RAIL RESEARCH WEEK
COLORADO SPRINGS, CO USA | NOVEMBER 17-21, 2025

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MONDAY NOVEMBER 17, 2025	
1:00pm-6:00pm **Broadmoor Hall**	**PRE-CONFERENCE REGISTRATION**
5:30pm-7:00pm **Broadmoor Main**	**WELCOME COCKTAIL FUNCTION | Sponsored by Rocky Mountain Steel Mills** **ROCKY MOUNTAIN** STEEL MILLS
TUESDAY NOVEMBER 18, 2025	
07:30am	**CONFERENCE REGISTRATION | Broadmoor Hall**
08:00am	**MORNING COFFEE & EXHIBITION NETWORKING | Bartolin Hall**
08:30am	**OPENING CEREMONY**
Broadmoor Hall B	**Master of Ceremonies: Niki Toussaint,** Senior AVP, Marketing & Education, MxV Rail, USA **Welcome Ceremony and Address: Kari Gonzales**, Chair, IHHA + President & CEO, MxV Rail, USA **Keynote: Ian Jefferies,** President and Chief Executive Officer, Association of American Railroads (AAR), USA **The Innovation Pipeline: From Discovery to Deployment** Panelists: **Eric J. Gehringer**, Executive Vice President-Operations, Union Pacific, USA **John Orr**, Executive Vice President, Chief Operating Officer, Norfolk Southern, USA **Dr Jasmin Bigdon**, CTO, Deutsche Bahn, Germany **Guilherme Mello,** CEO, MRS Logística, Brazil **Prof Mario Tartaglia**, Head of Research, FS Italiane, Italy Moderator: **Kari Gonzales**, Chair, IHHA + President & CEO, MxV Rail, USA
10:00am	**COFFEE BREAK AND EXHIBITION NETWORKING | Bartolin Hall**
10:30am	**OPENING CEREMONY**
Broadmoor Hall B	**Keynote** **Dr Alan Beroud,** Chairman, UIC + CEO, Polish State Railways **Tech on Track: Advancing Railway Safety Through Innovation** Panelists: **James Schwichtenberg,** Vice President and Chief Safety Officer, CSX, USA **James M Derwinski,** CEO/Executive Director, Metra, USA **Dr Fuminao Okumura**, Board Member, Japan Transport Safety Board (JTSB), Ministry of Land, Infrastructure, Transport and Tourism, Japan **John R. Fleps,** Vice President & Chief Safety Officer, Norfolk Southern, USA Moderator: **Hon Ronald L Batory,** Director, Amtrak Board, USA **IHHA Heavy Haul Award**
11:50am	**LUNCH, EXHIBITION NETWORKING AND IHHA ePOSTERS | Bartolin Hall**

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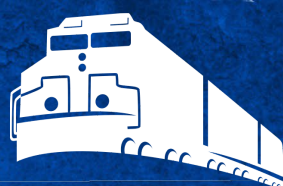
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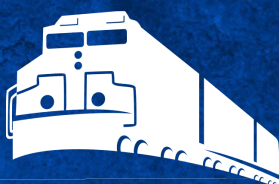**MxV RAIL**

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	WCRR PARALLEL TECHNICAL PAPERS					
	VEHICLE/TRACK INTERACTION MODELLING & TESTING -Oral- Colorado Hall | CH-A	**DERAILMENT RISK, MITIGATION & DETECTION** -Oral- Colorado Hall | CH-B	**SPECIAL TRACKWORK** -Oral- Colorado Hall | CH-C	**INSPIRING THE FUTURE OF RAIL TRANSPORT** -Interactive- Colorado Hall | CH-D	**ENVIRONMENTAL SUSTAINABILITY** -Oral- Colorado Hall | CH-E	**TRACK BUCKLING** -Oral- Colorado Hall | CH-F
1:00PM	**Opening Comments by Session Chair** **Dr Shintaro Minoura**, Railway Technical Research Institute (RTRI), Japan	**Opening Comments by Session Chair** **Dr Pasquale Saienni**, Italian National Safety Authority, Italy	**Opening Comments by Session Chair** **David Staplin** HNTB, USA	**Opening Comments by Session Chair** **Dr Anish Poudel**, MxV Rail, USA	**Opening Comments by Session Chair** **Dr Sena Kizildemir,** Thornton Tomasetti, USA	**Opening Comments by Session Chair** **Anup Chalisey,** RSSB, UK
1:05PM	**Empirical Evaluation of a Track Deterioration Model: Spotlighting Ballast Performance** **Ursula Ehrhart,** Institute of Railway Engineering and Transport Economics, Graz University of Technology, Austria	**Assessing the Case for Rolling Stock and Infrastructure Design Borne Features that Can Provide Guidance to Trains When Derailed** **Paul Gray,** RSSB, UK	**Evaluation of the Effect of Track Irregularity on Damage to Turnout Components and Vehicle Dynamics at Turnouts for 120 km/h Running on Conventional Railway** **Katsutoshi Shiota,** Railway Technical Research Institute (RTRI), Japan	**The First Hybrid Train in Commercial Operation in France: Challenges, Outcome, Development Outlook** **Clément Depature,** SNCF, France **Matthieu Renault,** SNCF Voyageurs, France	**New Materials Developments for Rolling Stock & Life Cycle Analysis Approach** **Samuel Puech,** SNCF Voyageurs, France	**Influence of De-Anchor Lengths on RNT Re-Establishment Length in Cold Weather Rail Breaks** **Dr Stephen Wilk,** MxV Rail, USA
	Dynamic Interaction Simulation Between Wheel and Turnout Frog Using Revenue Service Railroad Wheel Profiles **Jaeik Lee,** RailTEC, University of Illinois at Urbana-Champaign, USA	**Enhancing Railway Operations Safety Through Innovative Hazard Detection with Distributed Acoustic Sensing** **Dr Milad Salemi,** Sensonic, USA	**The Development of a Maintenance-Optimized Turnout in the EU Shift2Rail Program** **Uwe Oßberger,** voestalpine Railway Systems, Austria **Michael Sehner,** Getzner Werkstoffe, Austria	**Use of Adaptive Kalman Filter for Location Estimation During Wheel Slip and Slide** **Dr Monish Sengupta,** Certifer SA, UK **Analysis and Comparison of Railway Research, Development and Innovation Management in North America and Europe and Solutions to Increase its Efficiency** **Artur Fojud,** UIC, France	**Progress of Recent Innovations in the Sustainability Performance of European Railway Rolling Stocks, Infrastructures and Stations** **Laurent Nicod,** Alstom, France **Philippe Clement,** SNCF Voyageurs, France	**Effect of Fixed Structures: Analytical Modeling and a Pilot Field Study** **Kamyar Kosarneshan,** Rail Transportation and Engineering Center (RailTEC), University of Illinois Urbana-Champaign, USA
	Highly Adherent Leaf Layers **Jordan Brant,** Institute of Railway Research, University of Huddersfield, UK	**Development of Derailment Detection Function for High-Speed Trains by Monitoring Acceleration of Bogie Frame** **Dr Yayoi Misu,** East Japan Railway Company, Japan **Takayuki Shinohara,** East Japan Railway Company, Japan	**Method of Determining Predictive Failure by Focusing on The Switching Time of Electric Point Machines** **Yuichi Morita,** East Japan Railway Company, Japan	**LTO Batteries for Rolling Stock Operating Non-Electrified Lines: Characterization of the Time-Varying Model and Improved Cell Balancing Control** **Dr Giuseppe Graber,** Department of Industrial Engineering	**Enhancing Process Efficiency and Project Sustainability with Information Management** **Alessandro Mambrin,** Italferr, Italy	**Evaluation of the Influence of Track Maintenance Work on Lateral Resistance of the Track Ballast** **Yohei Hayakawa,** West Japan Railway Company, Japan

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	Colorado Hall	CH-A	Colorado Hall	CH-B	Colorado Hall	CH-C	Colorado Hall	CH-D	Colorado Hall	CH-E	Colorado Hall	CH-F
	Multibody Simulation of Railway Vehicle-Track Dynamic Interaction for Vibration-Based Substructure Health Monitoring Prof Suraj Prakash Harsha, Indian Institute of Technology Roorkee, India	Statistical Modeling of Longer Train Derailment Rates Xinhao Liu, University of Illinois Urbana-Champaign, USA	Dynamic Simulations and Measurement Analysis of Speed Impact on Track and Vehicle Wear and Safety at Urban Rail Line #8 Turnout Shuwen Gao, National Research Council (NRC), Canada	- University of Salerno, Italy		Stress-Free Temperature Variation and Buckling Risk Along the Railway Tracks: Dynamic FEA Modelling and Implications Ana Skarova, University of Southampton, UK
2:25PM	**BREAK**					
	DETECTION OF WHEEL ISSUES *-Oral-* **Colorado Hall | CH-A**	**PASSENGER HEALTH** *-Oral-* **Colorado Hall | CH-B**	**INFRASTRUCTURE PERFORMANCE, INSPECTION, & MONITORING** *-Oral-* **Colorado Hall | CH-C**	**OPTIMIZATION & ENERGY EFFICIENCY** *-Interactive-* **Colorado Hall | CH-D**	**ALTERNATIVE ENERGY SOURCES** *-Oral-* **Colorado Hall | CH-E**	**TRACK RATING, CONSTRUCTION, & REGULATION** *-Oral-* **Colorado Hall | CH-F**
2:35PM	**Opening Comments by Session Chair** Dr Constantine Tarawneh, UTRGV, USA	**Opening Comments by Session Chair** Dr Stefano Guidi, UIC, France	**Opening Comments by Session Chair** Erol Tutumluer, University of Illinois Urbana-Champaign, USA	**Opening Comments by Session Chair** Luigi Fratelli, Hitachi Rail STS, Italy	**Opening Comments by Session Chair** Clément Depature, SNCF, France	**Opening Comments by Session Chair** Bryan Sooter, American Public Transportation Association (APTA), USA
2:40PM	**Stress Anomaly Detectability of Overheated Wheels Using Back-to-Back Distance Changes** Ryo Ozaki, Railway Technical Research Institute (RTRI), Japan	**Healthier Passenger Rail: Influence of the Recirculation System on the Spreading of Exhaled Particles in a Passenger Train** Dr Daniel Schmeling, German Aerospace Center (DLR), Germany	**An Autonomous Transportable Inspection Trolley (ATIT): Design Optimization and Functional Evolutions** Andrea Strino, Rete Ferroviaria Italiana (RFI), Italy	**Hybrid Energy Storage System for Train Braking and Photovoltaic Energy** Ivan De Palma, Rete Ferroviaria Italiana (RFI), Italy **Opt4Rail – Optimization for Railway** Dr Angela Nocita, Ferrovie dello Stato Italiane - FS Group, Italy **Dr Giuseppe Carcasi**, Rete Ferroviaria Italiana (RFI), Italy	**Development of 2.4 MW Hydrogen Train & Associated Infrastructure in India** Ashish Kumar Gupta, Research Design Standard Organisation (RDSO), Ministry of Railways, India	**AI for a Better Technical Railway Track Regulation** Bertrand Avril, SNCF Réseau, France

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Analysis and Investigation of Wheel Loads Using Strain Gauges and Thermal Imaging **Enrico Lubbe,** Stellenbosch University, South Africa	**Antimicrobial Surfaces on Mass Transit Rolling Stock: Material Science Analysis and Sanitary Monitoring Criteria** **Samuel Puech,** SNCF Voyageurs, France	**Continuous Infrastructure Monitoring (CIM) – Introduction of a Predictive Maintenance Strategy within DB** **Dr Klaus Ulrich Wolter,** DB Systemtechnik, Germany	**Towards an Intelligent Traction Energy Management System** **Dr Aaron Rostron-Barrett,** RSSB, UK **Integration of Signaling data into Real-Time Eco-driving Algorithms for Regional Trains**	**Waste Energy Analysis in Hydrogen trains for Increased System Efficiency** **Steffen Wieser,** German Aerospace Center (DLR), Institute of Vehicle Concepts, Germany	**Introduction to Track Structural Capacity Rating and Example Use Case for Low Volume Railroad Track** **Vitor Rezende Alves,** Progress Rail, USA
Identifying and Localizing Multiple Wheel Flats from Impulsive Excitation by Low-Speed Trains **Dr David Rostin Ellis,** Stellenbosch University, South Africa	**Reduced Infection Risks: A tailored Ventilation Concept for Passenger Trains Decreasing the Dispersion of Exhaled Aerosol Particles** **Dr Daniel Schmeling,** German Aerospace Center (DLR), Germany	**Condition Monitoring of Crossing Running Surface Geometry – A Comparison Between Manual Inspections and Sleeper Mounted Accelerometers** **Karl Norberg,** Chalmers University of Technology, CHARMEC/ Department of Mechanics and Maritime Sciences, Sweden	**Dr Vincenzo Galdi,** Department of Industrial Engineering - University of Salerno, Italy **Dr Giuseppe Graber,** Department of Industrial Engineering - University of Salerno, Italy **Railway Interline Power Flow Converter: A FACTS to Ensure Double-Side Feeding in 25kV/50Hz Railway Lines** **Benoit Sonier,** SNCF Réseau, France	**Performance Test of Fuel Cell Test Railway Vehicle on Railway Vehicle Roller Rig Testing Facility** **Takamasa Yamada,** Railway Technical Research Institute (RTRI), Japan	**Towards a Collaborative Platform for Railway Infrastructure Projects** **Dr Judicaël Dehotin,** SNCF Réseau, France **Prof Pierre Jehel,** Université Paris-Saclay, CentraleSupélec, France
Practical Use of Wheel Impact Load Detector Data for Detecting Vehicle Defects in Freight Wagons **Dr Adam Bevan,** University of Huddersfield, UK	**ERJU_FP3_IAM4RAIL – Automation and Control Within Robotics Applied to Sanitizing Processes on Trains and Small Stations** **Vincenzo Manno,** Trenitalia, Italy			**Study on Inexpensive Configuration of Wireless Power Transfer Systems for Railway Vehicles** **Hiroshi Yoda,** Railway Technical Research Institute (RTRI), Japan	**A New Calculation Framework for Railway track Designers and Maintainers to Better Understanding and Estimate Service Loads** **Prof Yann Bezin,** University of Huddersfield, UK
4:00PM	**BREAK**				

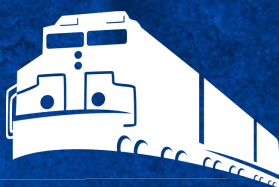[Click here to view latest updates on the event website](#)

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	HUMAN DEVELOPMENT & PERFORMANCE -Oral- Colorado Hall | CH-A	MAGNETIC LEVITATION -Oral- Colorado Hall | CH-B	BRIDGES & TUNNELS -Oral- Colorado Hall | CH-C	OPERATIONAL SAFETY -Interactive- Colorado Hall | CH-D	VIBRATION & NOISE -Oral- Colorado Hall | CH-E	CROSSTIES/ SLEEPERS -Oral- Colorado Hall | CH-F
4:10PM	**Opening Comments by Session Chair** **Dr Elizabeth Veinott,** Michigan Tech University, USA	**Opening Comments by Session Chair** **Fabien Letourneaux,** SNCF, France	**Opening Comments by Session Chair** **Dr Eugenio Fedeli,** Stretto di Messina, Italy	**Opening Comments by Session Chair** **Corey Pasta,** MxV Rail, USA	**Opening Comments by Session Chair** **Brian Smith,** MxV Rail, USA	**Opening Comments by Session Chair** **Marcus Scott Dersch,** University of Illinois Urbana-Champaign, USA
	The Development of an Occupational Health and Wellbeing Management System in GB Rail to Bring Health on par with Safety **Lisa Regan,** RSSB, UK	**Development of the Maglev Dynamic Simulator** **Hiromitsu Kato,** Central Japan Railway Company, Japan	**Study on Dynamic Characteristics Analysis of Railway Bridge Transition Section in Cold Region Considering Track Irregularity** **Liang Dong,** State Key Lab for Track Technology of High-Speed Railway, China Academy of Railway Sciences (CARS) China	**Active vs. Passive Safety Measures in Railway Systems** **Dr Walter Martin Struckl,** Siemens Mobility, Austria **Predicting Level Crossing Closures for Enhanced Traffic Efficiency and Emergency-Optimized Road-Rail Integration** **Konstantin Geist,** University of Applied Sciences Mainz (i3mainz Institute for Spatial Information and Surveying Technology), Germany	**Under Sleeper Pads as a Countermeasure to the Low Frequency Vibration in Soft Soil Areas** **Antti Pelho,** Research Centre Terra, Tampere University, Finland	**Evaluation of Ballast Box Testing for Turnout Sleepers Using Track Data** **Gernot Grohs,** Institute for Railway Infrastructure Design, Graz University of Technology, Austria **Francesco Marangon** Institute for Railway Infrastructure Design, Graz University of Technology, Austria
	The DNA of High Performing Innovation Teams **Mike Wright,** Network Rail, UK **Dr Amanda Potter,** Zircon Management Consulting, UK	**Leveraging Digital Twins for Data-driven Operations of Superconducting Maglev** **Kazuki Matsumoto,** Central Japan Railway Company, Japan **Masaya Kawamura,** Central Japan Railway Company, Japan	**Fire Resistance of Tunnel Structures Requirement of Structures – Safety Functional and Technical Specification in the TSI Regulatory Evolution** **Salvatore Vetruccio,** Italcertifer, Italy	**Rail-to-Ground Voltage Assessment in High Traffic Density Railway Lines: Case of RER E in Ile-de-France Region** **Juan-José Munoz-Vargas,** SNCF Réseau, France	**Systemic Representation of Railway Noise** **Franck Poisson,** SNCF, France	**Investigation of the Actual Condition of Prestressed Concrete Sleepers with Cracks and Proposal of Maintenance Methods** **Dr Shintaro Minoura,** Railway Technical Research Institute (RTRI), Japan
	Attracting New Generation of Railroaders in North America through K-12 Activities and Programs **Dr Tyler Dick,** University of Texas at Austin, USA **Dr Pasi Lautala,** Michigan Technological University	**Development of the Superconducting Maglev Vehicle for the Chuo Shinkansen** **Naoki Okamoto,** Central Japan Railway Company, Japan	**Accelerating the Serviceability-Based Design of Reinforced Concrete Rail Bridges under Geometric Uncertainties induced by unforeseen events: A Surrogate Modeling Approach Mouhammed Achhab,** Université Paris-Saclay, CentraleSupélec, France	**Use of LIDAR to Develop Comprehensive Detailed Information on the Physical and Geometric Characteristics of Level Crossings and Their Relationship to Incident Occurrence Francesco Jacobini,** University of Illinois Urbana-Champaign, USA	**Beyond the Tracks: Mitigating Noise Pollution from Parked Trains** **Lorenzo Franzoni,** International Union of Railways (UIC), France	**Investigation for Under Sleeper Pads Effects on Traffic Load Distribution by Discrete Elements Simulation** **Michel Woné,** SNCF Réseau, France

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		Integrating Maglev-Derived Systems into Existing European Rail Infrastructure **Dr Angela Nocita,** Ferrovie dello Stato Italiane - FS Group, Italy **Dr Giuseppe Carcasi**, Rete Ferroviaria Italiana (RFI), Italy		**Improving Drivers' Performance via Automatic Driver Competency Indicators Marcus Carmichael,** RSSB, UK	**An Innovative, Reliable and Easy to Install Ballastless System** **Dr Larry Laurello**, Chief Development & Strategy Officer, Delta Railroad Services	**Physical Models for Predicting the Aging of Mechanical Track Systems** **Kuralay Kadekeshova,** Université Paris-Saclay, CentraleSupélec, France
5:35PM	**CLOSE OF CONFERENCE SESSIONS**					
5:35PM-7:00PM	**EXHIBITION NETWORKING RECEPTION	Bartolin Hall Exhibition**					

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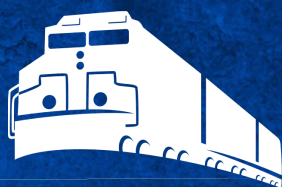MxV RAIL
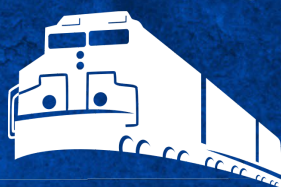
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	WEDNESDAY NOVEMBER 19, 2025
7:30am	**WOMEN IN RAIL BREAKFAST | Sponsored by Wabtec Corporation** **7:30-8:20am| Main Ballroom in Broadmoor Main**
	Global Tracks: Women Engineering the Future of Rail Panelists: **Kari Gonzales**, Chair, IHHA + President & CEO, MxV Rail, USA **Kate Holling,** General Manager Rail, BHP, Australia **Gina Trombley**, Executive VP of Sales and Marketing, and Chief Commercial Officer – Americas, Wabtec, USA **Sharon Odetunde,** Head of Partnerships, RSSB, UK **Kimia Khatami,** Director of Transload Strategy and Operations, CPKC, USA Moderator: **Tiffany Wenrich**, Education Chair, League of Railway Women, USA
8.00AM	**MORNING COFFEE & EXHIBITION NETWORKING | Bartolin Hall**
8:30am Broadmoor Hall B	**MORNING PLENARY**
	Master of Ceremonies: Niki Toussaint, Senior AVP, Marketing & Education, MxV Rail, USA **Keynote** **Richard Cohen,** Managing Director Rail, Port & Core Services, Rio Tinto Iron Ore, Australia **Driving Excellence: Harnessing the Power of Research to Advance Railways** Panelists: **Luisa Moisio,** Director of Research, RSSB, UK **Giorgio Travaini,** Executive Director, Europe's Rail Joint Undertaking, Belgium **Dr Masamichi Sogabe**, Executive Director, Railway Technical Research Institute (RTRI), Japan **Professor Ravi Ravitharan**, Director, Monash Institute of Railway Technology, Australia **Dr David de Almeida,** Director for Research, SNCF, France Moderator: **Scott Cummings,** AVP, Research and Innovation, MxV Rail, USA
9:30am	**BREAK**

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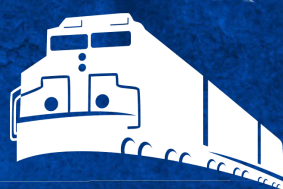
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WCRR PARALLEL TECHNICAL SESSIONS

	COLLABORATION, PARTNERSHIP, & INTEROPERABILITY -Oral- Colorado Hall | CH-A	COMMUNICATIONS & TRAIN CONTROL -Oral- Colorado Hall | CH-B	VEHICLE TRACK INTERACTION -Oral- Colorado Hall | CH-C	SAFE & OPTIMIZED FIXED ASSETS -Interactive- Colorado Hall | CH-D	OPTIMIZATION & ENERGY EFFICIENCY -Oral- Colorado Hall | CH-E	WEATHER & CLIMATE CHALLENGES -Oral- Colorado Hall | CH-F
9:40am	Opening Comments by Session Chair **Dr Eric Fitzsimmons**, Kansas State University, USA	Opening Comments by Session Chair **Dr Fabio Senesi**, Rete Ferroviaria Italiana, Italy	Opening Comments by Session Chair **Dr Erimitsu Suzuki**, RTRI, Japan	Opening Comments by Session Chair **Benjamin Bakkum**, MxV Rail, USA	Opening Comments by Session Chair **Philippe Clement**, SNCF, France	Opening Comments by Session Chair **Marcus Carmichael**, RSSB, UK
9:45am	Strategies in Rail Research from the Europe's Rail SRG View **Miroslav Haltuf**, Europe's Rail SRG, Czech Republic	Safety Rail – Novel Approach for an Optical Fiber Based Identification System for Train Position and Integrity **Wolfgang Schuster**, PRODES, Austria **Silvia Abad**, HBK FiberSensing, Portugal	System Design and Dynamic Performance Simulation of a High-Speed Inboard Bogie **Sunghoon Choi**, Korea Railroad Research Institute, Republic of Korea	Research on Automatic Train Protection Technology for Special Rail Vehicles **Xiaoning Xu**, China Academy of Railway Sciences Company Limited (CARS), China Technology Systems in Railway Infrastructure **Caterina Varriale**, Italferr, Italy	Indoor Passenger Flow and train Platforming Optimization **Dr Giovanni Luca Giacco**, Trenitalia, Italy	Verification of Countermeasures Against Snow Accumulation Around Bogies in Shinkansen Cars **Akihito Kimura**, East Japan Railway Company, Japan
	The Europe's Rail Joint Undertaking: The Unique Public Private Partnership for Rail Research in Europe – Investing 1.2 billion eEuros for a Reliable, Efficient, Future Proof and Integrated European Railway Network **Giorgio Travaini**, Europe's Rail Joint Undertaking, Belgium	Further Quality Improvement by Introducing Monitor-Run Test for Automatic Train Control (ATC) Ground Equipment Replacement **Shogo Kaneko**, Central Japan Railway Company, Japan **Masaki Masumoto**, Central Japan Railway Company, Japan	On the Inherent Shape of Railway Track **Dr James Hyslip**, HNTB Corporation, USA	Method for Optimal Allocation of Investment Resources in Railway Track Management **Dr Mami Matsumoto**, Railway Technical Research Institute (RTRI), Japan Sustainable Modular Prefabricated Railway Station **Prof Katarzyna Rzeszut**, Faculty of Civil and Transport Engineering, Poznan University of Technology, Poland	Beyond the Hype: Aerodynamic Challenges and Energy Efficiency of Hyperloop Trains **Dr Jonathan Tschepe**, Technische University of Berlin, Germany	Resilient Railways Facing Heavy Rains (RERA-Rain) **Konstantina Kopsalidou**, International Union of Railways (UIC), UK
	Positive Train Control Interoperable Lifecycle Management **Dr Alejandro Gonzalez-Ruiz**, MxV Rail, USA **Emma Procopio**, MxV Rail, USA	A World's First Satellite Augmentation System for Railways and Automotive Applications **Nerea Canales Sebastian**, Rete Ferroviaria Italiana (RFI), Italy		**Dr Monika Siewczyńska**, Faculty of Civil and Transport Engineering, Poznan University of Technology, Poland	Energy Saving Tramway Amsterdam **Remco Paulussen**, Railwaysafe, The Netherlands	Impact of Climate-Induced Storms on the GB railway System: A Case Study of Dudley, Eunice, and Franklin Storms 2022 **Aliya Kassen**, University of Birmingham, UK
10:45am	**COFFEE BREAK & EXHIBITION NETWORKING | Bartolin Hall**					

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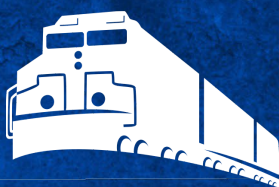
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	RADIO COMMUNICATION -Oral- Colorado Hall | CH-A	RISK ASSESSMENT & MANAGEMENT -Oral- Colorado Hall | CH-B	ROLLING CONTACT FATIGUE -Oral- Colorado Hall | CH-C	TESTING & STANDARDS -Interactive- Colorado Hall | CH-D	AERODYNAMICS & NOISE -Oral- Colorado Hall | CH-E	SAFETY ASSESSMENT & DERAILMENT MITIGATION -Oral- Colorado Hall | CH-F
10:55am	**Opening Comments by Session Chair** Jean-Michel Evanghelou, International Union of Railways (UIC), France	**Opening Comments by Session Chair** **Nigel Peters**, Nigel Peters Professional Services, Canada	**Opening Comments by Session Chair** Paul Gray, RSSB, UK	**Opening Comments by Session Chair** **Guillaume Craveur**, SNCF, France	**Opening Comments by Session Chair** **Francesco Romano**, Arsenale Express, Italy	**Opening Comments by Session Chair** **Christopher Barkan**, University of Illinois Urbana-Champaign, USA
	Antennas Assessment for Coexistence of FRMCS in Railway Mobile Radio 900 MHz Band with GSM-R **Dr Nazih Salhab**, SNCF Réseau, France	**The Risk of Fires in Railways** **Grace Mukunzi**, Division of Transport & Roads, Lund University, Sweden **Evalyne Arinaitwe**, Division of Fire Safety Engineering, Lund University, Sweden	**Experimental Investigation on Rolling Contact Fatigue on Hadfield Steel Swing Nose Crossing** **Kinami Adachi**, East Japan Railway Company, Japan	**Development of Technical Specifications for Korean New High Speed Trains** **Hyuck Keun (H.K.),** Korea Railroad Research Institute, Republic of Korea **Evolution of On-Board Multimedia and Telematic Systems - IEC and UIC Perspective** **Davide Amato,** Sadel, Italy **Laurent Llerena,** ITxPT, Belgium	**Study About Different Methodology for Aero-acoustic Source Characterization for the Rolling Stock** **Fabrice Aubin**, SNCF Voyageurs, France	**Guard Rail Climb Derailments in Freight Yard Operation: Cause Finding and Prevention** **Jessica Wieder**, BNSF Railway, USA **Corey Pasta**, MxV Rail, USA
	Multipath Protocol Studies for Hybrid FRMCS Networks in the 5G-RACOM Project **Jens Köcher**, Funkwerk Systems, Germany	**Accounting for Spatially Varying Track Conditions in Derailment Risk Assessment** **Brennan Gedney**, University of South Carolina, USA **Reza Naseri**, University of South Carolina, USA	**Construction of a Predictive Model of Rail Surface Rolling Contact Fatigue Crack Initiation and Proposal for Preventive Grinding Method** **Dr Masahiro Tsujie**, Railway Technical Research Institute (RTRI), Japan	**Transforming Rail Safety and Efficiency: A Certification Methodology for GNSS Integration into ERTMS Using a Hybrid Virtualized Testing Environment** **Nerea Canales Sebastian,** Rete Ferroviaria Italiana (RFI) Italy	**(UIC CROSS-T Project) Crossing Effects Between High Speed Trains and Freight Trains** **Anup Chalisey**, RSSB, UK	**Evaluating Derailment Mitigation Measures Numerical Analysis to Improve Railways Safety** **Matteo Santelia**, Politecnico di Milano, Italy
		A Framework for Damage Assessment and Mitigation in Coastal Railroads Subjected to Storm-Induced Surge and Wave **Amir Tajik**, Michigan Technological University, USA	**The Developing of a Numerical Tool for Predicting Wear and RCF on Wheels** **Daniele Regazzi**, Lucchini RS, Italy	**Open Standards Implementation: An Innovative Approach for Railway Infrastructure Projects** **Edouard Chabanier,** SNCF Réseau, France **Future Testing and Validation of Railway Assets** **Sharon Odetunde,** RSSB, UK	**Assessment of Aerodynamic Coefficients of a Multi-Objective Optimized 400km/h High-Speed Train by Wind Tunnel Testing** **Beomsu Kim**, Korea National University of Transportation, Republc of Korea	**The Importance and Limitations of Accident Data Uses for Safety Assessment** **Stephen Quéva**, EPSF France **Chabane Mazri**, INERIS, France
12:00pm	**LUNCH, EXHIBITION NETWORKING AND IHHA ePOSTERS | Bartolin Hall**					

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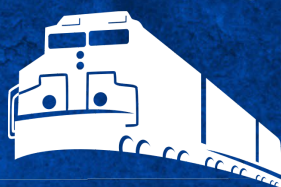MxV RAIL

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2025 JOINT CONFERENCE | RAIL RESEARCH WEEK

COLORADO SPRINGS, CO USA | NOVEMBER 17-21, 2025

	INTERNATIONAL COLLABORATION -Oral- Colorado Hall | CH-A	DIGITAL TWIN -Oral- Colorado Hall | CH-B	INFRASTRUCTURE INSPECTION -Oral- Colorado Hall | CH-C	ROLLING STOCK SAFETY & RELIABILITY -Interactive- Colorado Hall | CH-D	PASSENGER HEALTH & HAPPINESS -Oral- Colorado Hall | CH-E	TRACK BUCKLING -Oral- Colorado Hall | CH-F
1:00pm	**Opening Comments by Session Chair** **Gerhard Thelen,** Retired Norfolk Southern, USA	**Opening Comments by Session Chair** **Vincent Ganthy,** RSSB, UK	**Opening Comments by Session Chair** **Ramez Hajj,** University of Illinois Urbana-Champaign, USA	**Opening Comments by Session Chair** **Dr Aaron Rostron-Barrett,** RSSB, UK	**Opening Comments by Session Chair** **Gio DiDomenico,** Kiewit Engineering Group, USA	**Opening Comments by Session Chair** **J. Riley Edwards,** University of Illinois Urbana-Champaign, USA
1:05pm	**The EU-Rail System Pillar – System Engineering to support the Single European Railway Area** **Ian Conlon,** Europe's Rail Joint Undertaking, Belgium	**Predictive Maintenance and Vehicle performance monitoring Using a Digital Twin Model for Freight Wagons** **Dr Mani Entezami,** University of Birmingham	**Wood Tie Life Study Using Machine Vision Technologies** **Yin Gao,** MxV Rail, USA **Adam Bankston,** BNSF Railway, USA	**Assessment of Non-FRMCS Transport Bands Coexistence with FRMCS Onboard Antenna Systems Juan-José Munoz-Vargas,** SNCF Réseau, France **Train Simulator Implementation for the Indirect Estimation of Traction Motor Temperature Without Design Data Knowledge**	**Analysis of Airflow and Temperature Distribution in a Double-Decker Compartment to Improve Passenger Thermal Comfort** **NaYeong Kim,** Korea National University of Transportation, Republic of Korea	**Vibration-based Inspection Method for Continuous Welded Rails using Finite Element Analysis and Artificial Intelligence** **Dr Piervincenzo Rizz** SWANSON School of Engineering, University of Pittsburgh, USA
1:25pm	**The Different Third-Party Activities in the Global Railway System** **Emilo Cosciotti,** Italcertifer, Italy	**Utilization of 3D Point Cloud Data for On-site Survey Operations in the Railway Sector** **Dr Tatsuro Watanabe,** West Japan Railway Company, Japan	**Damage Detection and Classification of Ultrasound-Based Rail Head Inspection** **Guillermo Montero,** Thornton Tomasetti, USA	**Alfredo Biancucci,** Trenatalia, Italy **Chiara Triti,** Trenatalia, Italy **Puncture Resistance of a DOT-105J500W Tank Car Used for Transportation of liquified CO_2**	**Short and Long-Term Air Quality Prediction in Underground Station** **Theo Schwartz,** SNCF Voyageurs, Rolling Stock Engineering Department, France	**Reliability-Based Track Instability Mitigation During Hot Weather Extremes** **Dr Gary Fry,** Fry Technical Services, USA
1:45pm	**Strengthening Biodiversity and Ecosystem Services in Railways: UIC's Integrated Strategy for Sustainable Land Management** **Lorenzo Franzoni,** International Union of Railways (UIC), France	**Digital Twin Modelling of Complex Light Rail Intersection** **Rob Lambert,** Institute of Railway Technology, Monash University, Australia	**Practical Application of Measures to Prevent Corroded Rail Breakage Using Track Inspection Car Data** **Toshifumi Tanaka,** West Japan Railway Company, Japan	**Dr Przemyslaw Rakoczy,** ENSCO, USA **Multiphysics Modelling of an Autonomous Transportable Inspection Trolley Andrea Strino,** Rete Ferroviaria Italiana (RFI), Italy	**Restoring Cellular Connectivity on Athermic Windows Equipped Passenger Trains: Test and Validation** **Antonio Ghelardini,** Trenitalia, Italy	**Analysis of CWR Buckling Risk Using FEM Jean-François Ferellec,** SNCF Réseau, France
2:05pm	**Forecast of Gaps in Critical Supplies for Rail Innovations. A Pan-European Approach for Resilience** **Veronica Elena Bocci,** DITECFER District for Rail Technologies, High Speed, Networks' Safety & Security, Italy		**Early Detection of Short Pitch Corrugation Based on Longitudinal Axle Box Acceleration and Data-driven Approach** **Dr Chen Shen,** Delft University of Technology, The Netherlands			
2:25pm	**COFFEE BREAK & EXHIBITION NETWORKING | Bartolin Hall**					

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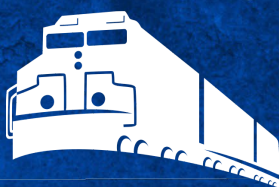MxV RAIL

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	AUTOMATIC TRAIN OPERATION & DIGITAL TWIN -Oral- Colorado Hall | CH-A	ARTIFICIAL INTELLIGENCE FOR FAULT DETECTION -Oral- Colorado Hall | CH-B	INFRASTRUCTURE INSPECTION & MAINTENANCE -Oral- Colorado Hall | CH-C	TECHNOLOGY FOR TRACK MAINTENANCE -Interactive- Colorado Hall | CH-D	ENERGY EFFICIENCY -Oral- Colorado Hall | CH-E	OPTIMIZING WHEEL ASSESSMENT & MAINTENANCE -Oral- Colorado Hall | CH-F
2:35pm	Opening Comments by Session Chair Bivesh Paudyal, MxV Rail, USA	Opening Comments by Session Chair Mario Tartaglia, Ferrovie dello Stato Italiane, Italy	Opening Comments by Session Chair Dr Julian Stow, University of Huddersfield, UK	Opening Comments by Session Chair Scott Cummings, MxV Rail, USA	Opening Comments by Session Chair André Chamaret, SNCF, France	Opening Comments by Session Chair Mani Entezami, University of Birmingham, UK
2:40pm	Trustworthy Perception for Automatic Train Operation Juline Lhullier, SNCF Voyageurs, France	Machine Learning Application for Rail Ultrasonic Testing Dr Anish Poudel, MxV Rail, USA	Development of Robotic Inspection System for Tunnel Lining Concrete Using Impact Elastic Wave Method Takahiro Maeda, Central Japan Railway Company, Japan	Inclination Monitoring of Catenary Poles Luc Malve, SNCF Réseau, France FRED: Fractal Analysis Approach for Detecting Short-Section Ballast Breakdown in Track with Reduced Window Size Dr Andrea Katharina Korenjak, Institute of Railway Engineering and Transport Economy, Graz University of Technology, Austria	AI Based Train Driving Assistance for Energy and Carbon Footprint Reduction Luigi Fratelli, Hitachi Rail STS, Italy	Prediction Model for the Optimization of Wheels Reprofiling Maintenance Interval: the ETR500 Experience Chiara biancucci, Trenitalia, Italy
3:00pm	A Digital Twin System for Passenger Trainset Life Cycle Costing Abbey Kirkman, Stellenbosch University, South Africa	Rapid Convolutional Neural Network Based DC Series Arc Detection Method for Rail Infrastructure Jack Larkin, University of Nottingham, UK	A New Data-Driven Approach Using Instrumented Wheelsets for Detection of Railway Track Defects Emilo Cosciotti, Italcertifer, Italy		Analysis of Energy Consumption of the ETR675 Train and Energy Optimization Proposal through a New Automatic Driving Algorithm Lorenzo Del Signore Nuovo Trasporto Viaggiatori, Italy	Dynamic Rail Wheel Profile Measurement Using Laser Light Technology Anique Phillips, Stellenbosch University, South Africa
3:20pm	"SWiL-RTP", A New Versatile, "SW in the Loop" Test Environment for "European Vital Computer" and "Automatic Train Operation" Salvatore Vetruccio, Italcertifer, Italy	Monitoring System for the Overhead Line Facilities Rinpei Mochizuki, Meidensha Corporation, Japan		When "Smart-Tamper" Meets "Smart-Rock" Dr Hai Huang, Pennsylvania State University, USA Dr Yuliang Zhou, Morgan State University, USA Development of Line-Scanning Infrared Thermography for Rail Base Inspection	Aerodynamic Optimization of Freight Trains. Part 1: Characterization of Real-world Operation from a Full-scale Measurement Campaign Dr Alexander Buhr, German Aerospace Center (DLR), Institute of Aerodynamics and Flow Technology, Germany	Optimization of Wheelset NDT Inspection Intervals: Results and Outcome from Regional and High Speed Vehicles Cases Steven Cervello, Lucchini, Italy
3:40pm	Project EURAIL – FP2-R2DATO : Coordinating the Research on Autonomous Train Operation in Europe Dr Cedric Gallais, SNCF, France	Real-Time Fault Detection in Freight Train Bogies Using YOLO-Based Deep Learning Model Prof Suraj Prakash Harsha, Indian Institute of Technology Roorkee, India		Prof James Mathias, Southern Illinois University, USA Optimization of Track Maintenance to Manage RCF using Innovative Software to Prolong Track Life Dr Georg Friberg, Goldschmidt Holding, Germany Michael Madden, Orgo-Thermit, USA	Aerodynamic Optimization of Freight Trains. Part 2: Efficiency and Safety Recommendations from Validated Wind-Tunnel Experiments Dr Alexander Buhr, German Aerospace Center (DLR), Institute of Aerodynamics and Flow Technology, Germany	

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4:00pm	BREAK					
	ARTIFICAL INTELLIGENCE *-Oral-* **Colorado Hall	CH-A**	**EXTREME WEATHER RESILIENCY** *-Oral-* **Colorado Hall	CH-B**	**VEHICLE/TRACK INTERACTION MODELING & TESTING** *-Oral-* **Colorado Hall	CH-C**	**TRACK SUPPORT & STRUCTURES** *-Interactive-* **Colorado Hall	CH-D**	**RIDE QUALITY** *-Oral-* **Colorado Hall	CH-E**	**INFRASTRUCTURE INSPECTION & MAINTENANCE** *-Oral-* **Colorado Hall	CH-F**
4:10pm	**Opening Comments by Session Chair** **Luisa Moisio,** RSSB, UK	**Opening Comments by Session Chair** **Bertrand Avril,** SNCF, France	**Opening Comments by Session Chair** **Masahiro Tsujie,** RTRI, Japan	**Opening Comments by Session Chair** **Allan Zarembski,** University of Delaware, USA	**Opening Comments by Session Chair** **Cedric Gallais,** SNCF, France	**Opening Comments by Session Chair** **Dr Ananyo Banerjee,** MxV Rail, USA
4:15pm	**Unified Track Risk Index Using Remotely Sensed Dataset and Geometry Measurements** **Abdul-Rashid Zakaria,** University of Mississippi, USA	**An Assessment Tool for Enhancing Railway Organization Resilience Against Unexpected External Events** **Dr Alfredo Núñez,** Delft University of Technology, The Netherlands	**Correlation Between Asymmetric Rail Profiles and Rate of Wear as seen in Indian Railways Based on Large Scale Implementation of Rail Grinding** **Ashish Bansal,** Indian Railways, Ministry of Railways, India **Jainendra Kumar Singh,** Research Design Standards Organisation Ministry of Railways, India	**Investigating Gauge Narrowing in Norwegian Slab Track Tunnels: Evidence from Dynamic In-Situ Measurements** **Thomas Gabernig,** Institute of Railway Infrastructure Design, Graz University of Technology, Austria **Michael Höfler,** Institute of Railway Infrastructure Design, Graz University of Technology, Austria	**Track, Freight, Passenger: A Unified Approach to Identifying Rough Rides and Improving Performance** **Dr Mani Entezami,** University of Birmingham, UK **Edwin Cornish,** Eurostar, UK	**Easing of Speed Regulations within Shinkansen Turnout Sections following Ballast Renewal, Based on On-site Measurement and Simulation** **Ryo Iwami,** East Japan Railway Company, Japan
4:35pm	**Predictive Analysis of Railway Asset Regeneration Using AI** **Amira Youssef,** SNCF Réseau, France	**Supporting Proportionate Operational Mitigation of Extreme Weather Events using a Whole System Approach** **Vincent Ganthy,** RSSB, UK	**Assessment of the Wheel-Rail Interaction Behaviour of the Embedded Rail System for the Runnability Analysis of Messina Bridge** **Dr Eugenio Fedeli,** Stretto di Messina, Italy	**Molecular Dynamics Model of Asphalt Overlayment-Crosstie Interface** **Ramez Hajj,** University of Illinois Urbana-Champaign, USA **Ballast Reclamation Characterization** **Dr Stephen Wilk,** MxV Rail, USA **Erol Tutumluer,** University of Illinois Urbana-Champaign, USA	**Characterising the Dynamic Comfort Properties of Passenger Rail Vehicle Seats** **Dr Julian Stow,** Institute of Railway Research, University of Huddersfield, UK	**A Method for Mitigating Concept Drift in Unsupervised Anomaly Detection: Implementation and Empirical Evaluation in Railroad Machinery Diagnostics** **Takenori Murata,** Central Japan Railway Company, Japan
4:55pm	**Development of a 2D Wagon-Track System for Neural Network-Based Detection of Train Wheel Flats Using Numerically Generated Acceleration Signals** **Michael Savio Perumal,** Stellenbosch University, South Africa	**Developing a Method for Real-time Mapping of Maximum Instantaneous Wind Speeds** **Keita Saito,** Toshiba Energy Systems & Solutions Corporation, Japan	**An Electromechanical Sensitivity Analysis for Real-time Adhesion Estimation of an Electric Locomotive** **Arjen Zoeteman,** ProRail, The Netherlands **Dr Alfredo Núñez,** Delft University of Technology, The Netherlands	**Assessing Pathology Risk in Concrete Structures using Monte Carlo Simulations and Machine Learning** **Nam-Ngia Bui,** SNCF Réseau, France	**The Coefficient of Friction and Its Role in the Safety and Comfort of a Passenger Car: A Rigid-Flexible Model Approach** **Leonardo Franco,** University of Campinas (Unicamp), Brazil	**Automated Condition-based Tamping Process: From Research to Product** **Dr Christian Koczwara,** Plasser & Theurer, Austria

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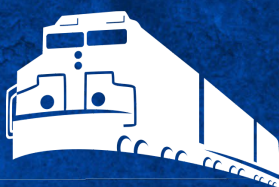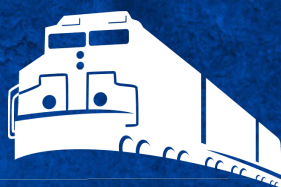
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5:15pm	**Predicting Train Door Failures Using Machine Learning Techniques** **Nelisa Mabaso,** Stellenbosch University, South Africa	**Evaluation of Railway Vehicle Resistance to Crosswinds and Accuracy Enhancement through Environmental Change Detection** **Dr Yayoi Misu,** East Japan Railway Company, Japan		**An Innovative and Resilient Insulated Rail Joint for all Applications** **Dr Andrea Bracciali,** University of Florence, Italy **Dr Gianluca Megna,** University of Pisa, Italy		
5:35pm	**CLOSE OF CONFERENCE SESSIONS**					
6:30pm - 9.30pm	**GALA DINNER | Sponsored by Plasser & Theurer** **Plasser & Theurer** **International Centre | The Broadmoor**					

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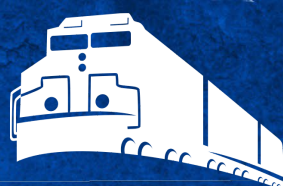### COLORADO SPRINGS, CO USA | NOVEMBER 17-21, 2025

THURSDAY NOVEMBER 20, 2025					
8:00am	MORNING COFFEE & EXHIBITION NETWORKING | Bartolin Hall				
	WCRR PARALLEL TECHNICAL SESSIONS				
	ALTERNATIVE ENERGY SOURCES -Oral- Colorado Hall | CH-A	**CONDITION BASED MONITORING & MAINTENANCE** -Oral- Colorado Hall | CH-B	**CATENARY POWER** -Oral- Colorado Hall | CH-C	**DESIRABLE & GREEN RAILWAYS** -Interactive- Colorado Hall | CH-D	**PASSENGER SATISFACTION** -Oral- Colorado Hall | CH-E	**SIGNAL SYSTEM MANAGEMENT** -Oral- Colorado Hall | CH-F
8:30am	**Opening Comments by Session Chair** **Paolo Masini,** Trenitalia, Italy	**Opening Comments by Session Chair** **Prof Yann Bezin,** University of Huddersfield, UK	**Opening Comments by Session Chair** **Corey Pasta,** MxV Rail, USA	**Opening Comments by Session Chair** **Dr Giovanni Luca Giacco,** Trenitalia, Italy	**Opening Comments by Session Chair** **Tony Sultana,** MxV Rail, USA	**Opening Comments by Session Chair** **David Staplin,** HNTB, USA
8:35am	**Holistic Modeling and Optimization of Hydrogen-Powered Trains for Zero-Emission Railway Operation** **Steffen Wieser,** German Aerospace Center (DLR), Institute of Vehicle Concepts, Germany	**CBM Algorithms for the Indirect Recognition of Battery Charger Failure Modes** **Alfredo Biancucci,** Trenitalia, Italy	**A Simplification Method for Harmonic Overvoltage Analysis of The Railway Infrastructure and The Rolling Stock** **Frederic Deheuvels,** SNCF Voyageurs - CIM TEA2, France	**Study of the Mechanical Properties of Recycled Pure Copper from Contact Wires** **Quentin Levy-Abegnoli,** SNCF Réseau, France **Freight behavior and mechanism of abrasion damage on corrugated boxes during rail transport** **Yasuhiro Umehara,** Railway Technical Research Institute (RTRI), Japan **Measuring EMC impact of a High Power Energy link along Railway Infrastructure in the Eurotunnel: Lessons and Perspectives** **Juan-José Munoz-Vargas,** SNCF Réseau, France	**Indoor Positioning Challenges: Integrating UWB and 5G Technologies for Enhanced Navigation Support in Railway Stations** **Nerea Canales Sebastian,** Rete Ferroviaria Italiana (RFI), Italy	**Development of a Signaling Equipment Inspection System from Onboard Cameras and Sensors** **Riho Maeda,** Railway Technical Research Institute (RTRI), Japan
8:55am	**Options for Decarbonizing Commuter Rail on a Freight Corridor - a Case Study in Central Texas** **Rydell Walthall,** University of Texas at Austin, **USA**	**How Sata and Predictive Analytics have Facilitated the Shift from Systematic Preventive Maintenance to Condition-based Maintenance for SNCF Rolling Stock** **Pierre Audier,** SNCF Voyageurs, France	**Development of Overhead Contact Line Inspection Devices for Shinkansen at High Speed Running** **Ryo Kuriki,** Central Japan Railway Company, Japan **Tsutomu Uranaka,** Central Japan Railway Company, Japan		**Energy Demand for Air Conditioning in Rail-bound Intermodal Pod-Systems** **Linus Brünner,** German Aerospace Center (DLR), Institute of Vehicle Concepts, Germany	**Certification approach for Interoperability of GNSS-based technologies in ERTMS-ETCS Railway Signaling** **Carmine Zappacosta,** Italcertifer, Italy **Alessandro Basili,** Bureauveritas Italia, Italy
9:15am	**Energy and Cost Optimization of Alternative drive Trains from System Perspective** **André Chamaret,** SNCF Voyageurs, France	**An Innovative Modular and Integrated Monitoring System for Anomalies Detection in Freight Wagons** **Steven Cervello,** Lucchini RS, Italy **Federico Zanelli,** Politecnico di Milano, Italy	**Development of a High-Speed and High-Accuracy Wear Measurement Device for Unevenly Worn Contact Wire** **Hiromu Susuki,** Railway Technical Research Institute (RTRI), Japan		**Estimation of the Number of Passengers by Age Group in Regional Railways** **Takuya Watanabe,** Railway Technical Research Institute (RTRI), Japan	**A Minimal Hardware-in-the-Loop Architecture for Railway Signaling Systems Testing** **Marco Barbaro,** Politecnico di Milano, Italy

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	COMMUNICATIONS & TRAIN CONTROL -Oral- Colorado Hall | CH-A	**BRAKING PERFORMANCE** -Oral- Colorado Hall | CH-B	**COUPLING SYSTEMS** -Oral- Colorado Hall | CH-C	**RESILIENCY AND CLIMATE ISSUES** -Interactive- Colorado Hall | CH-D	**OPTIMIZATION IN ROUTING & OPERATION** -Oral- Colorado Hall | CH-E	**RAIL PERFORMANCE** -Oral- Colorado Hall | CH-F
9:35am		**Condition-based Monitoring for Maintenance of Rolling Stocks Amit Srivastava,** Research Design Standard Organisation (RDSO), Ministry of Railways, Government of India	**Applicability of Contact Wire Splices for Shinkansen Overhead Contact Lines** **Taku Nakamura,** Railway Technical Research Institute (RTRI), Japan			
9.55am	**BREAK**					
10:05am	**Opening Comments by Session Chair** **Edouard Chabanier** SNCF, France	**Opening Comments by Session Chair** **Ronald Sellberg,** RPS Consulting, USA	**Opening Comments by Session Chair** **Devin Sammon,** MxV Rail, USA	**Opening Comments by Session Chair** **Christopher Johnson,** MxV Rail, USA	**Opening Comments by Session Chair** **Dr Anish Poudel,** MxV Rail, USA	**Opening Comments by Session Chair** **Nigel Peters,** Nigel Peters Professional Services, USA
10:10am	**Implementation of Gap Control for Virtually Coupled Trains Using 5G Communication** **Byung-Hun Lee,** Korea Railroad Research Institute, Republic of Korea	**Simulation-based Verification of Braking Distance Controllability under shunting trains conditions** **Yuta Kizaki,** Railway Technical Research Institute (RTRI), Japan	**Powerline PLUS Train Backbone for the Full Digital Freight Train** **Stephen Dominiak,** plc-tec, Switzerland	**Utilization of External High-density Seismic Data for Railway Operation after Earthquake Haruka Ishii** , East Japan Railway Company, Japan	**Explaining Decision-Making in Railway Route Decision Using SHAP And Machine Learning** **Hao Ni,** Birmingham Centre for Railway Research and Education, UK	**Influence of Rail Steel Grade on Rail Wear in Tight Curves** **Julia Egger,** Institute of Railway Engineering and Transport Economy, Graz University of Technology, Austria
10:30am	**A Real-Time Monitoring Technique for Millimeter-Wave Train Radio System on High-Speed Train** **Tomoyuki Tange,** Central Japan Railway Company, Japan	**Performance Evaluation of Brake Friction Materials Using Cutting Force Measurement** **Hisanori Nishimori,** Railway Technical Research Institute (RTRI), Japan	**Assessment of the Derailment Safety of the Digital Automatic Coupler in Europe** **Dr Daniel Jobstfinke,** DB Systemtechnik, Germany	**Modelling the Impact of Railway Infrastructures on Species Migrations in the Context of Climate Change Page Jean-Baptiste,** Université Paris-Saclay, CentraleSupélec, France **National Alert System for the Prediction of the Possible Triggering**	**Towards Optimal Operation of Novel Railway Traction Systems** **Dr Rabee Jibrin,** University of Birmingham, UK	**Research of rail corrugation in the Kaohsiung Light Rail Line** **Prof Chih-Chiang Lin,** National Kaohsiung University of Science and Technology, Taiwan **I-Hsien Wang,** National Kaohsiung University of Science and Technology, Taiwan

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Time	CH-A		CH (Wire Arc)	CH (Rain)	CH (Freight)	CH (Strength)
10:50am	**Interoperable Approach to PTC Enforcement of Restricted Speed Rules via Emerging Mobile Sensing Technology** **Lindsey Nast,** MxV Rail, USA		**Wire Arc Additive Weld Repair of Cast Knuckles to Reduce Corrosion and Fatigue Failures** **Dr Pasi Lautala,** Michigan Technological University, USA	**of Rain-induced Landslides along the RFI Railway Infrastructure** **Ivan Agostino,** Ferrovie dello Stato Italiane, Rete Ferroviaria Italiana, Italy	**Calculating Accurate Freight Pathing Times on the GB Network** **Dr Aaron Rostron-Barrett,** RSSB, UK	**Strength Evaluation of Rails and Round Bar Fastening Systems Under Conditions of Repeated Train Run at Rail Breakage** **Dr Yuki Nishinomiya,** Railway Technical Research Institute (RTRI), Japan
11:10am	**BREAK**					
		BRAKING & WHEEELS *-Oral-* **Colorado Hall | CH-B**	**ASSET MANAGEMENT FOR INFRASTRUCTURE** *-Oral-* **Colorado Hall | CH-C**	**WHEEL/RAIL ADHESION** *-Interactive-* **Colorado Hall | CH-D**	**OPTIMIZATION IN ENERGY USE & OPERATION** *-Oral-* **Colorado Hall | CH-E**	**RAIL & WELDS** *-Oral-* **Colorado Hall | CH-F**
11:20am		**Opening Comments by Session Chair** **Corey Pasta,** MxV Rail, USA	**Opening Comments by Session Chair** **Sharon Odetunde,** RSSB, UK	**Opening Comments by Session Chair** **Brian Smith,** MxV Rail, USA	**Opening Comments by Session Chair** **David de Almeida,** SNCF, France	**Opening Comments by Session Chair** **Dr Gary Fry,** Fry Technical Services, USA
11:25am		**Design of a WSP System to Improve the Safety and Reduce Maintenance Costs of a 3-bogie Articulated Freight Wagon** **Francesco Mazzeo,** Politecnico di Milano, Italy	**Developing a Heavy Axle Weight Infrastructure Interaction Model for Rail Freight Traffic** **John Armstrong,** University of Southampton, UK	**Effect of Worn Wheel Tread on Traction/Braking Performance of Railway Vehicles under Wet Conditions** **Dr Daisuke Yamamoto,** Railway Technical Research Institute (RTRI), Japan **White Etching Layer Formation on Wheel and Rails During Braking under Changing Adhesion Conditions** **Dr Samuel Hawksbee,** Institute of Railway Research, University of Huddersfield, UK	**Large Scale Nonlinear Timetable Optimization based on Time-dependent Passenger Demand** **Dr Giovanni Luca Giacco,** Trenitalia, Italy	**Fatigue Testing of Rails with Detected Defects Under Simulated Loads** **Dr Ananyo Banerjee,** MxV Rail, USA
11:45am		**Wheel Design Worst Case Scenario Assessment** **Tore Vernersson,** Chalmers Railway Mechanics, Sweden	**Pursuing Whole System Decision-Making in Railways Asset Management** **Adalberto Polenghi,** Politecnico di Milano, Italy		**Enhanced Overlay-PTC Capacity Case Study** **Mohamad Khater,** MxV Rail, USA	**Thermal Deformation Analysis for Gas Pressure Welding of Rail** **Hajime Ito,** Railway Technical Research Institute (RTRI), Japan
12:05pm			**The Effect of Droughts on railways: Studying Railway Deformations before, during, and after the Summer of 2018**		**Development of a Railway Consumption Estimation Tool for Energy Metering on Non-metered Rolling Stock**	

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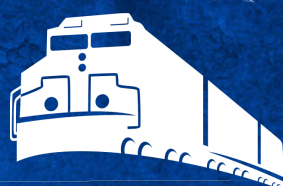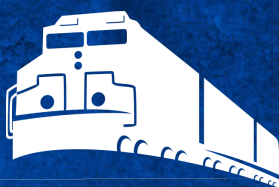Version dated – November 19, 2025

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		Drought in Sweden using Satellite Radar Products **Frida Carlvik,** Lund University, Sweden		**Dr Hamou Benhabib,** SNCF Réseau, France	
12:25pm	**LUNCH, EXHIBITION NETWORKING AND IHHA ePOSTERS	Bartolin Hall**				

	ATO & TRAIN POSITIONING -Oral- **Colorado Hall	CH-A**	**CONDITION BASED MONITORING & MAINTENANCE** -Oral- **Colorado Hall	CH-B**	**STANDARDS & REGULATIONS** -Oral- **Colorado Hall	CH-C**	**ARTIFICIAL INTELLIGENCE & TECHNOLOGY** -Interactive- **Colorado Hall	CH-D**	**ECONOMICS & ENVIRONMENTAL SUSTAINABILITY** -Oral- **Colorado Hall	CH-E**	**INFRASTRUCTURE INSPECTION** -Oral- **Colorado Hall	CH-F**
1:35pm	**Opening Comments by Session Chair** **Dr Alejandro Gonzalez-Ruiz,** MxV Rail, USA	**Opening Comments by Session Chair** **Clemente Guerriero,** Trenatalia, Italy	**Opening Comments by Session Chair** **Daniel Carter,** MxV Rail, USA	**Opening Comments by Session Chair** **Franck Poisson,** SNCF, France	**Opening Comments by Session Chair** **Lorenzo Franzoni,** International Union of Railways (UIC), France	**Opening Comments by Session Chair** **Dr Adam Bevan,** University of Huddersfield, UK
1:40pm	**The Role of Continuity Attribute for Train Positioning Technologies Based on GNSS and ERTMS** **Dr Aleš Filip,** University of Pardubice, Czech Republic	**Telediagnosis of Engine Oil** **Dr Camella Oumahi,** SNCF, France	**The Migration Strategy: From EN to ISO Standards, Use Case of Fire Safety Standards for Rolling Stocks** **Guillaume Craveur,** SNCF Voyageurs, France	**Research on Key Technology of High-Speed Maglev Railway at 600 km/h** **Hongmei Li,** China Academy of Railway Sciences (CARS), **China** **Guiding Visually-Impaired Passengers: A Review of AI and Computer Vision-Based Applications** **Matthieu Leveque,** SNCF Voyageurs, France	**System for Financial Optimization of Corporate Investments (SOFIA): Advanced Approaches for Allocating Funds to Railway Infrastructure Projects** **Dr Giuseppe Carcasi,** Rete Ferroviaria Italiana (RFI), Italy	**Development of Efficient Image Inspection Method for Rail fastening Systems using Line Sensor Images** **Hisashi Yoshida,** East Japan Railway Company, Japan
2:00pm	**Design and Organisation of Unmanned Rolling Stock Tests** **Thierry Lemaréchal,** SNCF Voyageurs, Rolling Stock Engineering Department, Railway Testing Agency, France	**Development and Testing of a Wireless Communication System for Freight Wagons** **Filippo Moretti,** Mercitalia Intermodal, Italy	**Standardizing Automated Configuration Management for Railway Systems through Technical Regulation** **Dr Karl-Albrecht Klinge,** Mainz University of Applied Sciences, Germany	**Method to Adapt Stereo Visual Odometry from Road to Railway Applications** **Cedric Lelionnais,** SNCF Voyageurs, France	**Enhancing Sustainability: A Decision-Making Tool for Circular Economy in Railway Power Supply** **Quentin Levy-Abegnoli,** SNCF Réseau, France	**Developing Overhead Contact Line Imaging and Three-Dimensional Structure Measurement Technology for Shinkansen** **Itaru Matsumura,** Railway Technical Research Institute (RTRI), Japan
2:20pm	**Resilience of Cooperative Train Positioning against GNSS System Failure** **Dr Pierre-Emmanuel Fayemi,** IKOS Lab, France	**Effect of Extended Bearing Inactivity on Lubricating Grease Characteristics and Performance** **Mia Adame,** UTCRS, University of South Carolina, USA	**Development of International Standards for Railway Operations and Services** **Daisuke Tatsui,** Railway Technical Research Institute (RTRI), Japan	**Exploring the use of Scenario Based Validation for Q-Learning Algorithms Deployed for Railway Traffic Management** **Krishnan Guruvayur Venkateswaran,** University of Birmingham, UK	**Evaluation of Sustainability in Infrastructures through EPD Certifications, Peculiarities and Possible Future Developments** **Ivan Agostino,** Ferrovie dello Stato Italiane, Rete Ferroviaria Italiana, Italy	**Optimized Track Geometry Maintenance in Paris area (France) based on Data Collected by In-Service Passenger Trains** **Oriane Didry,** SNCF Réseau, France

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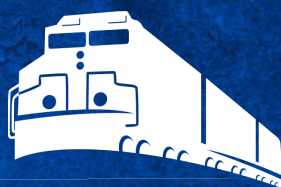
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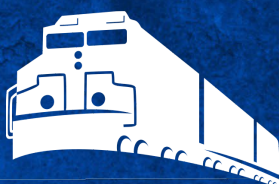
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2:40pm	Interoperable Approach to PTC Enforcement of Restricted Speed Rules **Wesley DeMonia,** MxV Rail, USA				Life Cycle Information Models, Proof of Concept LCA Tool and Sensitivity Analysis of Embodied Carbon and Emissions of Railway Track Maintenance Activities **Dr Pasi Lautala,** Michigan Technological University, USA	Developing a New Track Monitoring Method Based on Acceleration Measurements by Smartphones **Huyen Nguyen,** SNCF Réseau, France
3:00pm	**BREAK & EXHIBITION NETWORKING	Bartolin Hall**					
	CLOSING CEREMONY					
3:30pm Broadmoor Hall B	**Master of Ceremonies** **Niki Toussaint,** Senior AVP, Marketing & Education, MxV Rail, USA **Turning Ideas into Impact: How Supplier Leadership is Shaping the Rail Industry's Future** Panelists:ryo **Thomas Blechinger,** President & CEO, Plasser American Corporation, USA **Robert Bremmer,** Group Vice President, Product Management, Wabtec Corporation, USA **Tom Praderio,** Director of Engineering, Parallel Systems, USA **Tim Hoare,** Managing Director, APAC, Pandrol, Australia **Jon Behrens**, Vice President, Engineering, Loram Maintenance of Way, USA Moderator: **Jason Reiling,** Senior AVP, Business Development, MxV Rail, USA **Next IHHA + WCRR Conference Announcements** **Awards and Closing Remarks**					
5:00pm	**CLOSE OF CONFERENCE SESSIONS**					

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FRIDAY NOVEMBER 21, 2025	OFFICIAL TECHNICAL SITE TOUR	
07:30am	**MxV Rail PuebloPlex Tour and Track Walk at FAST®**
7:30am	Safety Briefing **Shawn Vecellio,** Senior AVP Operations & Safety, MxV Rail, USA Depart The Broadmoor for MxV Rail, PuebloPlex
10:00am	FAST® Loop Track Walk Demonstrations at Impact Wall/Track and Security and Emergency Response Training Center's (SERTC) AFFIRM scenario Tour MxV Rail Laboratory Building Lunch and Networking
3:30pm	Return to The Broadmoor

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