



WCPAM²⁰¹⁷ Program

Time	DAY #1, June 12 th			
14.00	On-site registration opens			
14.00-18.00	TUTORIALS			YOUNG PROFESSIONAL & STUDENT EVENTS
	Tutorial 1 FAA PAVEAIR Workshop <i>Instructor: Albert Larkin - Federal Aviation Administration</i>	Tutorial 2 Building a Successful Pavement Management Program <i>Instructors: Katie Zimmerman, Omar Smadi and Hamid Zarghampour</i>	Tutorial 3 Challenges and Opportunities for Incorporating Sustainability into Pavement Management Program <i>Instructors: Gerardo Flintsch, Susan Tighe and Hamid Zarghampour</i>	IISIM-International Inter-University Symposium on Infrastructure Management
18.30-19.30	<i>Opening reception</i>			

Time	DAY #2, June 13 th			
8.30	On-site registration opens			
9.00-10.30	<i>Welcome and Opening Ceremony</i>			
10.30-11.00	INVITED LECTURE #1 To deliver the appropriate Road Infrastructure: a huge challenge at present and in the future - Thomas Linder			
11.00-11.25	Coffee break in the Exhibit hall			
11.30-13.10	Concurrent Technical Session 01			
	Podium session 01.a Data Quality and Monitoring	Podium session 01.b Economic, Political, and Environmental mng. strategies	Podium session 01.c Deterioration Models	Podium session 01.d Key performance indicators
13.10-14.15	Light Lunch & Poster Session			
14.20-16.00	Concurrent Technical Session 02			
	Podium session 02.a Data Quality and Monitoring	Podium session 02.b Economic, Political, and Environmental mng. strategies	Podium session 02.c PMS -Case Studies	Podium session 02.d Design and Materials
16.00-16.15	Coffee break in the Exhibit hall			
16.20-18.00	Concurrent Technical Session 03			
	Podium session 03.a Other Assets Management	Podium session 03.b M&R treatments	Podium session 03.c PMS -Case Studies	Podium session 03.d Design and Materials

Time	DAY #3, June 14 th			
8.30-9.20	INVITED LECTURE #2 Political Economy of Road Management and Financing: Improving Institutional, Financing and Communications Arrangements - Henry G. R. Kerali			
9.20-11.00	Concurrent Technical Session 04			
	Podium session 04.a Data Quality and Monitoring	Podium session 04.b Design and Materials	Podium session 04.c PMS -Case Studies	WCPAM²⁰¹⁷ & ITALIAN OBSERVATORY ON AIRPORTS AIRPORT MANAGEMENT



11.00-11.25	Coffee break in the Exhibit hall			
11.30-13.10	Concurrent Technical Session 05			
	Podium session 05.a	Podium session 05.b	Podium session 05.c	WCPAM²⁰¹⁷ & ITALIAN OBSERVATORY ON AIRPORTS AIRPORT MANAGEMENT
	Data Quality and Monitoring	Design and Materials	PMS - Case Studies	
13.10-14.15	Light Lunch in the Exhibit hall			
14.20-16.00	Concurrent Technical Session 06			
	Podium session 06.a	Podium session 06.b	Podium session 06.c	WCPAM²⁰¹⁷ & ITALIAN OBSERVATORY ON AIRPORTS AIRPORT MANAGEMENT
	Risk and Safety	LCA e LCCA	Deterioration Models	
16.00-16.15	Coffee break in the Exhibit hall			
16.20-18.00	Concurrent Technical Session 07			
	Podium session 07.a	Podium session 07.b	Podium session 07.c	WCPAM²⁰¹⁷ & ITALIAN OBSERVATORY ON AIRPORTS AIRPORT MANAGEMENT
	Risk and Safety	Smart Infrastructures and IT	M&R treatments	

Time	DAY #4 , June15th			
9.00-10.40	Concurrent Technical Session 08			
	Podium session 08.a	Podium session 08.b	Podium session 08.c	Podium session 08.d
	Data Quality and Monitoring	Economic, Political, and Environmental mng. strategies	Deterioration Models	Design and Materials
10.40-10.55	Coffee break in the Exhibit hall			
11.00-12.40	Concurrent Technical Session 09			
	Podium session 09.a	Podium session 09.b	Podium session 09.c	Podium session 09.d
	PMS Case Studies	Economic, Political, and Environmental mng. strategies	Key Performance Indicator	Design and Materials
12.40-13.55	Light Lunch in the Exhibit hall			
14.00-15.40	Concurrent Technical Session 10			
	Podium session 10.a	Podium session 10.b	Podium session 10.c	Podium session 10.d
	Risk and Safety	LCA e LCCA	Bridge and Tunnel Management	M&R Treatments
15.40-16.00	Coffee break in the Exhibit hall			
16.15-18.30	Closing Ceremony Best Paper Awards WCPAM2017 meets the national and international Authorities and the media			
19.30	Gala Event			

Time	DAY #5, June 16th
9.00-13.00	TECHNICAL TOUR



TUTORIAL 1

Title	<i>WCPAM - FAA PAVEAIR Workshop</i>
Instructor	<i>Albert Larkin</i>
Day	<i>#1, June 12th</i>
Time	<i>14.00-18.00</i>
Room	<i>Carlo 1</i>

Contents

Session 1 (2 hours):

1. Introduction
2. What is a Pavement Management System?
3. FAA PAVEAIR Basics
4. Demonstration of FAA PAVEAIR Functions

Session 2 (2 hours):

1. Introduction of FAA PAVEAIR Version 3.0
2. Presentation on the FAA Extended Pavement Life Project
3. Questions & Comments



TUTORIAL 2

Title	<i>Building a Successful Pavement Management Program</i>
Instructors	<i>Katie Zimmerman, Omar Smadi and Hamid Zarghampour</i>
Day	<i>#1, June 12th</i>
Time	<i>14.00-18.00</i>
Room	<i>Carlo 3</i>

Contents

As a key part of a transportation asset management program, pavement management must use tools and processes that can adapt to new technology, new construction and design practices, and innovative ways of delivering a pavement program. This tutorial offers effective strategies for building a robust, comprehensive, and credible pavement management program that addresses your agency's needs.

The tutorial includes two 2-hour sessions that will cover the following topics:

Session 1: Data and Analysis Tools (2 hours)

1. Managing and coordinating data collection efforts.
2. Integrating data so it addresses agency needs.
3. Building performance models that reflect local conditions and practices.
4. Developing strategies to reduce the annual cost of system preservation.

Session 2: Implementation and Results (2 hours)

1. Using modern tools for monitoring under a maintenance contract.
2. Build buy-in for pavement management recommendations among agency leadership and elected officials.
3. Identifying needed enhancements using a gap analysis.



TUTORIAL 3

Title	<i>Challenges and Opportunities for Incorporating Sustainability into Pavement Management</i>
Instructors	<i>Gerardo Flintsch, Susan Tighe and Hamid Zarghampour</i>
Day	<i>#1, June 12th</i>
Time	<i>14.00-18.00</i>
Room	<i>Galassia</i>

Contents

The increased emphasis on achieving sustainability in all sectors of our society has created a series of important challenges and opportunities for pavement and asset management. The tutorial will cover the basic principles of sustainability, tools that can be used for making more sustainable pavement management decisions and examples of effort of road asset management for sustainable development in developed and developing countries.

The tutorial includes two 2-hour sessions that will cover the following topics:

Session 1: Basic Principles and Tools (2 hours)

1. Basic principles and dimensions of sustainability
2. Sustainability rating tools, including life cycle thinking.
3. Life cycle cost analysis.
4. Environmental and social safeguards

Session 2: Examples (2 hours)

1. Challenges and opportunities: The Canadian Experience.
2. Challenges and opportunities: Developing countries.
3. The impact of international collaboration: United States/ European Commission twinning program.



Welcome and Opening Ceremony

Day #2, June 13th

Time 9.00-10.30

Contents

Maurizio Crispino - Chairman WCPAM2017 - Politecnico di Milano

Welcome from WCPAM2017

Academic Authorities - Politecnico di Milano

Welcome from Politecnico di Milano

Academic Authorities - Department of Civil and Environmental Engineering - Politecnico di Milano

Welcome from DICA

Academic Authorities - School of Civil Engineering - Politecnico di Milano

Welcome from School of Civil Engineering

Giovanni Tesoriere - Chairman ASIT

Welcome from ASIT

Luis Picado Santos - Chairman EPAM

Welcome from EPAM

Kieran Feighan - Chairman ICMPA/TRB AFD10 (3)

Welcome from ICMPA

Ralph Hass (ICMPA)

An overview of ICMPA Conferences

Maurizio Crispino - Chairman WCPAM2017 - Politecnico di Milano

Introduction to WCPAM2017



Podium session	01.a
Topic	<i>Data Quality and Monitoring</i>
Day	<i>#2, June 13th</i>
Time	<i>11.30-13.10</i>
Room	<i>Carlo 1</i>
Chairman	<i>Peter Scott</i>
Co-chair	<i>Ehsan Ashouri Taziani</i>

Code	Title
01.a.01	Comparison of Different Visual and Automated Pavement Condition Survey Techniques <i>Brian Mulry, David O'Brien, Mark P. Gardner, Kieran Feighan</i>
01.a.02	Field Assessment of Three-Dimensional Surface Texture and Frictional Properties of Experimental Canadian Road Pavements <i>Qingfan Liu, S. M. Kamal Hossain, Hassan Baaj, Susan L. Tighe, Ahmed Shalaby</i>
01.a.03	High Speed Data Collection and Automatic Crack Mapping at the Network Level on the Bundaberg Region <i>Pedro Yarza, Ernesto Urbaez, Hennie Roux Peter Jensen</i>
01.a.04	Development of Detection Technology of Potholes Using Infrared Radiation <i>Yuichi Nakamoto, Tetsuya Unotsu, Shigeaki Tsukamoto, Hiroaki Uenakada</i>
01.a.05	Damaged Flexible Road Pavement Inspection Using GPR <i>Sandro Colagrande, Danilo Ranalli, Marco Tallini</i>



Podium session	01.b
Topic	<i>Economic, Political and Environmental mng. Strategies</i>
Day	<i>#2, June 13th</i>
Time	<i>11.30-13.10</i>
Room	<i>Planetario 1</i>
Chairman	<i>Omar Smadi</i>
Co-chair	<i>Syed W. Haider</i>

Code	Title
01.b.01	Innovative Approach to Integrate Economic Benefits of Existing Roadways into Asset Valuation <i>Juan Diego Porras-Alvarado, Cody Stone, Zhe Han, Taehoon Lim, Zhanmin Zhang</i>
01.b.02	My Road Rehabilitation Budget is Seed Funding <i>Krishna Naidoo</i>
01.b.03	Valuing Road Maintenance Funding Alongside Wider Benefits <i>Thomas Buckland, Richard Abell, Philipp Thiessen, John Collins</i>
01.b.04	Recent Investments in Maintenance of Brazilian Federal Highways <i>Luiz Guilherme Rodrigues de Mello, Cesar Queiroz</i>
01.b.05	Airport Pavement Maintenance Planning Using a Genetic Algorithm for Global Cost Minimization <i>Inês Balinho do Ó, Luís Picado Santos</i>



Podium session	01.c
Topic	<i>Deterioration Models</i>
Day	<i>#2, June 13th</i>
Time	<i>11.30-13.10</i>
Room	<i>Galassia</i>
Chairman	<i>Yichang (James) Tsai</i>
Co-chair	<i>Faruk Kaba</i>

Code	Title
01.c.01	Defining Crack Growth on Chipseal Surfaces <i>Doug N. Brown, Theunis F. P. Henning</i>
01.c.02	Modeling the Pothole Generation Process by Composite Statistical Models for Pavement Management on Expressway Bridges <i>Yohei Ninomiya, Daijiro Mizutani, Kiyoyuki Kaito</i>
01.c.03	Validation of Pavement Remaining Service Interval Concept Using Highway Agency Models and Data <i>James Bryce, Gonzalo Rada, Senthil Thyagarajan, Nadarajah Sivanewaran</i>
01.c.04	Road Inventory Database System Using Road Image and Geo-Coordinates <i>Kazuya Aoki, Seiji Kadooka, Kohei Sakai, Yoshiyasu Tsuchiya</i>
01.c.05	Impact of Surface Discontinuities on Pavement Damage due to Water Infiltration <i>Syed W. Haider, Karim Chatti, Gopikrishna Musunuru</i>



Podium session	01.d
Topic	<i>Key Performance Indicators</i>
Day	<i>#2, June 13th</i>
Time	<i>11.30-13.10</i>
Room	<i>Carlo 3</i>
Chairman	<i>Alondra Chamorro</i>
Co-chair	<i>Saverio Olita</i>

Code	Title
01.d.01	CEDR-Project ISABELA - The Way to Integrate Social Performance Indicators into Asset Management <i>Alfred Weninger-Vycudil, Darko Kokot, Goran Mlandenović, Jelena Cirilovic, Bajko Kulauzovič, Philippe Lepert, Maria de Lurdes Antunes, Pedro Marcelino, Johann Litzka, Michael Wistuba, Nikola Tanasić, Frank</i>
01.d.02	New Indicators of Riding Comfort from Vehicle Dynamics <i>Pertti Virtala, Juho Meriläinen</i>
01.d.03	Pavement Inspection Technology by KURABO <i>Tetsutomo Ogawa</i>
01.d.04	Multivariate Statistics on Pavement Condition Indicators <i>Tim Blumenfeld</i>
01.d.05	Development of a Pavement Condition Index for Urban Pavement Management Systems <i>Edgar Arevalo Paez, Simone Becker Lopes, Jose Leomar Fernandes Jr.</i>



Podium session	02.a
Topic	<i>Data Quality and Monitoring</i>
Day	<i>#2, June 13th</i>
Time	<i>14.20-16.00</i>
Room	<i>Carlo 1</i>
Chairman	<i>Alexander Paz</i>
Co-chair	<i>Thomas Buckland</i>

Code	Title
02.a.01	Characterization Road Surface by Means of Laser Scanner Technologies <i>Maria Rosaria De Blasiis, Alessandro Di Benedetto, Margherita Fiani, Marco Garozzo</i>
02.a.02	Categorizing 3D Pavement Rut Shapes Using 3D Laser Imaging Technology <i>Chieh Ross Wang, Yichang James Tsai</i>
02.a.03	Field Evaluation of the Traffic Speed Deflectometer <i>Shivesh Shrestha, Samer W. Katicha, Gerardo W. Flintsch</i>
02.a.04	High-Speed Road Measurement Systems: Integration of Pavement and General Mapping Laser Technologies <i>Michele Mori, Enea Sogno</i>
02.a.05	Nondestructive Testing, Airport Pavement Evaluation Technologies - Cases of Study <i>Ernesto Urbaez, Pedro Yarza</i>



Podium session	02.b
Topic	<i>Economic, Political and Environmental mng. Strategies</i>
Day	<i>#2, June 13th</i>
Time	<i>14.20-16.00</i>
Room	<i>Planetario 1</i>
Chairman	<i>Kieran Feighan</i>
Co-chair	<i>Tatjana Rukavina</i>

Code	Title
02.b.01	Establishing Optimal Long Term Funding Allocation Systematic Approach Based on Network Needs and Availability of Funds <i>Alan Roland, Mark Porter, John Yeaman</i>
02.b.02	Condition Related Keys for Allocation of Asset Maintenance Funds Between Road Networks <i>Slawomir Heller</i>
02.b.03	Championing Asset Management for Unpaved Roads: a Dynamic Mix of People, Strategy, Practice, Specifications and Gravel Resources <i>Mervyn G Henderson, Gerrie van Zyl</i>
02.b.04	Natural Bitumen - The Perfect Additives for High-Performance Asphalt Mixes <i>Edith Tartari, Faruk Kaba</i>
02.b.05	A Conceptual Approach to Evaluate Asset Management Trade-Off Decisions <i>Kathryn A. Zimmerman, Brad W. Allen, Prashant V. Ram, Gregory M. Duncan, Omar Smadi, Kelly L. Smith, Kartik R. Manda, Basak A. Bektas</i>



Podium session	02.c
Topic	<i>PMS Case Studies</i>
Day	<i>#2, June 13th</i>
Time	<i>14.20-16.00</i>
Room	<i>Galassia</i>
Chairman	<i>Doug Brown</i>
Co-chair	<i>Donato Ciampa</i>

Code	Title
02.c.01	Putting Your Pavement Management System to Work <i>Kathryn A. Zimmerman</i>
02.c.02	Development of Innovative Asset Management Solutions for a Large Canadian City <i>Rahanuma Wafa, Susan L. Tighe, Gary Moore, Rico Fung</i>
02.c.03	Development of an Urban Pavement Management System <i>Aleli Osorio, Cristina Torres-Machí, Pablo Godoy, Alondra Chamorro, Claudio Mourgues, Susan L. Tighe, Carlos Videla</i>
02.c.04	Current International Practices on Pavement Condition Assessment <i>Pedro Marcelino, Maria de Lurdes Antunes, Eduardo Fortunato</i>
02.c.05	A Simple Method For Monitoring and Comparing the Condition Of Pavements on the Trunk Road Network, and Informing Maintenance Budgets, Using Proxy Datasets <i>Peter Scott</i>



Podium session	02.d
Topic	<i>Design and Materials</i>
Day	<i>#2, June 13th</i>
Time	<i>14.20-16.00</i>
Room	<i>Carlo 3</i>
Chairman	<i>Tom Papagiannakis</i>
Co-chair	<i>Glynn Holleran</i>

Code	Title
02.d.01	Bridge Weigh-in-Motion as tool for Road Damage Remediation <i>Bajko Kulauzović, Julijana Jamnik</i>
02.d.02	Structural Coefficient Calibration of Sustainable Asphalt Paving Materials <i>Cayce S. Dossett, David H. Timm</i>
02.d.03	Effect of Higher Axle Loads on Service Life of Bituminous Pavement <i>Satish Pandey, T.Harish Chowdary, Siddharth Rokade</i>
02.d.04	Preliminary Analysis for the Evaluation of Optimal Runway Pavement Design and Maintenance <i>D'apuzzo Mauro, Evangelisti Azzurra, Nicolosi Vittorio, N. Palombo, Bruna Festa, Schibani Antonella</i>
02.d.05	A New Decision-Aid Tool for Simulation of Tire-Pavement Interaction and for Quantification of Energy Harvesting on Pavements <i>Francisco Duarte, Adelino Ferreira, Paulo Fael</i>



Podium session	03.a
Topic	<i>Other Asset Management</i>
Day	<i>#2, June 13th</i>
Time	<i>16.20-18.00</i>
Room	<i>Planetario 1</i>
Chairman	<i>Adelino Ferreira</i>
Co-chair	<i>Ernesto Urbaz</i>

Code	Title
03.a.01	Surface Drainage Evaluation Framework for use in Roadway Asset Management <i>Charles F. Gurganus, Nasir Gharaibeh, Tom Freeman</i>
03.a.02	Influence of Roadside Vegetation on Waveband Roughness Levels for Pavements Founded on Expansive Soils <i>MD Yeasin Ahmed, Robert Evans</i>
03.a.03	Management Methods for Drainage Asphalt Pavements Considering Local Damages <i>Daijiro Mizutani, Kengo Obama, Kiyoyuki Kaito, Naoki Susaki, Keisuke Yasumura</i>
03.a.04	Footway Management – New Developments in Ireland <i>Kieran Feighan, Brian Burke, Paul Fox, John McCarthy</i>
03.a.05	Case Study of Innovative Culvert Installation Techniques to Mitigate Pavement Roughness at Through-Grade Culverts in Cold Climate <i>Leonníe Kavanagh, Ahmed Shalaby</i>



Podium session	03.b
Topic	<i>M&R Treatments</i>
Day	<i>#2, June 13th</i>
Time	<i>16.20-18.00</i>
Room	<i>Carlo 1</i>
Chairman	<i>Tim Blumenfeld</i>
Co-chair	<i>Sandro Colagrande</i>

Code	Title
03.b.01	Optimized Treatment Selection Using Structural Data for Pavement Management Applications <i>Senthilmurugan Thyagarajan, Nadarajah Sivaneswaran, Gonzalo Rada, Katherine Petros, Gary Elkins</i>
03.b.02	Critical Assessment of the Consequences of Delayed Pavement Resurfacing and Rehabilitation Using Pavement Condition Evaluation Data <i>Yichang James Tsai, Yiching Wu</i>
03.b.03	Process of Developing Performance-related Specifications for Pavement Preservation Treatments <i>Syed W. Haider, Karim Chatti, Gopikrishna Musunuru, Ronell Joseph Eisma</i>
03.b.04	Optimization of Pavement M&R Activities with User Costs and Risk for Multiple Distress Types <i>Markus Hoffmann, Valentin Donev</i>
03.b.05	Recycling Bituminous Shingles in Cold Mix Asphalt for High-Performance Patching Repair of Road Pavements <i>Marco Pasetto, Giovanni Giacomello, Emiliano Pasquini, Andrea Baliello</i>



Podium session	03.c
Topic	<i>PMS Case Studies</i>
Day	<i>#2, June 13th</i>
Time	<i>16.20-18.00</i>
Room	<i>Galassia</i>
Chairman	<i>Greg White</i>
Co-chair	<i>Kazuya Aoki</i>

Code	Title
03.c.01	Pavement Management System on Croatian Motorways <i>Boris Kuvačić, Tatjana Rukavina, Dalibor Alerić, Božidar Magdalenić</i>
03.c.02	Validation of Pavement Condition Metrics and Performance Measures for the US Interstate Highway System <i>Amy L. Simpson, Gonzalo Rada, Beth A. Visintine, Thomas Van</i>
03.c.03	Best PMS practices in Europe and implementation of PMS in Bulgaria <i>Denitsa Osichenko, Roland Spielhofer, Vesela Filipova</i>
03.c.04	Implementation of “RO.MA.” Pavement and Asset Management System <i>Gianfranco Battiato, Lorenzo Cosimi</i>
03.c.05	Pavement Monitoring and Performance Assessment of Gravel Road Networks for Optimal Maintenance Interventions in Botswana <i>Adewole S. Oladele</i>



Podium session	03.d
Topic	<i>Design and Materials</i>
Day	<i>#2, June 13th</i>
Time	<i>16.20-18.00</i>
Room	<i>Carlo 3</i>
Chairman	<i>David Timm</i>
Co-chair	<i>Tetsutomu Ogawa</i>

Code	Title
03.d.01	Influence of Mineralogical and Chemical Composition of Aggregate on Strength and Adhesion Property <i>H.R. Sachin, K.M. Malleesh, Mohamed Shareef</i>
03.d.02	Evaluation of Porous Asphalt RAP Aggregates for Recyclability in Porous Asphalt Mixes <i>Irina Holleran, Douglas J. Wilson, Glynn Holleran, Bruce Chappell, Lubinda F. Walubita</i>
03.d.03	Fine Aggregate Properties vs Asphalt Mechanical Behavior: an Experimental Investigation <i>Teresa Iuele, Filippo G. Praticò, Rosolino Vaiana</i>
03.d.04	Zero Shear Viscosity Evaluation of PMB Bituminous Binders with Different Levels of Polymer Modifications <i>Michele Agostinacchio, Donato Ciampa, Saverio Olita</i>
03.d.05	A System for Highway Energy Harvesting <i>S. Dessouky, A.T. Papagiannakis, A. Montoya</i>



Podium session	04.a
Topic	<i>Data Quality and Monitoring</i>
Day	<i>#3, June 14th</i>
Time	<i>09.20-11.00</i>
Room	<i>Planetario 1</i>
Chairman	<i>Gilberto Martinez-Arguelles</i>
Co-chair	<i>Misagh Ketabdari</i>

Code	Title
04.a.01	A new Approach to Pavement Monitoring <i>Rainer Hess, Dirk Jansen</i>
04.a.02	The Long-Term Observation Section on Motorway BAB A5 in Hesse as a Data Source for Research in the Field of Road Maintenance <i>Jürgen Bergmann-Syren, Wojciech Smęt, Christian Komma, Marek Skakuj</i>
04.a.03	Pavement Condition Data Quality Verification Methods for Pavement Management System <i>Sui G. Tan, DingXin Cheng</i>
04.a.04	A Novel Road Sectioning Technique for Pavement Management <i>Matthias Botzen, Frank Schiffmann, Rade Hajdin</i>
04.a.05	A Robust Data Processing Method for Pavement Performance Models <i>Don Chen, Tara Cavalline</i>



Podium session	04.b
Topic	<i>Design and Materials</i>
Day	<i>#3, June 14th</i>
Time	<i>09.20-11.00</i>
Room	<i>Carlo 3</i>
Chairman	<i>Gerardo W. Flintsch</i>
Co-chair	<i>Valentin Donev</i>

Code	Title
04.b.01	Evaluation of Polymer-Based Dust Suppressant Mixed With Sandy Soil in Unpaved Road: Lab Experiment <i>Junxin Huang, Chun-Hsing Ho, Yijie Gao, Yuzhi Zhang</i>
04.b.02	Characterization of Bituminous Mixtures Modified with Zero-Valent Iron Nanoparticles <i>João Crucho, José Neves, Silvino Capitão, Luís Picado-Santos</i>
04.b.03	Asphalt Binder Rejuvenation for Recycling Road Materials <i>Loretta Venturini, Luca Baccellieri, Filippo Giustozzi</i>
04.b.04	Durability and Strength Assessment of Pavement Materials Treated with Polyacrylamide-Based Additive <i>Rayya Hassan, Romel Georgees</i>
04.b.05	Permanent Deformation Properties of Nylon Fiber Reinforced Asphalt Concrete <i>Hasan Taherkhani, Siamak Afroozi</i>



Podium session	04.c
Topic	<i>PMS Case Studies</i>
Day	<i>#3, June 14th</i>
Time	<i>09.20-11.00</i>
Room	<i>Galassia</i>
Chairman	<i>Thomas Freeman</i>
Co-chair	<i>Karol R. Opara</i>
Code	Title
04.c.01	Life-Cycle Pavement Maintenance: Identification of Medium to Long-Term Candidate Renewal Schemes <i>Peter Scott</i>
04.c.02	The Impact of Budget on Pavement Maintenance of Small Municipalities <i>D'apuzzo Mauro, Evangelisti Azzurra, Nicolosi Vittorio, A. Di Silvestro</i>
04.c.03	Total Cost Optimization for Public Transport System in Tumkur City <i>Waheed Khan A, Navaneetha Hombali B N, K M Mallesha</i>
04.c.04	Road Maintenance at Operative Level. Silesia Voivodship Case Study <i>Zbigniew Tabor, Marek Skakuj</i>
04.c.05	Road Asset Management - The European experience <i>Christophe Nicodème</i>



Podium session	05.a
Topic	<i>Data Quality and Monitoring</i>
Day	<i>#3, June 14th</i>
Time	<i>11.30-13.10</i>
Room	<i>Planetario 1</i>
Chairman	<i>Scott Shuler</i>
Co-chair	<i>Alfred Weninger-Vycudil</i>

Code	Title
05.a.01	Advanced PMS. Consideration of the Pavement Bearing Capacity <i>Jose Manuel Sanz Garcia, Jose Antonio Ramos Garcia, Fernando Sanchez Dominguez</i>
05.a.02	Comparison of the Methodologies to Compute Pavement Surface Deflections from Traffic Speed Deflectometer Data <i>Mahdi Nasimifar, Senthilmurugan Thyagarajan, Nadarajah Sivaneswaran</i>
05.a.03	The Traffic Speed Deflectometer – Combining Structural and Functional Pavement Condition Evaluation in Australia <i>Richard Wix</i>
05.a.04	Exact Localization of Damages on Concrete Slab Pavements <i>Marek Bukowicki, Karol R. Opara</i>
05.a.05	Investigation of the Permanent Deformation Properties of Open Graded Permeable Unbound Granular Materials <i>Mohammad Shafiqur Rahaman, Fredrik Hellman, Sigurdur Erlingsson</i>



Podium session	05.b
Topic	<i>Design and Materials</i>
Day	<i>#3, June 14th</i>
Time	<i>11.30-13.10</i>
Room	<i>Carlo 3</i>
Chairman	<i>Chun-Hsing Ho</i>
Co-chair	<i>Bruno Crisman</i>

Code	Title
05.b.01	Field Monitoring and Analysis of the Early Performance of Unbounded Concrete Overlay using Strain Gauge Readings <i>Qingfan Liu, Cristina Torres-Machi, Jian Zhong, Daniel Pickel, Yao Chen, Susan L. Tighe</i>
05.b.02	Study on the Filling Ability of Cement Grout in Semi-Flexible Porous Asphalt Pavement <i>Susumu Shimizu, Hiromi Fujiwara, Shuichi Fujikura, Masanori Maruoka, Huizhu Xie</i>
05.b.03	Improving Properties and Performance of HMA With High RAP Content <i>Rayya Hassan, Binh Tran</i>
05.b.04	Environmental and Mechanical Benefits of Cold Recycled Bituminous Mixes with Crumb Rubber <i>G. Martínez-Arguelles, L. Fuentes, A. Bonicelli, A. Castro, J. Santos</i>
05.b.05	Influence of Production Temperature and Additive Dosage on Warm Mix Asphalt Performance <i>Arianna Stimilli, Francesca Frigio, Maurizio Bocci, Francesco Canestrari</i>



Podium session	05.c
Topic	<i>PMS Case Studies</i>
Day	<i>#3, June 14th</i>
Time	<i>11.30-13.10</i>
Room	<i>Galassia</i>
Chairman	<i>T. F. Fwa</i>
Co-chair	<i>Lubos Remek</i>

Code	Title
05.c.01	Integrated Asset Management at CDOT and How It Directly Impacts Resource Allocation and Programming <i>Jeffrey L. Zavitski, William Johnson</i>
05.c.02	New City of Montreal's Intervention Plan for the Management of Municipal Assets <i>France Bernard</i>
05.c.03	Pavement Rehabilitation of Runway 16L/34R at Rome International Airport <i>Gregorio Maria Ulini, Luca Di Giampietro</i>
05.c.04	Development and Deployment of Asset Management System for Ashghal (Public Works Authority of Qatar) <i>Yon Marcuerquiaga Ruiz De Alda</i>
05.c.05	Asset Management in Latin America and the Caribbean; Result from an Inter-American Development Bank Sectorial Study <i>Karisa Maia Ribeiro, Luis Uechi, Ivan Corvacho Morales, Alejandra Medina, Gerardo Flintsch</i>



Podium session	06.a
Topic	<i>Risk and Safety</i>
Day	<i>#3, June 14th</i>
Time	<i>14.20-16.00</i>
Room	<i>Planetario 1</i>
Chairman	<i>Sue McNeil</i>
Co-chair	<i>Vittorio Nicolosi</i>

Code	Title
06.a.01	Incorporating Safety, Knowledge and Innovations as Quantifiable Assets in Pavement Asset Management <i>R. Haas, W. Ronald Hudson, Lynne Cowe Falls</i>
06.a.02	Risk Management in Infrastructure Companies <i>Maurizio Crispino, Francesco Capalbo, Misagh Ketabdari</i>
06.a.03	Application of Road Safety Indicators in the Road Maintenance Planning. Warmia and Mazury Case Study <i>Agata Ciołkosz-Styk, Tomasz Radzikowski, Marek Skakuj</i>
06.a.04	Life-Cycle-Risk Assessment within Road Infrastructure Asset Management <i>Alfred Weninger-Vycudil, Barbara Brozek</i>
06.a.05	Road Design Measures and Strategies for the Prevention and Suppression of Forest Fires in Spain <i>Ana María Rodríguez-Alloza, Juan Gallego</i>



Podium session	06.b
Topic	<i>LCA and LCCA</i>
Day	<i>#3, June 14th</i>
Time	<i>14.20-16.00</i>
Room	<i>Carlo 3</i>
Chairman	<i>Kathryn Zimmerman</i>
Co-chair	<i>DingXin Cheng</i>

Code	Title
06.b.01	Maintenance Management of Grooved Runway Pavement <i>Calvin Yeung, T. F. Fwa, Clarence Low, Choong Chin Yong, How Choon Onn</i>
06.b.02	Research Project PROMAT - A New Way of Improving Performance Prediction in Life-Cycle-Cost Analysis <i>Alfred Weninger-Vycudil, Michael Wistuba, Johann Litzka, Martin Peyerl</i>
06.b.03	Framework for Streamlined Life Cycle Cost Analysis for Low Volume Roads <i>Ashley Buss, Scott Schram</i>
06.b.04	Material Structural and Economical Aspects of Life Cycle Extension of Asphalt Concrete Surfacing <i>Jan Mikolaj, Lubos Remek</i>
06.b.05	Consideration of Life Cycle Greenhouse Gas Emissions in Optimal Pavement Maintenance Programming: a Comparison Between Single-Objective and Multi-Objective Optimization Approaches <i>João Santos, Adelino Ferreira, Gerardo Flintsch, Véronique Cerezo</i>



Podium session	06.c
Topic	<i>Deterioration Models</i>
Day	<i>#3, June 14th</i>
Time	<i>14.20-16.00</i>
Room	<i>Galassia</i>
Chairman	<i>Susan Tighe</i>
Co-chair	<i>Susanna Alberti</i>

Code	Title
06.c.01	Mechanistic Rutting Modelling of an LTPP Road Structure <i>Sigurdur Erlingsson, Abubeker Ahmed</i>
06.c.02	Prediction of Remaining Structural Service Life Using Traffic Speed Deflectometer <i>Sittampalam Manoharan, Gary Chai, Sanaul Chowdhury, Andrew Golding</i>
06.c.03	Pavement Rutting Prediction Models Developed for Asphalt Concrete Pavements Through Accelerated Loading Tests <i>Zheng Nanxiang , Li Ningyuan , Meng Shutao, Xu Quanliang, Ji Xiaoping, Cong Zhuohong, Gan Xinli</i>
06.c.04	Skid Resistance Degradation Model of Asphalt Pavements with Natural Aggregates and Steel Slags <i>Bruno Crisman, Giulio Ossich, Roberto Roberti</i>
06.c.05	Existing Pavement Deterioration Models: Limitations and a Potential Solution <i>Alexander Paz, Mukesh Khadka</i>



Podium session	07.a
Topic	<i>Risk and Safety</i>
Day	<i>#3, June 14th</i>
Time	<i>16.20-18.00</i>
Room	<i>Planetario 1</i>
Chairman	<i>Hiromi Fujiwara</i>
Co-chair	<i>Don Chen</i>

Code	Title
07.a.01	Skid Resistance Strategy for a Road Network <i>Simon Hunt</i>
07.a.02	Evaluation of Speed Control Cameras in Lisbon Network <i>Carmen Carvalheira, Luís Picado Santos, José Nuno Santos</i>
07.a.03	Management of Skid Resistance in Ireland <i>Brian Mulry, Kieran Feighan, Edward Winterlich</i>
07.a.04	Managing Skid Resistance and Friction on Asphalt Runway Surfaces <i>Greg White</i>
07.a.05	Integrating Resilience Concepts with Pavement Management: A Case Study in Delaware <i>Yuanchi Liu, Sue Mcneil, Gordana Herning</i>



Podium session	07.b
Topic	<i>Smart Infrastructures and ITS</i>
Day	<i>#3, June 14th</i>
Time	<i>16.20-18.00</i>
Room	<i>Galassia</i>
Chairman	<i>Sigurdur Erlingsson</i>
Co-chair	<i>Richard Wix</i>

Code	Title
07.b.01	Classifying Pavement Surface Anomalies Utilizing Smartphones Technology, Vehicles and On-Board Diagnostic Devices <i>Charalambos Kyriakou, Symeon E. Christodoulou, Loukas Dimitriou</i>
07.b.02	The Development of an Information System to Support and Automate Linear Infrastructure Management <i>João Morgado, Emanuel Duarte</i>
07.b.03	Response Type Roughness and Cracking Measurement Method by Using Smartphone <i>Yagi Koichi</i>
07.b.04	Pedemontana Highway - Multi Lane Free Flow <i>Giuseppe Bilancia, Andrea Monguzzi, Mirco Agutoli, Giovanni Trezza</i>
07.b.05	Determination of Pavement Roughness with Data Collected by Smartphones <i>Danilo Rinaldi Bisconsini, Jose Leomar Fernandes Jr.</i>



Podium session	07.c
Topic	<i>M&R Treatments</i>
Day	<i>#3, June 14th</i>
Time	<i>16.20-18.00</i>
Room	<i>Carlo 3</i>
Chairman	<i>Marek Skakuj</i>
Co-chair	<i>France Bernard</i>

Code	Title
07.c.01	Managing Reflection Cracking in Asphalt Pavements <i>Scott Shuler, Vittorio Ranieri</i>
07.c.02	Impact Assessment of Road Work Zones in Operating Conditions, Safety and User Costs <i>Bertha Santos, Luis Picado-Santos</i>
07.c.03	Network-Level Optimization of Pavement M&R Activities, Timing and Work-Zone Length for Multiple Distress Types <i>Valentin Donev, Markus Hoffmann</i>
07.c.04	A Decision Support Tool for Asset Management of Airfield Pavements <i>Cinzia Maggiore, Peter McCarthy, Gary Fitch</i>
07.c.05	Long-Term Work Zone Planning for Highway Infrastructure <i>Frank Schiffmann, Rade Hajdin</i>



Podium session	08.a
Topic	<i>Data Quality and Monitoring</i>
Day	<i>#4, June 15th</i>
Time	<i>09.00-10.40</i>
Room	<i>Carlo 1</i>
Chairman	<i>Carlos Chang</i>
Co-chair	<i>Lorenzo Domenichini</i>

Code	Title
08.a.01	Bearing Capacity of Cement Concrete Pavement above a Cavity under the Road Surface <i>Kazunari Hirakawa, Shuichi Kameyama, Ryo Kishira, Masakazu Jomoto</i>
08.a.02	Performance Monitoring of Unbound Granular Layers in Pavement Constructions with Recycled Materials <i>Gudrun Golkowski</i>
08.a.03	A Review of State Airport Pavement Management Practices and Airport Pavement Conditions in the United States from 2003 through 2016 <i>M. R. Covalt, L. Raczkowski, M. Fisher</i>
08.a.04	Quality Assurance of Road Traffic Data <i>Karol R. Opara, Jan P. Zieliński</i>
08.a.05	A Multi-Scale Diagnosis Model for Cracking in Asphalt Pavements <i>Di Wang, Augusto Cannone Falchetto, Michael Wistuba, Yichang James Tsai</i>



Podium session	08.b
Topic	<i>Economic, Political and Environmental mng. Strategies</i>
Day	<i>#4, June 15th</i>
Time	<i>09.00-10.40</i>
Room	<i>Planetario 1</i>
Chairman	<i>Mervyn Henderson</i>
Co-chair	<i>Tim Alte-Teigeler</i>

Code	Title
08.b.01	The Evaluation and Visualization of Spatial Disparities in the Pavement Condition for the Purpose of Sustainable Development of Road Infrastructure <i>Agata Ciolkosz-Styk, Slawomir Heller</i>
08.b.02	Holistic Approach to Asset Management Delivery to Achieve Sustainable Efficiencies <i>Simon Hunt, Gordon Hart</i>
08.b.03	CEDR Project DeTECToR <i>Marek Skakuj</i>
08.b.04	Impact of Pavement Structural Response on Rolling Resistance and Vehicle Fuel Economy <i>Danilo Balzarini, Imen Zaabar, Karim Chatti, Massimo Losa</i>
08.b.05	Preparation of Multi-Year Rolling Program for Road Asset Preservation and Improvement in Rural Road Network, a Case Study from Georgia <i>Giorgi Japaridze, Hamid Zarghampour</i>



Podium session	08.c
Topic	<i>Deterioration Models</i>
Day	<i>#4, June 15th</i>
Time	<i>09.00-10.40</i>
Room	<i>Galassia</i>
Chairman	<i>Goran Mladenović</i>
Co-chair	<i>Teresa Gamarra</i>

Code	Title
08.c.01	Network Level Forecasting Models for Pavement Maintenance Analysis at Finnish Transport Agency <i>Vesa Männistö, Janne Junes, Lauri Suikki</i>
08.c.02	Statistical Sampling and Calibration of Deterioration Curves in Pavement Management Systems – a Case Study in Brazil <i>Rimon Rafiah, Haim Bonjack</i>
08.c.03	Modeling Roughness Progression in Mexican Roads Using Historical Data <i>Ricardo Solorio, Gerardo Flintsch, Paul Garnica, Francisco Moreno</i>
08.c.04	Prognostic Models for the Road Condition Indices in the Swedish Transport Administration's Pavement Management System <i>Olle Eriksson, Thomas Lundberg</i>
08.c.05	Integrating Historical-Truth Aircraft Traffic Data Into a Pavement Management System <i>Richard L. Boudreau, Kathryn Masters, Quintin B. Watkins</i>



Podium session	08.d
Topic	<i>Design and Materials</i>
Day	<i>#4, June 15th</i>
Time	<i>09.00-10.40</i>
Room	<i>Carlo 3</i>
Chairman	<i>Luis Picado Santos</i>
Co-chair	<i>Ciro Caliendo</i>

Code	Title
08.d.01	Assessing the Bond Strength of Two Layer Roller Compacted Concrete (RCC) for Pavements <i>Haneen Mohammed, Nick Thom, Andrew Dawson</i>
08.d.02	A Study on Performance of Roller-Compacted Concrete Pavement in Accelerated Pavement Test in Korea <i>Chamroeun Chhorn, Seung Hwan Han, Beom Jun Chon, Jun Young Park, Seung Woo Lee</i>
08.d.03	Implementation of a Long Life Low Noise Surface <i>David Alabaster, John Forrest, Jeff Waters, Philip Herrington</i>
08.d.04	Use of Calcium Sulphoaluminate Cement for Paving Applications: Laboratory Test and Scale-Up Results <i>Sergio Tortelli, Adriano Reggia, Maurizio Marchi, Giovanni Plizzari</i>
08.d.05	Cement-Bitumen Treated Materials Resistance: Evaluation by Means of Wheel Tracking Test Machine <i>Monica Meocci, Francesca La Torre, Filippo Giammaria Praticò</i>



Podium session	09.a
Topic	<i>PMS Case Studies</i>
Day	<i>#4, June 15th</i>
Time	<i>11.00-12.40</i>
Room	<i>Carlo 1</i>
Chairman	<i>Margaret Covalt</i>
Co-chair	<i>Sergio Tortelli</i>

Code	Title
09.a.01	Data Collection Methodology to Assess Airport Pavement Condition using GPS, Laser, Video Image and GIS <i>Débora Lima, Bertha Santos, Pedro G. Almeida</i>
09.a.02	Optimizing Maintenance and Rehabilitation Through Multi-Year Work Planning <i>Alex Galenko, Tonya Scheinberg, Pascal Laumet</i>
09.a.03	Cartesio Project: Development of One of The Most Advanced Multipurpose Equipment for Road Asset Management on Italian Primary Network <i>Antonio Ippolito, Mauro Contrafatto, Mauro Bardelloni, Domenico Fernandez, Cristina Ferrari</i>
09.a.04	Connecting the Dongle to the Shovel <i>Simon Hunt, Gordon Hart</i>
09.a.05	Managing Pavement Assets Through in-situ Monitoring <i>John Yeaman</i>



Podium session	09.b
Topic	<i>Economic, Political and Environmental mng. Strategies</i>
Day	<i>#4, June 15th</i>
Time	<i>11.00-12.40</i>
Room	<i>Planetario 1</i>
Chairman	<i>Ningyuan Li</i>
Co-chair	<i>Edoardo Mariani</i>

Code	Title
09.b.01	Prioritising Maintenance and Rehabilitation Projects to Ensure Sustainable Pavement Preservation <i>Shaun Moodley</i>
09.b.02	A Dynamic Optimal Model For Pavement Asset Management And Public Private Partnership (PPP) Projects <i>Zaid Alyami, Daijiro Mizutani, Kiyoyuki Kaito, Susan L. Tighe</i>
09.b.03	A Methodological Framework for Implementation of Transportation Asset Management in Public Private Partnership Projects <i>Zaid Alyami, Susan L. Tighe</i>
09.b.04	Asset Management Under Public Private Partnerships – Lessons Learnt from Developing Countries <i>Rimon Rafiah, Haim Bonjack</i>
09.b.05	Optimizing Operation and Management in PPP Projects <i>Pascal Laumet, Mikkel Bruun</i>



Podium session	09.c
Topic	<i>Key Performance Indicators</i>
Day	<i>#4, June 15th</i>
Time	<i>11.00-12.40</i>
Room	<i>Galassia</i>
Chairman	<i>Gonzalo Rada</i>
Co-chair	<i>Francesca Maltinti</i>

Code	Title
09.c.01	Quality Insurance of Visual Inspections for Pavement Management of Communal Road Networks <i>Carl Van Geem, Tim Massart</i>
09.c.02	Pavement KPIs at Strategic and Tactical Levels on the Irish National Roads Network <i>Kieran Feighan, Tom Casey, Pat Maher</i>
09.c.03	Key Performance Indicators for a Strategic Maintenance Planning on Urban Road Networks <i>Alexander Buttgereit, Slawomir Heller</i>
09.c.04	Network-Level Pavement Structure Evaluation and Geodatabase Development Combining Traffic Speed Deflectometer and Ground Penetrating Radar <i>Kenneth Maser, Peter Schmalzer, Bill Shaw, Adam Carmichael</i>
09.c.05	An Easy to Implement Sustainability Index for Flexible Pavements <i>Gregory Kelly, Gary Chai, Deborah Delaney</i>



Podium session	09.d
Topic	<i>Design and Materials</i>
Day	<i>#4, June 15th</i>
Time	<i>11.00-12.40</i>
Room	<i>Carlo 3</i>
Chairman	<i>James Bryce</i>
Co-chair	<i>Shuichi Kameyama</i>

Code	Title
09.d.01	Laboratory Performance of Fine Crumb Rubber Bituminous Mixtures Fabricated by the Dry Process <i>Luís Da Silva, Agostinho Benta, Luís De Picado Santos</i>
09.d.02	Permeability Flow Measurement for Open-Graded Friction Courses <i>Vanessa Senior-Arrieta, Carlos Graciano, Carlos Vega-Posada, Sergio Álvarez, Natalia Ramirez Gómez</i>
09.d.03	STRABAG <i>Andrea Marzi</i>
09.d.04	Investigation of Cold Mix Asphalt Behavior under Simulated Compaction <i>Ehsan Ghafoori Roozbahany, Manfred Partl</i>
09.d.05	Performance of Bitumen Stabilised Materials BSMs - Laboratory Technology Developments and Implementation <i>Kim J. Jenkins</i>



Podium session	10.a
Topic	<i>Risk and Safety</i>
Day	<i>#4, June 15th</i>
Time	<i>14.00-15.40</i>
Room	<i>Planetario 1</i>
Chairman	<i>John Yeaman</i>
Co-chair	<i>Silvia Portas</i>

Code	Title
10.a.01	Integrated System of Accidents <i>Teresa Gamarra, Lisa Lugo</i>
10.a.02	Incorporating Livability Principles in the Development of Transportation Asset Management Plans <i>Carlos M. Chang, Marketa Vavrovam Edgar D. Rodríguez , Luis E. Valdez</i>
10.a.03	Integration of Natural Hazards into the Management of Road Infrastructure <i>A. Chamorro, H. De Solminihac, T. Echaveguren, J. Dagá, F. Baratta, Alelí Osorio, Susan L. Tighe</i>
10.a.04	Establishing a Method for Identifying and Managing High Crash Locations <i>Ross McCarthy, Gerardo Flintsch, Edgar de León Izeppi, Samer Katicha</i>
10.a.05	Probability Contour Map of Landing Overrun Based on Aircraft Braking Distance Computation <i>Misagh Ketabdari, Filippo Giustozzi, Maurizio Crispino</i>



Podium session	10.b
Topic	<i>LCA and LCCA</i>
Day	<i>#4, June 15th</i>
Time	<i>14.00-15.40</i>
Room	<i>Carlo 3</i>
Chairman	<i>Hamid Zarghampour</i>
Co-chair	<i>Mauro Coni</i>

Code	Title
10.b.01	Augmenting the LCCA Objective Function to Improve Economic Equity in Network Optimisation of the Western Cape, South Africa <i>Eben De Vos, Mervyn G Henderson, Ileen Wolmarans</i>
10.b.02	Using Full Lane 3D Road Texture Data for the Automated Detection of Sealed Cracks, Bleeding and Raveling <i>John Laurent, Jean-François Hébert, Mario Talbot</i>
10.b.03	General Relativity of Pavement Performance Assessment and Its Impact <i>Ningyuan Li</i>
10.b.04	Integrated LCA and LCCA Network Level Pavement Maintenance Model <i>Jelena Cirilovic, Goran Mladenovic, Cesar Queiroz</i>
10.b.05	Sustainable Pavement Design - Delivering Sustainable Options Considering Existing Materials and Pavement Lifecycle <i>Trent McDonald, Ernesto Urbaez, Scott McIntyre</i>



Podium session	10.c
Topic	<i>Bridge and Tunnel Management</i>
Day	<i>#4, June 15th</i>
Time	<i>14.00-15.40</i>
Room	<i>Galassia</i>
Chairman	<i>Ken Maser</i>
Co-chair	<i>Zaid Alyami</i>

Code	Title
10.c.01	Bridge Model Validation at Indiana DOT <i>Gary Ruck, Kate Francis</i>
10.c.02	An Evaluation Methodology on Fatigue Durability of Repairing Materials for Pothole Damages of Bridge Pavement <i>Koji Utsunomiya, Takagi Kinoshita, Hiroshi Higashiyama, Futoshi Nakanishi</i>
10.c.03	Future Oriented Life Cycle Approach on Bridges in Austria <i>Alfred Weninger-Vycudil, Christoph Antony, Christian Honeger</i>
10.c.04	Pedemontana Lombarda Highway - Tunnel Safety <i>Giuseppe Bilancia, Andrea Monguzzi, Mirco Agutoli, Giovanni Trezza</i>
10.c.05	Risk Level Evaluation of Transport of Dangerous Goods Through Road Tunnels <i>Ciro Caliendo, Maria Luisa De Guglielmo</i>



Podium session	10.d
Topic	<i>M&R Treatments</i>
Day	<i>#4, June 15th</i>
Time	<i>14.00-15.40</i>
Room	<i>Carlo 1</i>
Chairman	<i>Imen Zaabar</i>
Co-chair	<i>Emanuele Toraldo</i>

Code	Title
10.d.01	Effect of Preservation Treatments on Pavement Performance <i>James Bryce, Gonzalo Rada, Gary Hicks</i>
10.d.02	Long-Term Pavement Performance Under the Use of Asphalt Reinforcement Interlayers <i>Frank Schiffmann, Christiane Raab, Martin Arraigada</i>
10.d.03	Hot Sealing <i>Massimiliano Rizzi, Elisabetta Colombi Manzi</i>
10.d.04	Grinding Surfaces on Concrete Pavements <i>Tim Alte-Teigeler, Jens Skarabis</i>
10.d.05	Performance Assessment of Rehabilitated Highway Pavement <i>Andreas Loizos, Vasilis Papavasiliou</i>



Session	POSTER
Day	#2, June 13th
Time	13.10-14.15
Room	Poster Area

Code	Title
PSR.01	Influence of Aggregate Particle Shape Indexes on Moisture Sensitivity of Bituminous Mixes <i>P. Preethi, K.M.Mallesha, Mohammed Ilyas Anujm</i>
PSR.02	Asphalt Concrete Mixtures Lightened with Expanded Clay for High-Grip Wearing Course Layers <i>Michele Agostinacchio, Donato Ciampa, Saverio Olita</i>
PSR.03	Prediction of Top-Down Cracking in Sustainable Asphalt Materials Using Energy Ratio Testing <i>Nathan D. Moore, David H. Timm</i>
PSR.04	Improving Design of Bituminous Mixture through Service-Oriented Specifications <i>Dinis Gardete, Luís Picado-Santos, Silvino Capitão</i>
PSR.05	A Method for Accurately Estimating Concrete Pavement Restoration on Jointed Plain Concrete Pavement (JCPC) Using Emerging Sensing Technology



Yichang James Tsai, Yichng Wu

PSR.06

Design for the Maximization of the Amount of Reclaimed Asphalt Pavement (RAP) and by-Products in Asphalt Mixtures

Israel Rodriguez-Fernández, Pedro Lastra-González, Daniel Jato-Espino, Irune Indacoechea-Vega

PSR.07

Effect of Freeze-Thaw Cycles on Fatigue Cracking of Asphalt Pavements

Amal Abdelaziz, Chun-Hsing Ho, Junyi Shan, Anas Almonnieay

PSR.08

Recycled Fillers as an Alternative in Bituminous Mixtures for Road Pavements

Dario Topini, Emanuele Toraldo, Luca Andena, Edoardo Mariani

PSR.09

Polyfunctional Polymeric Systems for Improving Asphalt Pavement Performance Through Recycling

Loretta Venturini, Sergio Carrara, Filippo Giustozzi

PSR.10

Laboratory Evaluation of the Flexural Properties of Membrane-Reinforced Asphalt Systems

Marco Marco, Emiliano Pasquini, Ines Antunes

PSR.11

Influence of Pavement Monitoring Frequency on Performance Models at Network Level Pavement Management



Lei Yue, Yuchuan Du, Di Zhu, Xiaoyang Jia

PSR.12

Challenges for Managing Australian Airport Pavements

Greg White

PSR.13

Effective Parameters to Define an Optimal Mix Design System for the Sub-Ballast Railroad

Fernando Martinez Soto, Gaetano Di Mino

PSR.14

Evaluating the Effect of Freeze-Thaw Cycles on the Resistance to Thermal Cracking of Asphalt Mixtures

Cristina Pilar Martin Linares, Chun-Hsing Ho

PSR.15

Investigation on the Compaction Temperature Effect on Reactivating Aged Bitumen of 100% RAP Mixtures

Ehsan Ashouri Taziani, Emanuele Toraldo, Edoardo Mariani, Maurizio Crispino

PSR.16

Discussing the Feasibility of Improving Fatigue Performance of Asphalt Mixtures by Incorporating High Recycled Asphalt Pavement

Ehsan Ashouri Taziani, Emanuele Toraldo, Filippo Giustozzi

PSR.17

Smart Use of Local Materials for Road Construction



Diego Maria Barbieri, Inge Hoff, Lillian Mathisen Uthus, Nils Sigurd Uthus

PSR.18

Factors Affecting the Brightness and Durability of Thermoplastic Road Markings

Mohd Hizam Harun, Noor Suzilla Abdullah, Shamimi Rosdi

PSR.19

Conversion of Bituminous Surface Treatments (BST) to Asphalt Concrete on the Alaska (Alcan) Highway

Donaldson MacLeod, Chris Uchwat

PSR.20

Analyses of Pavement Deflection as an Indicator of Pavement Performance Using the LTPP Data

Tyler Dawson, Gilbert Baladi

PSR.21

Long Range Planning for Metropolitan Expressway Systems

Serge Grebenshikov

PSR.22

The Influence of Maintenance on Unsealed Road Performance

Tim Martin, Lith Choummanivong, Thorolf Thoresen

PSR.23

Risk-based Optimization Model to Determine Optimum Budgets for Managing Pavement and Safety



Khaled Ksaibati, Timothy McDowell, Promotes Saha

PSR.24

FHWA - Quality Management of Pavement Condition Data

Luis M. Rodriguez

PSR.25

Development and Application of Adapted Road Maintenance Planning Tools in Public-Private-Cooperation: the Successful Case Study from Departement De La Somme

Pierre Gourlin, Ashkan Ashoori

PSR.26

The Application of Pavement Texture Depth in Pavement Maintenance

Wang Hao-yang, Chang Chengli, Deng Jie, Gao Xin

PSR.27

Research on Highway Network Service Quality Evaluation System Development Methods

Zhu Jie, Pan Zongjun, Zhao Yandong, Li Long

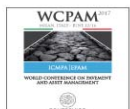
PSR.28

Namibian Asset Management System a truly functional integrated system

Akli Ourad, Sophie Belete-Tekie

PSR.29

The Effect of Dwell Time of Freeze-Thaw Cycles on Low Temperature Properties of Asphalt Mixtures



Cristina Pilar Martin Linares, Chun-Hsing Ho

PSR.30

Impact on the Asphalt Mixture due to the Evolvement of the Weather Condition in Romania

Canino Pier Luca, Del Mistro Fabrizio, Pizzo Salvatore

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WORLD CONFERENCE ON PAVEMENT AND ASSET MANAGEMENT

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