10th International Conference on Maintenance and Rehabilitation of Pavements

July 24-26, 2024

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Programmes

Universidade do Minho

MUNICÍPIO DE GUIMARÃES

10th International Conference on Maintenance and Rehabilitation of Pavements

(MAIREPAV10) | Guimarães | Portugal | July 24-26, 2024

Programme at a glance

	July 23 (Tuesday)	July 24 (Wednesday)				July 25 (Thursday)				July 26 (Friday)		
8:30 - 9:00		Registration				Registration				Registration		
9:00 - 9:15		Opening ceremony				iSMARTi presentation						
9:15 - 9:55		**Pavements for Connected Mobility,** Imad Al-Qadi, UIUC, USA				**Modeling Reflective Cracking in Asphalt Overlay**, Youngsoo Richard Kim, NCSU, USA				**Surface Characteristics and Functional Services of Road Pavements - Paradigm-Shift Need in Smart Transportation Era**, Tien Fang Fwa, NUS, Singapore		
9:55 - 10:35		**Comprehensive Evaluation of Asphalt Pavement Recycling Strategies,** David Lee, UI, USA				**Including Consideration of Climate Change in Pavement Maintenance and Rehabilitation Activities,** Jo Sias, UNH, USA				**Overview and Trends in Asphalt Technology**, Delmar Salomon, PPS, USA		
10:35 - 11:00		Coffee break				Coffee break				Coffee break		
11:00 - 12:30		Session 1.A	Session 1.B	Session 1.C		Session 4.A	Session 4.B	Session 4.C		Session 7.A	Session 7.B	Session 7.C
		Asphalt mixtures	Pavement design	Surface characteristics		Bitumen	Warm mix asphalt	Pavement maintenance		Waste materials	Pavement reinforcement	RAP
12:30 - 14:00		Lunch				Lunch				Closing ceremony		
										Lunch		
14:00 - 15:30	Registration	Session 2.A	Session 2.B	Session 2.C	Workshop 1	Session 5.A	Session 5.B	Session 5.C	Workshop 3			
		Asphalt mixtures	Pavement design	Surface characteristics	Pavement reinforcement	Asphalt Rubber	Pavement recycling	Pavement monitoring	Alternative materials			
15:30 - 16:00						Coffee break						
16:00 - 17:30		Session 3.A	Session 3.B	Session 3.C	Workshop 2	Session 6.A	Session 6.B	Session 6.C	Workshop 4		ENJOY PORTUGAL	
		Asphalt mixtures	Pavement management	Pavement rehabilitation	Asphalt rubber	Asphalt Rubber	LCA and Warm mix	Pavement monitoring	Pavement recycling			
17:30 - 18:30	Welcome reception											
18:30 - 19:30						Departure to Porto						
19:30 - 22:00		Dinner				Banquet						

Detailed Programme

July 23 (Tuesday)

Main hall	14:00 – 17:30	Registration
	17:30 – 19:30	Welcome reception

July 24 (Wednesday)

Room A	8:30 – 9:00	Registration	
	9:00 – 9:15	Opening Ceremony	
		Keynote Lectures (Chair: Carlos Chang)	
	9:15 – 9:55	Pavements for Connected Mobility	Imad Al-Qadi
	9:55 – 10:35	Comprehensive Evaluation of Asphalt Pavement Recycling Strategies	David Lee

Main hall	10:35 – 11:00	Break

Room A	**Session 1.A**	**Asphalt mixtures (Chair: Alan Carter)**	
	11:00 – 11:15	Moisture Susceptibility of Lime-modified Asphalt Mixture Containing EAF Slag: A Response Surface Methodology Approach	Daniel Oguntayo
	11:15 – 11:30	Evaluation of Air Voids and Permeability Properties for Porous Asphalt-Treated Course (PATC)	Jian-Shiuh Chen
	11:30 – 11:45	Assessment of the Effects of Induction Heating Induced-Healing on the Fracture Properties of Very Thin Asphalt Concrete	Jan Valentin
	11:45 – 12:00	Effect of Production Variance on Air Void Content of Airfield Asphalt Mixtures in Australia	Brendan Bennett
	12:00 – 12:15	Raveling resistance of grouted macadam compared to conventional asphalt mixtures for wearing course	Sara Spadoni
	12:15 – 12: 30	Evaluation of asphalt graphene-modified thin layer: a case study	Mauro Coni
Room B	**Session 1.B**	**Pavement design (Chair: Marcin Gajewski)**	
	11:00 – 11:15	Artificial neural network models for the wander effect for connected and autonomous vehicles to minimize pavement damage	Jorge Pais
	11:15 – 11:30	Mechanistic-Empirical Design of Low Volume Flexible Road Pavement by limiting Vertical interface stress and Strain on Subgrade	Manoj Kumar Sahis
	11:30 – 11:45	Effects of Asphalt Mixture Input on AASHTOWare Pavement Mechanistic-Empirical Design Analysis of Rehabilitated Pavements	Mustaque Hossain
	11:45 – 12:00	Effects of Asphalt Mixture Input on AASHTOWare Pavement Mechanistic-Empirical Design Analysis of New Pavements	Ya Gao
	12:00 – 12:15	Use of PMS Data for the PMED Model Calibration in Michigan	Syed Haider
	12:15 – 12: 30	Mineral aggregates representation in discrete numerical model of bituminous mixture	Rui Micaelo
Room C	**Session 1.C**	**Surface characteristics (Chair: Shane Underwood)**	
	11:00 – 11:15	Evaluation of Skid Resistance of Grooved Pavements	T.F. Fwa
	11:15 – 11:30	How to Estimate IRI based on PCI Values to Report the Pavement Condition of Local Roads?	Carlos Chang
	11:30 – 11:45	Development of Racetrack Grip Triangular Irregular Networks From Field Data	Katlin Kishel
	11:45 – 12:00	An exploitation of spray mechanisms to estimate water depths on a road surface	Minh-Tan Do
	12:00 – 12:15	Advancing Pavement Safety Assessment Through the Implementation of Network Level Continuous Friction Testing	Simon Tetley
	12:15 – 12: 30	Effect of Transverse Mastic on Pavement Roughness	Adriana Vargas-Nordcbeck

	12:30 – 14:00	Lunch

Room A	**Session 2.A**	**Asphalt mixtures (Chair: Di Wang)**	
	14:00 – 14:15	Evaluation of the effect of different de-icing salts and freeze and thaw cycles on the performance of bituminous binders and asphalt mixtures prepared with them	Dafinka Pangarova
	14:15 – 14:30	How does moisture damage occur in asphalt pavement? New insights from molecular dynamics simulation	Lei Luo
	14:30 – 14:45	Laboratory Study of the Effects of the Addition of Softwood Kraft Lignin by the Dry Process on the Compactability, Moisture Sensitivity, Rutting and Low-Temperature Cracking Resistance of an HMA	Alan Carter
	14:45 – 15:00	Repeatability and reproducibility of analysis methods for asphalt mixture gyratory compaction	João Crucho
	15:00 – 15:15	Modeling the interface shear strength of asphalt pavements containing a solar collector	Andrea Baliello
	15:15 – 15: 30	3D DEM Simulation of the Post-Healed Behavior of Asphalt Mixtures with Encapsulated Rejuvenators	Gustavo Câmara
Room B	**Session 2.B**	**Pavement design (Chair: Sigurdur Erlingsson)**	
	14:00 – 14:15	Inputs for Local Calibration of AASHTOWare Pavement Mechanistic-Empirical Design Software for Rehabilitation	Mustaque Hossain
	14:15 – 14:30	MeDiNa pavement design methodology applied to Portuguese pavement structures	Sergio Callai
	14:30 – 14:45	Assessment of the design life of high modulus asphalt concrete pavements and propositions of typical structures	Beata Gajewska
	14:45 – 15:00	Catalogue of Flexible Pavements Incorporating Reclaimed Asphalt Pavement (RAP) in Unbound Granular Layers of Low-Volume Roads	José Neves
	15:00 – 15:15	The effects of wireless inductive charging of electric vehicles on asphalt pavement materials	Douglas Wilson
	15:15 – 15: 30	A Mechanistic-Empirical Design of Bituminous Overlay on Flexible Road Pavement using Vertical Interface Deflection as Design Parameter	Manoj Kumar Sahis

Room C	**Session 2.C**	**Surface characteristics (Chair: Adriana Vargas-Nordcbeck)**	
	14:00 – 14:15	Back-casting Initial IRI for Surface Roughness Model Calibration in Michigan	Syed Haider
	14:15 – 14:30	A Concept of Surface Roughness Index for Cycle Path: Bicycle Ride Index (BRI)	Kazuya Tomiyama
	14:30 – 14:45	Geographical Analysis and Identification of Pavement Surface Characteristics causing Road User Complaints in terms of Ride Quality	Masamitsu Ito
	14:45 – 15:00	Non-contact measurement of chip seal chipping loss	David Woodward
	15:00 – 15:15	Optimizing the acoustical durability of semi-dense asphalt from statistical analysis of in-situ performance based on mixture data	Peter Mikhailenko
	15:15 – 15: 30	Innovative Retexturization of Flushed Road Seals	Allen Browne
Room D	**Workshop 1**	**Pavement reinforcement (Chair: Christiane Raab)**	
	14:00 – 14:20	Pavement rehabilitation/reinforcement in the XXI century	Jorge Pais
	14:20 – 14:40	Pavement reinforcement	Imad Al-Qadi
	14:40 – 15:00	Experiences of a Portuguese geogrids producer	Nelson Gonçalves
	15:00 – 15:30	Discussion	

	15:30 – 16:00	Break	

Room A	**Session 3.A**	**Asphalt mixtures (Chair: João Crucho)**	
	16:00 – 16:15	Simulating the Impact of Bituminous Pavement Rutting Distress on Vehicle Braking Performance During Intense Precipitation	Jiaqi Jiang
	16:15 – 16:30	Exploring the Influence of Aging Conditions on Fiber-Reinforced Porous Asphalt Mastic	Di Wang
	16:30 – 16:45	Exploring Thermal Performance of PCM Fibre-Reinforced Asphalt Mixtures: A Design of Experiments Approach	Claver Pinheiro
	16:45 – 17:00	Comparative Analysis of Various Short-term and Long-term Laboratory Aging Methods of Asphalt Binder from the Rheological Perspective	Shih-Hsien Sam YANG
	17:00 – 17:15	Rheology and Performance Evaluation of Modified Asphalt Binders with Elastomer and Plastomer	Min-Chih Liao
	17:15 – 17: 30	Correction Factors for Prismoidal Bituminous Mortar in Torsion	M. S. Greena
Room B	**Session 3.B**	**Pavement management (Chair: Douglas Wilson)**	
	16:00 – 16:15	Sustainability Indicators Applied in Pavement Management Systems	José Vaz
	16:15 – 16:30	Municipal street pavement management systems in Sweden	Sigurdur Erlingsson
	16:30 – 16:45	Evolution of the Pavement Management Process Through the use of Integrated Full Spectrum Road Condition Data	Simon Tetley
	16:45 – 17:00	Quantifying the Impact of Waste Collection Vehicles on Local Pavements in California	Debaroti Ghosh
	17:00 – 17:15		
	17:15 – 17: 30		
Room C	**Session 3.C**	**Pavement rehabilitation (Chair: David Woodward)**	
	16:00 – 16:15	Socio-Enviro-Financial Comparison of Different Design Options for Local Road Pavement Rehabilitation	Greg White
	16:15 – 16:30	Case Study on a Sustainable and Resilient Airport Pavement Rehabilitation: Merimbula Airport (Australia)	Greg White
	16:30 – 16:45	Effectiveness of Early Rehabilitation of Pavement Confirmed on a Japanese Expressway	Keizo Kamiya
	16:45 – 17:00	Environmental assessment of two road rehabilitation processes: Full-Depth Reclamation vs. Mill and Fill	Jessica Souza
	17:00 – 17:15	Longevity of Shotblasting: Friction and Texture Improvements	Shane Underwood
	17:15 – 17: 30	Diamond Grinding: A solution to Better Roadways	Nicholas Davis
Room D	**Workshop 2**	**Asphalt rubber (Chair: Jorge Pais)**	
	16:00 – 16:20	New developments in the use of rubber from ground tyres in road pavements	Jorge Sousa
	16:20 – 16:40	The success of using asphalt rubber in the rehabilitation of California and Arizona road pavements	George Way
	16:40 – 17:00	A mechanistic-empirical pavement design method for asphalt rubber	Jorge Pais
	17:00 – 17:30	Discussion	

	19:30 – 21:30	Conference Dinner

July 25 (Thursday)

Room A	8:30 – 9:00	Registration	
	9:00 – 9:15	iSMARTi presentation	
		Keynote Lectures (Chair: Tien Fang Fwa)	
	9:15 – 9:55	Modeling Reflective Cracking in Asphalt Overlay	Y. Richard Kim
	9:55 – 10:35	Including Consideration of Climate Change in Pavement Maintenance and Rehabilitation Activities	Jo Sias

	10:35 – 11:00	Break

Room A	**Session 4.A**	**Bitumen (Chair: Francesco Canestrari)**	
	11:00 – 11:15	Investigating the Potential Effects of Limestone and Bitumen Substrates on Photocatalytic NOx Degradation	Ali Zain Ul Abadeen
	11:15 – 11:30	UV aging resistance of modified bitumen: comparison of SBS and Biochar	Clara Celauro
	11:30 – 11:45	Study on Storage Stability and Aging Resistance of Solvent-free SiO2 nanofluids Modified Asphalt	Yi Wu
	11:45 – 12:00	Performance-related Characterization of SBS-Modified Bitumen-Filler Mastics Incorporating Hydrated Lime	Rubén Hernández
	12:00 – 12:15	Fatigue behavior of bitumen and mastic using higher-order harmonics	Catherine Sanchana
	12:15 – 12: 30	Monotonic torsional loading test for the evaluation of low-temperature performance of asphalt binders	Davide Dalmazzo
Room B	**Session 4.B**	**Warm mix asphalt (Chair: Andrew Braham)**	
	11:00 – 11:15	Simultaneous Use of Rejuvenator and Warm Mix Asphalt Chemical additive to produce Sustainable Asphalt Pavements: A Case Study in Portugal	Pedro Oliveira Nunes
	11:15 – 11:30	Properties of Asphalt Concrete in Half-Warm Technology with a Focus on the Impact of Hydrated Lime and Foamed Bitumen – a case study	Mateusz Iwański
	11:30 – 11:45	A study on warm mix asphalt sustainability	Filippo Praticò
	11:45 – 12:00	Comparative Numerical Analysis of Elastic and Viscoelastic Properties in Warm Mix Asphalt	Samuel Abejide
	12:00 – 12:15	Bentonite-Based Zeolite-like Foaming Warm-Mix Additive: Synthesis, Characterization, and Rheological Evaluation on Virgin and Asphalt-Rubber Binders	Mattaparthi Sri Gangadhar
	12:15 – 12: 30	Cold In-Plant Recycling with Foamed Bitumen for Road Rehabilitation: A Case Study on ER243 Road	Francisco Castro
Room C	**Session 4.C**	**Pavement maintenance (Chair: Christina Plati)**	
	11:00 – 11:15	Comparison of HMA Longitudinal Joint Compaction Using PWL Quality Measure	Syed Haider
	11:15 – 11:30	Development of quality control equipment and technology using IoT for cement concrete pavement	Kyong Ku Yun
	11:30 – 11:45	Pavement Maintenance and Long-Term Pavement Rehabilitation Strategies using BCSA cement concrete	Julio Paniagua
	11:45 – 12:00	UAV photogrammetry for monitoring the cold asphalt patching pothole repairs	Erika Garilli
	12:00 – 12:15	Quantitative Evaluation of the Oxygen Retarding Efficiency of Pavement Preventive Maintenance using the Oxygen Diffusion Coefficient of Asphalt Mixtures	Yuhong Wang
	12:15 – 12: 30	A cement-bitumen emulsion grout as backfilling material of narrow trenches on road pavements	Alessandro Corradini

	12:30 – 14:00	Lunch

Room A	**Session 5.A**	**Asphalt rubber (Chair: Davide Lo Presti)**	
	14:00 – 14:15	Investigation of SARA Fractions Transformations and Molecular Weight Distribution during Adhesion of Crumb Rubber Modified Asphalt Binder and Aggregates	Guojing Huang
	14:15 – 14:30	Rubberized Asphalt Adapting for a Resilient Society	Jorge Sousa
	14:30 – 14:45	Laboratory investigation of warm porous asphalt mixtures containing crumb rubber for motorway wearing course	Francesco Canestrari
	14:45 – 15:00	Effect of Rubber Content and Digestion Time on the Properties of Crumb Rubber Modified Binder	Greg White
	15:00 – 15:15	The role of processed crumb rubber (PCR) on moisture resistance of asphalt mixes	Hamid Azizi
	15:15 – 15: 30	Molecular Dynamics Investigation of Adhesion Properties of Rubberised Bitumen-Aggregate Interfaces	Haopeng Wang
Room B	**Session 5.B**	**Pavement recycling (Chair: Filippo Praticò)**	
	14:00 – 14:15	Validation of the Stiffness Raveling Mechanism Test for Cold In-place Recycling	Andrew Braham
	14:15 – 14:30	The Essence of Durable Bitumen Stabilised Materials is Optimal use of Compaction and Testing	Kim Jenkins
	14:30 – 14:45	A Brief Synthesis of Flexible Full Depth Reclamation Performance Testing	Andrew Braham
	14:45 – 15:00	Conventional and Recycling Agent (RA)-treated cold in-place recycled pavement for perpetual characteristics	Jo Sias
	15:00 – 15:15	Industrial-scale production and performance evaluation of asphalt mixtures with high rates of recycled aggregates	Carlos Loureiro
	15:15 – 15: 30	Feasibility of the multi-recycling of bituminous wearing courses through the use of different rejuvenators	Vítor Antunes

Room C	**Session 5.C**	**Pavement monitoring (Chair: Syed Haider)**	
	14:00 – 14:15	A Conceptual Approach to Estimating the In-situ Layered Elastic Moduli for Flexible Pavements	Christina Plati
	14:15 – 14:30	Effects of Longitudinal Crack on the FWD Data of Asphalt Pavement with Granular Base	Ghim Ping Ong
	14:30 – 14:45	Analyzing Environmental and Traffic Load Trends in an Instrumented Pavement Test Section, Kitchener, Ontario	Hassan Baaj
	14:45 – 15:00	Assessment of Static Load Strains in a Flexible Pavement with Embedded Dynamic Wireless Power Transfer (DWPT) Components	Pablo Orosa
	15:00 – 15:15	Assessing Road Pavements Using Satellite Remote Sensing: Towards Developing Network-Level Pavement Monitoring	Fabio Tosti
	15:15 – 15: 30	Traffic strain analysis provided by an FBG-based monitoring system	Francisco Rebelo
Room D	**Workshop 3**	**Alternative materials for asphalt mixtures (Chair: Hugo Silva)**	
	14:00 – 14:20	Exploring the potential of industrial by-products as alternate resources for asphalt mixtures	Hugo Silva
	14:20 – 14:40	Bio-binders as an alternative to asphalt binders	Davide Lo Presti
	14:40 – 15:00	Thermomechanical behaviour of bituminous mixtures with plastics from food packaging waste	Salvatore Mangiafico
	15:00 – 15:10	Presentation of RILEM TC APD	Salvatore Mangiafico
	15:10 – 15:30	Discussion	

	15:30 – 16:00	Break

Room A	**Session 6.A**	**Asphalt rubber (Chair: Gordon Airey)**	
	16:00 – 16:15	Morphological and Rheological Assessment of Waste Plastic-Modified Asphalt-Rubber Binder	Neetu Gopakumar
	16:15 – 16:30	Feasibility study on high content Reclaimed Rubberised Asphalt Mixtures for wearing courses	Davide Lo Presti
	16:30 – 16:45	Evolution with time of the thermomechanical behaviour of mixtures containing crumb rubber added by dry process	Salvatore Mangiafico
	16:45 – 17:00	Asphalt-Rubber by "Dry" Method – Design of an Open-Graded Mixture Complying with Portuguese Specifications	João Afonso
	17:00 – 17:15	Fourier Transform Infrared Spectroscopy as a fingerprint for reacted and activated rubber modified bitumen	Caio Santos
	17:15 – 17: 30	Sustainable Mixes with Reacted and Activated Rubber: Application on a Highly Cracked Pavement	Ricardo Moreira
Room B	**Session 6.B**	**LCA and Warm mix asphalt (Chair: Kim Jenkins)**	
	16:00 – 16:15	Informing Sustainable Pavement Maintenance Policy with Environmental Cost	Susan Tighe
	16:15 – 16:30	Probabilistic vs. Deterministic LCCA for Perpetual Pavements	Syed Haider
	16:30 – 16:45	A Life Cycle Assessment of an Asphalt Mixture with Steel Slag and Reclaimed Asphalt	Caroline Moura
	16:45 – 17:00	Life Cycle Assessment of Asphalt Pavement with Photocatalytic Capability: Environmental Impacts from Cradle to Gate	Élida Melo Margalho
	17:00 – 17:15	Rheological investigation of wax-based warm mix binder	Shih-Huang Chen
	17:15 – 17: 30	Implication of zeolite in warm-mix asphalt on compactability indices and moisture damage	Shih-Huang Chen
Room C	**Session 6.C**	**Pavement monitoring (Chair: Hassan Baaj)**	
	16:00 – 16:15	Continuous Visual Survey of Road Pavement Using Convolutional Neural Networks and Smartphone Technology: A Data-Driven Approach	Haikel Buganem Busgaib Gonçalves
	16:15 – 16:30	Detection of Geogrids in Road Pavements Using Ground-Penetrating Radar (GPR): Experimental Study and Im-age Analysis	Grigório Neto
	16:30 – 16:45	Sensor-equipped infrastructure for integrated monitoring of asphalt pavements	Clara Celauro
	16:45 – 17:00	Airport pavement structural evaluation: the new ACR-PCR method applied to existing runway pavements	Simona Fontul
	17:00 – 17:15	Field monitoring of low noise surface mixtures modified with recycled tire rubber	Chiara Riccardi
Room D	**Workshop 4**	**Pavement recycling (Chair: Joel Oliveira)**	
	16:00 – 16:20	Technical Challenges and Opportunities in Asphalt Recycling Techniques	Joel Oliveira
	16:20 – 16:40	Cold Recycling - Smart, Safe and Sustainable trends in Europe	Martin Diekmann
	16:40 – 17:00	Paving the Future: Globalvia's Commitment to Recycling and Sustainability	Maria João Marques
	17:00 – 17:30	Discussion	

	18:30 – 19:30	Departure to Porto
	19:30 – 22:00	Conference Banquet

July 26 (Friday)

Room A	8:30 – 9:15	Registration	
		Keynote Lectures (Chair: David Lee)	
	9:15 – 9:55	Surface Characteristics and Functional Services of Road Pavements - Paradigm-Shift Need in Smart Transportation Era	Tien Fang Fwa
	9:55 – 10:35	Overview and Trends in Asphalt Technology	Delmar Salomon

	10:35 – 11:00	Break

Room A	**Session 7.A**	**Waste materials (Chair: Hugo Silva)**	
	11:00 – 11:15	Evaluating the Impact of Industrial Waste Incorporation on the Brittleness of Warm Mix Asphalt (WMA)	Jorge del Valle Corte
	11:15 – 11:30	Effects of REOB on Asphalt Binder's Rheological Properties	Ya Gao
	11:30 – 11:45	Effect of variability in sources of low-density polyethylene on the intermediate temperature fatigue performance of modified bitumen	Ankit Gupta
	11:45 – 12:00	Laboratory study on Asphalt Concrete with polypropylene plastic and non-selected construction and demolition waste	Manuel Caló
	12:00 – 12:15	End of the line for recycled plastics on asphalt mixtures in Portugal? Research and road applications	Henrique Miranda
	12:15 – 12: 30	Use of Recycled Low Density Polyethylene Plastic Waste in Stone Mastic Asphalt	Kelvin Yang Pin Lee
Room B	**Session 7.B**	**Pavement reinforcement (Chair: Elisabete Freitas)**	
	11:00 – 11:15	Asphalt Overlay Enhancement with Fatigue High-Performing Multiaxial Geocomposite	Michal Golos
	11:15 – 11:30	How Good Are Thin Asphalt Overlays?	Mansour Solaimanian
	11:30 – 11:45	Investigating the Performances of Geosynthetic-Reinforced Pavement During Construction by Field Testing and Laboratory Testing	Susan Tighe
	11:45 – 12:00	Determining the performance of reinforcement systems using laboratory–scale accelerated traffic testing	Christiane Raab
	12:00 – 12:15	Evaluating the Reflective Crack Resistance of Geosynthetic-Reinforced Asphalt Concrete through Notched Beam Fatigue Testing	Richard Kim
	12:15 – 12:30		
Room C	**Session 7.C**	**RAP (Chair: Joel Oliveira)**	
	11:00 – 11:15	Stiffness comparison of asphalt concrete containing reclaimed asphalt using various test methods – 4-point bending test and indirect tensile test	Majda Belhaj
	11:15 – 11:30	Use of Asphalt Concrete with High RAP Content with Waste Cooking Oil as a Rejuvenator	Silvino Capitão
	11:30 – 11:45	The effect of a bio-oil additive on the rutting and cracking properties of high RAP asphalt mixtures	Elena Romeo
	11:45 – 12:00	Temperature sensitivity of recycled binders containing different ages of RAP binders	L Abinaya
	12:00 – 12:15	Rheological Assessment of a Polymer-Modified Bitumen with 30% Recovered Bitumen for Asphalt Mix Recycling	Asmasadat Dabiri
	12:15 – 12: 30		

	12:30 – 12:45	Closing ceremony
	12:45 – 14:00	Lunch




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Brisa Autoestradas is a commercial brand of Brisa Concessão Rodoviária, the largest road infrastructure concessionaire in Portugal, which comprises 11 motorways, with a total of 1100 km in operation, establishing itself as the country's main road links.
Brisa Concessão Rodoviária, the main concession of Brisa Group, has as its corporate purpose the construction, maintenance and operation of motorways and their respective service areas, under concessionary agreements, and the planning and development of social infrastructure.

Brisa Autoestradas é a marca comercial da Brisa Concessão Rodoviária, a maior concessionária de infraestruturas rodoviárias em Portugal, que integra 11 autoestradas, num total de 1100 km em operação, constituindo-se como o principal eixo rodoviário do país.
A Brisa Concessão Rodoviária, principal concessão do Grupo Brisa, tem como objeto social a construção, conservação e exploração de autoestradas e respetivas áreas de serviço, em regime de concessão, bem como o estudo e realização de infraestruturas de equipamento social.

Iterchimica is an Italian company founded in 1967 by Gabriele Giannattasio, based in Suisio (Bergamo).
The company is one of the international leaders in the development of innovative products and technologies for asphalt pavements to improve their quality and guarantee safety, durability and sustainability.
Thanks to the technologies developed, Iterchimica enables the construction of asphalt pavements with very high percentages of reclaimed asphalt (up to 100%), thus reducing the extraction of new materials and the use of first-use bitumen.
Furthermore, the use of specific products allows the asphalt to be produced and laid at reduced temperatures, with consequent energy savings and reduction of CO2eq emissions into the atmosphere.
Today Iterchimica operates in over 90 countries around the world collaborating with contracting authorities, construction companies, General Contractors and design studios, both in the design and construction phase and in the maintenance phase, providing know-how and technical support also on site.
The variety of products developed and tested in the laboratories allows us to satisfy the needs of every area of action, respecting the singularities of the territory and the intended use of the asphalt pavement.
Iterchimica has the ambition to become, in the next 5 years, the global point of reference for the entire asphalt supply chain with lower environmental impact, with highly specialized and environmentally friendly solutions.
Iterchimica's products and technologies, deriving from 50 years of experience, are proven by projects and works carried out all over the world and will be the driving force behind the new proactive spirit towards the national and international market, with particular reference to sustainability, to the principles of the circular economy and to Sustainable Development Goals set by the United Nations.

Our history defines who we are today. A journey of more than 77 years, reflecting our excellence, ambition, and professionalism. We were founded in 1946 and are part of a large Portuguese economic group, present in 21 countries and 3 continents: the Mota-Engil group. We have built a history of which we are very proud. It is this history that inspires us every day to be pioneers and innovators in everything we do, and to respond to each project with professionalism, using cutting-edge construction techniques. A business vision where excellence is key, and respect for people is our mission. Today we are leaders in Portugal and a reference in the European market. Our values make us who we are in each new challenge.

MOTA-ENGIL ENGENHARIA

Vision: Achieving excellence will never be the limit. We always want to be one step ahead on the path of innovation, being a reference anywhere in the world, aligned by a unique and integrated strategic vision.

Mission: Creating shareholder value, with respect for the community, in a socially responsible way is our company's mission.

Values: Our success is the result of respecting our values over all these years. As current as more than 77 years ago, it is with them that we intend to continue to guide the future of Mota-Engil Engineering.

> Ambition: A constantly renewed desire to do more and better, facing the present and the future with boldness and confidence and taking on, in a determined and committed manner, new challenges that contribute to our growth.

> Cohesion: Ensuring that the ambitious goals we set are achieved with the contribution of all business areas, and that our vitality results from the reconciliation of the wisdom and strength necessary to overcome new challenges.

> Team Spirit: In a global and culturally diverse context, we encourage in all employees a sense of belonging, mutual support, knowledge sharing, and respect for differences.

> Integrity: In the daily conduct of everyone, we choose the path that reinforces the principles of honesty, truth, loyalty, righteousness, and justice.

> Sustainability: In our vision and development strategy, we have a firm commitment to an ethically, socially, and environmentally responsible management model.

With proven experience in the field of Civil Construction and infrastructure, we are prepared to meet all construction challenges, building rehabilitation, and infrastructure.

Our purpose is clear: to be rigorous in meeting all parameters, present a result of excellence, and distinguish ourselves as the reference in the market. From commercial buildings to health facilities, from airports to dams, we are specialists in various sectors relevant to the society where each work reflects the knowledge, vision, and capacity for realization, present from the 1st moment.

We are proud that, in our portfolio, we have ambitious, transformative works and true success stories; all with a common denominator: to respond to the needs of communities and the development of the country.

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MOVITER – EQUIPAMENTOS S.A.

MOVITER is one of the leading national companies in industrial and agricultural equipment. It represents in Portugal, Angola, Mozambique, Morocco, and Guinea-Conakry, on an exclusive basis, a range of recognized quality and reputable brands.

Over the years, MOVITER has built the image of a reliable partner, ready to serve demanding companies and to keep up with the market, with high-quality brands and equipment, efficient After-Sales Service, and extensive market knowledge.

Organized by business areas, with autonomous and specialized teams, MOVITER's activity in the industrial equipment segment is distributed across the sectors of Roads and Pavements; Infrastructure and Earthmoving; Forestry and Circular Economy.

In the Road and Pavements Construction and Maintenance sector, MOVITER represents the brands of the Wirtgen Group in Portugal and Africa - Wirtgen, Vögele, Hamm, Kleemann, Benninghoven, Ciber.

With a complete range and factories in Germany, the brands of the Wirtgen Group are global references in the road construction and maintenance sector and are leaders in innovation and the research of new technologies and applications. They are modern, robust, and economical machines with guaranteed quality and lead the sector in the field of recycling, supported by decades of experience in research and practical application in the field.

Project owners want quality roads. Contractors want machines that guarantee the required quality, with more productivity and economy. The brands of the Wirtgen Group offer all that and more. Machines that meet the needs of the road construction and maintenance sector, supported by quality service.

Wirtgen - milling machines, recyclers and soil stabilizers, binding agent spreaders, slipform pavers, surface miners
Vögele - road pavers, screeds, powerfeeders
Hamm - tandem rollers, pneumatic-tyre rollers, compactors
Kleemann - mobile jaw crushers, mobile impact crushers, mobile cone crushers, mobile screening plants
Benninghoven - asphat mixing plants
Ciber - mobile continuous asphat mixing plants

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WIRTGEN VÖGELE HAMM KLEEMANN BENNINGHOVEN CIBER

Founded in 1962 by José Guilherme Jorge da Costa, **Tecnovia** Group began its activity in the civil construction and public works sector. Since then, it has become a reference in the development of Portugal and the Autonomous Regions of the Azores and Madeira, expanding into international markets such as Angola, Cape Verde, Morocco, Uganda, Ecuador, and Bolivia.

Over the years, **Tecnovia** has diversified its skills beyond civil construction, public works, and the production of construction materials.

Today, with over 3800 employees, and a project portfolio exceeding 710 million euros, **Tecnovia** is present in diverse areas such as road concessions, parking facilities, maritime and recreational boating services, shipyards, and environmental services, including the management of construction and demolition waste (CDW) and urban solid waste (USW), in addition to the real estate sector, among others.

With more than 60 years of history, **Tecnovia** is recognized for its entrepreneurship, competence, and determination, values that have shaped its reputation, making the organization a reference in Portugal and the international construction landscape.

Tecnovia's is proud of its legacy and committed to remain competitive by innovating with new materials, solutions, technologies and partnerships that address sustainability challenges faced by the construction industry and society.