

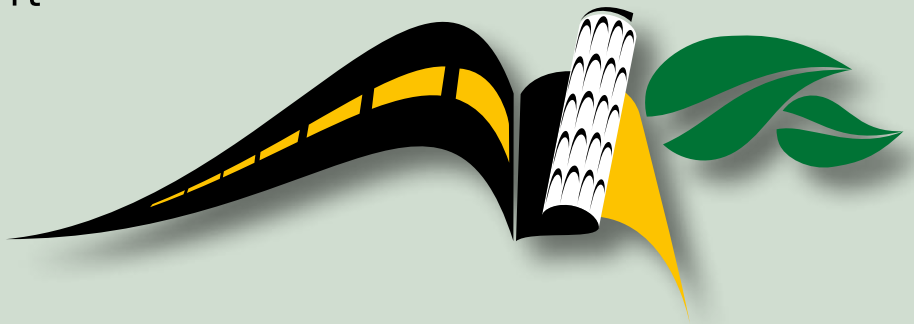


2014

ICTI

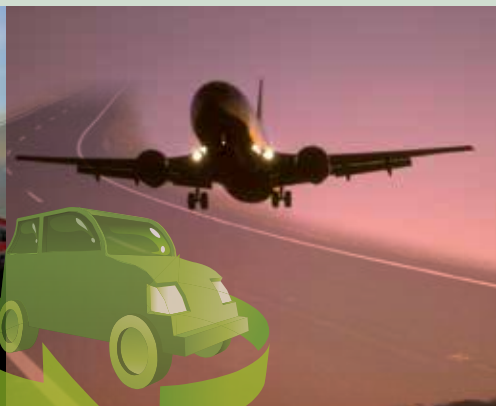
**3rd International Conference
on Transportation Infrastructure**

Sustainability, Eco-Efficiency, and Conservation in Transportation Infrastructure Asset Management



www.icti2014.org

Pisa, ITALY April 22-25, 2014

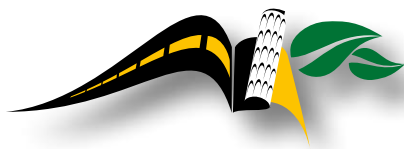


ORGANIZED BY



Program





Sustainability, Eco-Efficiency, and Conservation in Transportation Infrastructure Asset Management

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Tom Papagiannakis, University of Texas at San Antonio

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Mario Tempestini, University of Pisa, Italy

Schedule At A Glance

Tuesday, April 22, 2014

09:30 - 12:30	Workshop and Conference Registration at Engineering Building
10:00 - 15:30	Pre-conference Workshops
14:00 - 19:00	Conference Registration at Hotel Tower Plaza
16:00 - 19:30	Exhibit Hall Open
16:30 - 19:30	Opening Plenary Session
20:00 - 21:30	Welcome Reception

Wednesday, April 23, 2014

08:00 - 18:00	Registration
08:30 - 17:30	Exhibit Hall Open
08:30 - 10:00	Distinguished Lecture
10:00 - 10:30	Coffee Break in Exhibit Hall
10:30 - 12:30	Technical Sessions
12:30 - 14:00	Lunch
14:00 - 16:00	Technical Sessions
16:00 - 16:30	Tea Break in Exhibit Hall
16:30 - 18:00	Technical Sessions
18:00 - 20:00	Committee meetings

Welcome to the ICTI 2014 the 3rd International Conference on Transportation Infrastructure

On behalf of the scientific and organizing committees we welcome you to the ICTI 2014 – the 3rd International Conference on Transportation Infrastructure in Pisa, Italy, April 22-25, 2014.

Nowadays more than in the past it is crucial to achieve the greatest efficiency of every infrastructure from both a financial and resource stewardship perspective. This conference is focused on the rapidly advancing state-of-the-art and state-of-the-practice of transportation infrastructure as well as technology transfer.

Infrastructure design, construction, evaluation, rehabilitation, management, and emerging materials and technologies are featured in the program's technical sessions.

The conference papers are presented in three parallel tracks that comprise 18 technical sessions. In addition, two technical transfer workshops are offered on Tuesday, April 22, 2014, just before the official opening of the conference.

The workshop instructors are leading experts in pavements including FAA representatives who will provide instruction on the FAA's PAVEAIR software, which is used to manage airport pavement maintenance.

In addition, an international workshop on mechanistic based pavement design is offered. The conference will bring together researchers, designers, project/construction managers, and contractors from around the world to discuss infrastructure sustainability, eco-efficiency and conservation.

The conference program includes the following:

- An extensive technical program developed by a scientific committee with over 80 members;
- Four plenary sessions, including the keynote address given by four national experts in the field of transportation infrastructure, the distinguished lecture and five invited presentations;
- Exhibits of companies driving innovation and quality in infrastructure engineering, construction and maintenance.
- The TRB DAWG Forum on Pavement Performance Data Analysis

The conference offers many opportunities to network with other leaders in the field of transportation infrastructure.

Please join us! We look forward to continuing the tradition of another successful conference.

Co-Chairs:

Massimo Losa, University of Pisa, ITALY

A.T. Papagiannakis, University of Texas at San Antonio, USA



Massimo Losa



Tom Papagiannakis

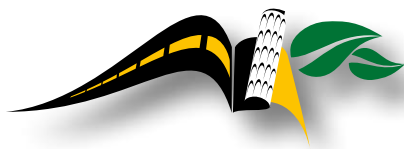
Thursday, April 24, 2014

08:00 - 17:00	Registration
08:30 - 17:30	Exhibit Hall Open
08:00 - 09:30	Technical Session
09:30 - 10:00	Coffee Break in Exhibit Hall
10:00 - 12:00	Technical Sessions
12:00 - 13:30	Lunch
13:30 - 15:30	Technical Sessions
13:30 - 15:30	DAWG FORUM
15:30 - 16:00	Tea Break in Exhibit Hall
16:00 - 17:30	Technical Sessions
16:00 - 17:30	DAWG FORUM
15:30 - 18:00	Exhibitor Move Out
19:00 - 23:00	Gala Dinner

Friday, April 25, 2014

08:30 - 09:30	Technical Session
09:30 - 10:00	Coffee Break
10:00 - 12:00	Technical Sessions
12:00 - 12:30	Closure
13:00 - 19:00	Technical Tour





Special Events & Conference Agenda

Tuesday, April 22, 2014

Registration Opens

09:30 - 12:30 - Workshop and Conference Registration - Engineering Building – Largo L. Lazzarino, 1

WORKSHOPS

A separate ticket purchase is required. Workshops are not included in your conference registration

FAA PAVEAIR workshop.

10:00-15:30 - Engineering Building – Room Pacinotti

FAA PAVEAIR is a public, web-based application designed to assist organizations in the evaluation, management, and maintenance of their pavement networks. PAVEAIR is designed to fulfill the requirements of an Airport Pavement Management System as identified in Advisory Circular (AC) 150.5380-7A. The program offers users a planning tool capable of modeling airport pavement surface degradation due to external effects such as traffic and the environment. The program can be used with other FAA pavement applications, such as BAKFAA and COMFAA, to give users input to determine repair scheduling and strategies. The release of FAA PAVEAIR v2.0 includes several important new features, such as: an updated M&R module, Life Cycle Cost Analysis (LCCA) module, and MicroPAVER e65 support.

Attendants are invited to bring their own laptop to run the software applications presented in the workshop.

The workshop is tutored by Dr. Albert Larkin, Airport Pavement R&D Sub-Team, Federal Aviation Administration (USA)

Registration fee: € 122,00

International Workshop on Mechanistic Based Pavement Design.

10,00-15,30 - Engineering Building – Room A.1.1

The change from the traditional empirical based approach to a mechanistic-based (or mechanistic-empirical) approach represents a major paradigm shift in pavement design. Although the mechanistic-based concepts are gaining more attention today than ever before, these concepts have been developed over several decades. Drawing from these concepts, transportation agencies in different parts of the globe (specifically in the US and Europe) have tried to develop and implement their own mechanistic-based pavement design methodologies and software tools considering the local needs and conditions. This Workshop will focus on the underlying mechanistic-based pavement design concepts that are common to all approaches and will not address any specific approach or methodology. However, the workshop will be significantly oriented towards the new Mechanistic-Empirical Pavement Design Guide (MEPDG) developed in the US, now marketed as AASHTOWare Pavement ME, which is considered one of the most comprehensive efforts and a major milestone in the history and evolution of pavement design.

The workshop is organized by Dr. Halil Ceylan, Associate Professor in the Department of Civil, Construction and Environmental Engineering (CCEE) and a Pavement Systems Research Engineer in Institute for Transportation (InTrans) at Iowa State University (ISU) in the US.

Registration fee: € 122,00



Registration Opens

14:00 -19:30 - Conference Registration – Hotel Abitalia Tower Plaza – Via Caduti del Lavoro, 46 - PISA

OPENING PLENARY, KEYNOTE ADDRESS

16:30 - 19:30 – Room Ribot

Opening

Massimo Losa - Chair of ICTI 2014
Tom Papagiannakis - Co-Chair of ICTI 2014
Donato Aquaro – Director of DICl at the University of Pisa
Marco Pasetto – President of SIIV
Tien Fang Fwa – President of ISMARTI
Marco Filippeschi – Major of Pisa

Keynote Address

Roberto Vergari - Technical Director, Planning and Design, ENAC, Rome
Antonello Martino - Technical Director, Environment, Architecture and Archeology, ITALFERR, Rome
Giovanni Costa - Technical Director, RFI, Rome
Eleonora Cesolini - Central Director, Research and New Technologies, ANAS, Rome

Welcome Reception

20:00 - 21:30 – Exhibit Hall

Enjoy this terrific way to end the first day of the Conference. Refreshments will be served while you meet old and new colleagues and enjoy specialties of the Tuscany cuisine

Wednesday, April 23, 2014

Registration Opens

8:00 -18:00 – Exhibit Hall

Distinguished Lecture

8:30 -10:00 – Room Ribot

“Energy, Emissions, & Recycling - Opportunities for Sustainable Asphalt Roads”

Hussain Bahia, Vilas Distinguished Professor, and Director of the Modified Asphalt Research Center (MARC) The University of Wisconsin, Madison

Technical Sessions

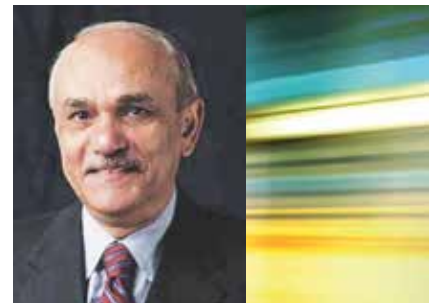
10:30. 18:00 See Technical Program for the complete grid

ISMARTI Committee Meeting

18:00 – 19:30 – Sala Tony Bin

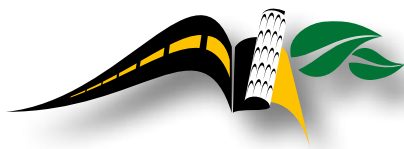
SIIV Committee Meeting

18:00- 19:30 - Sala Varenne



Hussain Bahia

Professor Bahia earned his PhD in pavement engineering from Penn-State University-USA in 1991 after which he served as the Director of Research and Technical Services at the Asphalt Institute-USA. He joined the University of Wisconsin on permanent basis in 1996. He is currently a full professor in the department of Civil and Environmental Engineering at which he teaches and conducts research on pavement materials and design. He was awarded the permanent title of Vilas Distinguished Achievement Professorship in 2014 for his Research and Teaching Contributions to his field. He is Founder and Director of the Modified Asphalt Research Center at the University of Wisconsin-Madison (<http://uwmarc.wisc.edu/>), 2009 – present. He served as the Technical Director of the Wisconsin Highway Research Program (WHRP- <http://wisdotresearch.wi.gov/whrp>) from 2005 to 2012. He has published more than 100 technical papers in refereed journals and has advised more than 60 MS and Ph.D. students, and 8 post-doctoral fellows at UW-Madison. He is an Honorary Editor In Chief of the International Journal for Road Materials and Pavement Design and member of the Board since 2002. He is the Chair of the RILEM Technical Group 2 on Mixture Design and Compaction of the ATB (Advanced Testing of Bituminous Materials) Committee of the RILEM International Organization, since 2007. He is also the chair of the Working Group 7(Binders and Mastics) of ISAP (International Society of Asphalt Pavements), since 2008. He is one of the founders of the Middle East Society for Asphalt Technology (MESAT), and continuous to serve as a board member. He provides consulting services for a number of companies and road agencies in the USA, South America, Africa, and the Middle-east.



Special Events & Conference Agenda

Thursday, April 24, 2014

Registration Opens

8:00 -18:00 – Exhibit Hall

Technical Sessions

08:00. 17:30 See Technical Program for the complete grid

TRB DAWG FORUM

13:30 -17:30 – Room Tony Bin

The Transportation Research Board's Data Analysis Working Group ("the DAWG") will conduct a forum on pavement performance data analysis.

DAWG forums are intended to foster international discussion of ongoing projects concerning new methods for collecting and analyzing pavement performance data, and preliminary results of recent analyses. Topics such as model building, sensitivity analysis, and relationships between structural response and pavement distress are especially welcome.

DAWG forums encourage presenters to describe their current incomplete work and respond to the audience's frank questions, comments, and suggestions for improvement. Presenters provide questions about the uncertainties of their work, and these questions serve to stimulate discussions. The forum is unique because speaker/attendee dialog receives a substantial amount of time on the agenda. ICTI 2014 registrants are welcome to attend and participate.

GALA DINNER

19:00 -23:00 – Open gallery of the Museum of the Opera Primaziale Pisana

Surrounded by the charming setting of Piazza dei Miracoli, the Auditorium dell'Opera del Duomo exudes a unique atmosphere for its art, history and culture. The Leaning Tower, the Cathedral and the whole group of monuments are the backdrop of an elegant and intimate place that can fulfil any congress requirement while offering many opportunities for first-rate entertainment and culture. Just a few metres from the time-honoured silence of the conference hall, you can enjoy the masterpieces of art and architecture that have made Piazza dei Miracoli part of the world's heritage.



Friday, April 25, 2014**Technical Sessions**

8:30. 12:00 See Technical Program for the complete grid

Closure

12:00. 12:30 Room Ribot

TECHNICAL TOUR**Carrara Marble Quarries "Marmo Tour"**

13:00 -19:00

With its scenic landscape immersed in white marble, this is a truly unique location beyond compare.

Here the "Marmo Tour" staff will guide you down into the centre of the Apuan Alps to discover the most beautiful QUARRY CARVED DEEP INTO THE MOUNTAIN.

The guided tour lasts for about 30 minutes. The first section (of approximately 600 meters) will be conducted from the end of the bus tour. Once inside the Ravaccione Quarry, you will be talked through the processes of cutting and pulling of the marble blocks. The setting is almost lunar in appearance and the quarry is known as the MARBLE CATHEDRAL due to its vast and cavernous rooms. Everyone is catered for here and there is good disabled access



Technical Program

Tuesday, April 22, 2014

10:00 - 15:30

WORKSHOPS

Engineering Building - Room Pacinotti

FAA paveair workshop

Engineering Building - Room A.1.1.

International workshop on mechanistic based pavement design

14:00 - 19:00

CONFERENCE REGISTRATION

Exhibit Hall

16:30 - 17:30

OPENING PLENARY SESSION

Room Ribot

Official Opening

Massimo Losa - Chair of ICTI 2014; **Tom Papagiannakis** - Co-Chair of ICTI 2014

Donato Aquaro - Chair of DICI at the University of Pisa

Marco Pasetto - President of SIIV

Tien Fang Fwa - President of ISMARTI

Marco Filippeschi - Major of Pisa

17:30 - 19:30

KEYNOTE ADDRESS

Room Ribot

Sustainability and eco-efficiency in planning, design, construction and maintenance of national transportation infrastructure

Roberto Vergari - Technical Director, Planning and Design, ENAC, Rome

Antonello Martino - Technical Director, Environment, Architecture and Archeology, ITALFERR, Rome

Giovanni Costa - Technical Director, RFI, Rome

Eleonora Cesolini - Central Director, Research and New Technologies, ANAS, Rome

20:00 - 21:30

WELCOME RECEPTION

Restaurant "I Sovrani"

Wednesday, April 23, 2014

08:30 - 10:00

PLENARY SESSION 1 - DISTINGUISHED LECTURE

Room Ribot

Chair: **Tom Papagiannakis**

Energy, Emissions, & Recycling - Opportunities for Sustainable Asphalt Roads

Hussain Bahia - University of Wisconsin - Madison

10:00 - 10:30

NETWORKING COFFEE BREAK

Exhibit Hall

10:30-12:30

CONCURRENT TECHNICAL SESSION 1

Room Ribot

Room Varenne

Room Tony Bin

Recycled Materials in Asphalt Mixtures

Chair: **Eyad Masad**

Foamed Bitumen Bound Mixtures Made With Marginal Aggregates: An Experimental Study

Marco Pasetto, University of Padua, Dept. of Civil, Environmental and Architectural Engineering; **Nicola Baldo**, University of Udine, Chemistry, Physics and Environment Dept.

Use Of Vitrified Municipal Solid Waste Bottom Ash As A Filler Substitute In Asphalt Mixtures

Ezio Santagata, Politecnico di Torino; **Marco Bassani**, Politecnico di Torino; **Orazio Baglieri**, Politecnico di Torino

Polymix: Polymeric Waste In Asphalt Mixes

Raquel Casado Barrasa, Acciona Infraestructuras; **Elena Sáez Caballero**, Acciona Infraestructuras; **Daniel Castro Fresno**, School of Civil Engineering, University of Cantabria; **Eva Verdejo Andrés**, Research Association of Plastic Materials (AIMPLAS); **Miguel Núñez Fernandez**, Department of Road Construction from the Regional Government of Madrid

Rutting Resistance Of Stone Mastic Asphalts With Steel Slag And Coal Ash

Marco Pasetto, University of Padua, Dept. of Civil, Environmental and Architectural Engineering; **Nicola Baldo**, University of Udine, Chemistry, Physics and Environment Dept.

Asphalt Pavement Response and Evaluation

Chair: **David Timm**

Wave Propagation Analysis And Backcalculation For Lightweight Deflectometer Test

Futoshi Kawana, Yasushi Takeuchi, Tokyo University Of Agriculture; **Masaru Terada**, Kazuyuki Kubo, Public Works Research Institute; **Kunihito Matsui**, Tokyo Denki University

Wireless Pavement Sensors For Wide-area Instrumentation

Eyal Levenberg, Idan Shmuel, Mony Orbach, Boaz Mizrahi, Technion

Backcalculation Of Asphalt Concrete Modulus Master Curve From Field Measured Falling Weight Deflectometer Data Using A New Time Domain Viscoelastic Dynamic Solution And Hybrid Optimization Scheme

Imen Zaabar, Karim Chatti, Nizar Lajnef, Michigan State University

Investigation Of Highway Pavements Using In-situ Strain Sensors

Philippe Gaborit, AREA / ENTPE; **Cédric Sauzéat**, Hervé Di Benedetto, University of Lyon / ENTPE; **Simon Pouget**, François Olard, Eiffage Travaux Publics; **Alexandre Claude**, AREA

Accuracy In Predicting Viscoelastic Response Of Instrumented Asphalt Pavements

Massimo Losa, University of Pisa - DICI; **Andrea Di Natale**, NEXt Ltd.

Surface Characteristics Measurement and Management

Chair: **Filippo G.M. Praticò**

Development Of An Asphalt Durability Raveling Test

Ruth Mitchell, University of Ulster; **David Woodward**, University of Ulster; **Conor Maguire**, University of Ulster

Comparison Of Surface Parameters For a 10 mm Sma Without Contact

Grainne McQuaid, University of Ulster; **David Woodward**, University of Ulster; **Phillip Millar**, University of Ulster

Using A Skid Resistance-based Approach To Plan Pavement Preventive Maintenance

Christina Plati, Konstantina Georgouli, Andreas Loizos, National Technical University of Athens

Pavement Maintenance Programming Considering Two Objectives: Maintenance Costs And Residual Value Of Pavements

Susana Meneses, Technology and Management High School of Oliveira do Hospital, Institute Polytechnic of Coimbra; **Adelino Ferreira**, Department of Civil Engineering, University of Coimbra

12:30-14:00

LUNCH

Restaurant "I Sovrani"

14:00 -16:00

CONCURRENT TECHNICAL SESSION 2

Room Ribot

Room Varenne

Room Tony Bin

Characterization and Evaluation of Recycled Mixtures

Chair: **Antonio D'Andrea**

Effect Of Reinforced Fibers On Stiffness Of Recycled Asphalt Half-warm Emulsion Mixes
Emanuele Toraldo, Gilberto Martinez-Arguelles, Edoardo mariani, Politecnico di Milano

Influence Of Cement And Limestone Filler On The Rheological Properties Of Mastic In Cold Bituminous Recycled Mixtures

Giulio Dondi, Francesco Mazzotta, Cesare Sangiorgi, Matteo Pettinari, Andrea Simone, Valeria Vignali, Piergiorgio Tataranni, DICAM - University of Bologna

The Evaluation Of Effect Of Using Foamed Bitumen And Bitumen Emulsion In Cold Recycling Technology

Marek Iwański, Anna Chomicz-Kowalska, Kielce University of Technology

Mechanical Bitumen Recovery From Asphalt Samples

Wynand JvdM Steyn, Desire Dednam, University of Pretoria

Prediction Of The Development Of Asphalt Pavement Ruts

Jan Celko, Martin Slabej, University of Zilina

Asphalt Pavement Performance and Design

Chair: **Eyal Levenberg**

Characteristics Of Two Perpetual Pavements At The Ncat Test Track

David Timm, Mary Robbins, J. Richard Willis, National Center for Asphalt Technology, Auburn University

Structural And Life Cycle Cost Analysis Of Two Perpetual Pavements

David Timm, Department of Civil Engineering, Auburn University; **Nam Tran**, National Center for Asphalt Technology, Auburn University

Performance Study Over The Use Of Reinforced Flexible Pavement With Steel Mesh At Brazilian Road

Rita Moura Fortes, João Virgilio Merighi, Mackenzie University; **Ailton Frank Barbosa Ressutte, Marcel Eiji Miyashiro**, São Paulo State Department of Transport; **João Batista Rodrigues da Silva**, Brazilian Institute of Welded Screens

Measurements Of Lateral Distribution Of Vehicle Wheels And Its Effect On Fatigue Life Of Asphalt Concrete

Md Rashadul Islam, Rafiqul Tarefder, Ivan Syed, University of New Mexico

Some Remarks On Aircraft Positioning Characteristics For Pavement Design Purpose

Antonella Schibani, Università di Napoli Federico II; **Mauro D'Apuzzo**, Università degli Studi di Cassino e del Lazio Meridionale; **Bruna Festa**, Università di Napoli Federico II; **Vittorio Nicolosi**, Università di Roma "Tor Vergata"

Tyre Rolling Resistance and Air Pollution

Chair: **David Woodward**

Effect Of Pavement Surface Characteristics On Vehicle Fuel Consumption And Emission
Hao Wang, Rutgers University

Study On The Pavement Surface Properties And Tire Rolling Resistance

Atsushi KAWAKAMI, Masaru Terada, Kazuyuki KUBO, Public Works Research Institute; **Tsutomu Ishigaki**, Nippo Corporation

A Field Investigation Of The Effect Of Pavement Type On Fuel Consumption

Imen Zaabar, Karim Chatti, Michigan State University

The Management Of Air Pollution From Vehicular Traffic By Implementing Forecasting Models

Michele Agostinacchio, Donato Ciampa, Maurizio Diomedi, Saverio Olita, University of Basilicata

Environmental-related Performance Measures Framework For Sustainable Asset Management Practices

Marketa Vavrova, Carlos Martin Chang Albitres, The University of Texas at El Paso

16:00 -16:30

NETWORKING TEA BREAK

Exhibit Hall

16:30 -18:00

CONCURRENT TECHNICAL SESSION 3

Room Ribot

Room Varenne

Room Tony Bin

Waste Materials in Infrastructure Construction

Chair: **Rita Moura Fortes**

Performance Evaluation Of Construction And Demolition And Other Waste Materials

Giulio Dondi, Cesare Sangiorgi, Claudio Lantieri, Andrea Simone, Valeria Vignali, Riccardo Lamperti, DICAM - University of Bologna

Gasification Bottom Ash In Road Pavements

Nicola Fiore, Antonio D'Andrea, Cristina Tozzo, Sapienza University of Rome; **Mauro Zagaroli**, Colari

Application Of Residual Of Milled Covers Asphalt For The Purpose Of Me-chanical Stabilization Of The Surface Layers Of Unpaved Roads

Isaac Eduardo Pinto, Instituto Federal De São Paulo - Ifsp; **Cássio E. Lima Paiva**, Universidade De Campinas – Unicamp

The Use Of Recycled Glassfoam Aggregates For Lightweight Embankment

Giacomo Betti, Umberto Pinori, Alessandro Marradi, University of Pisa

Applications Of Super Compaction Technique Using Granite By- Products

Alessio Contu, Andreina Etzi, James Rombi, Silvia Portas, Department of Civil, Environmental and Architectural Engineering, University of Cagliari; **Mauro Coni, mconi@unica.it**

Impact of climate changes and case studies

Chair: **Meor Othman Hamzah**

Predicting Pavement Performance Due To Temperature Increase Caused By Global Warming

Mohammad Hossain, Umme Mannan, Rafiqul Tarefder, University of New Mexico

Tracc-expert: Tool For The Selection Of Paving Techniques Adapted To Climate Change

Rui Micaelo, Luís Quaresma, Universidade Nova de Lisboa; **Adelino Ferreira**, University of Coimbra

The Potential Effects Of Climate Change On Selected Flexible South African Pavements

Wynand JvdM Steyn, Tina Pretorius, University of Pretoria

The Quality Of Bitumen For Road Paving Application In Malaysia: Why Should It Be A Concern?

Mohd Hizam Harun, S.M. Amirullah Zainal, Public Works Department, Malaysia

Environmental Sustainability Issues

Chair: **Reginald Souleyrette**

Environmentally Friendly Road Barriers

Pilia Francesca, Maltinti Francesca, University of Cagliari

The Development Of The Italian Motorways Of The Sea Network In The Years 2008-2012

Marino Lupi, Alessandro Farina, University of Pisa - Department of Civil and Environmental Engineering

Transport And Urban Planning Concepts To Address Sustainability And Environmental Concerns

Faisal Awadallah, Birzeit University

Prediction of Hydraulic and Acoustic Properties of Open-Graded Mixes

Andrea Umiliaco, Andrea Benedetto, Fabio Tosti, Roma Tre University; **Gaetano Di Mino, Giuseppe Rodonò**, University of Palermo

CLEANSSED Project: Use of decontaminated river sediments in road construction

Grazia Masciandaro, CNR-ISE



Technical Program

Thursday, 24 April 2014

8:00-9:30

PLENARY SESSION 2 - INVITED PRESENTATIONS

Room Ribot

Advanced modeling and technologies in transportation infrastructure

Chair: Karim Chatti

3 Dimensional analysis of bituminous materials behaviour

Herve Di Benedetto - University of Lyon, ENTPE

Ground improvement solutions of high-speed transportation infrastructure

Anand Puppala - The University of Texas at Arlington

Use of smart sensor systems for health monitoring of the transportation infrastructure system

Haili Ceylan - Iowa State University

9:30-10:00

NETWORKING COFFEE BREAK

Exhibit Hall

10:00-12:00

CONCURRENT TECHNICAL SESSION 4

Room Ribot

Room Varenne

Room Tony Bin

Innovative Asphalt Materials and Rubber Modified Asphalt

Chair: Andreas Loizos

Thermophysical Properties Of Graphite-modified Asphalt Mixture And Numerical Analyses For Snow Melting Pavement

Dae-Wook Park, Kunsan National University;

Samer Dessouky, The University of Texas at San Antonio

Moisture Damage Evaluation In Carbon Nanotubes Reinforced Asphalts

KH. Al-Adham, Md Arifuzzaman, Dept. of Civil & Environmental Eng., King Fahd University of Petroleum & Minerals

Identification Of The More Suitable Warm Mix Additives For Crumb Rubber Modified Binders

Pietro Leandri, Patrizia Rocchio, Massimo Losa, University of Pisa, Department of Civil and Industrial Engineering (DICI)

Development Of A Laboratory Test Procedure For The Evaluation Of Potential Gaseous Emissions Of Asphalt Rubber Bituminous Mixtures

Maria Chiara Zanetti, Silvia Fiore, Barbara Ruffino, Ezio Santagata, Michele Lanotte, Davide Dalmazzo, Politecnico di Torino

Asphalt Concrete Modeling And Performance

Chair: Rafiqul Tarefder

Modeling Asphalt Concrete Cyclic Creep Behavior

Habtamu Zelelew, FHWA Office Pavement Technology; Enad Mahmoud, University of Texas Pan American; A.T. Papagiannakis, University of Texas at San Antonio

Calibration of fatigue and rutting distress models for non conventional asphalt concrete materials

Francesca La Torre, Lorenzo Domenichini, Monica Meocci, University of Florence

Performance Characterization Of Asphalt Mixtures Using Meso Mechanics Approach

Milliyon Woldekidan, Marinus Huurman, BAM wegen bv.; Cesare Sangiorgi, Claudio Lantieri, Elisa Vaccari, DICAM - University of Bologna

Characterization Of Fatigue Resistance Of Alternative Pavement Designs For The State Of Qatar

Husam Sadek, University of Liverpool; Eyad Masad, Texas A&M University at Qatar; Hussain Al-Khalid, University of Liverpool; Okan Sirin, Qatar University; Khaled Hassan, Transport Research Laboratory

Performance Of Ac-12.5 Designed By Marshall And Superpave Procedure

Athanassios Nikolaidis, Evaggelos Manthos, Aristotle University of Thessaloniki

Railway Track

Chair: Marco Bassani

Evaluation Of Rail Defects Provided By High Performance Measuring Devices

Mauro D'Apuzzo, University of Cassino and Southern Lazio; Bruna Festa, Elisabetta Miraglia, University of Naples Federico II

Competition In Rail Transport: Methodology To Evaluate Economic Impact Of New Trains On Track

Paola Di Mascio, Giuseppe Loprencipe, Laura Moretti, Sapienza - Università di Roma

Hot-mix Asphalt (bituminous) Railway Trackbeds: In-track Tests, Evaluations, And Performances -- A Global Perspective: Part I -- Introduction To Asphalt Trackbeds And International Applications And Practices

Jerry Rose, Reginald Souleyrette, University of Kentucky

Hot-mix Asphalt (bituminous) Railway Trackbeds: In-track Tests, Evaluations, And Performances -- A Global Perspective: Part Ii -- United States Asphalt Trackbed Applications And Practices

Jerry Rose, Reginald Souleyrette, University of Kentucky

Hot-mix Asphalt (bituminous) Railway Trackbeds: In-track Tests, Evaluations, And Performances -- A Global Perspective: Part Iii -- U.s. Asphalt Trackbed Materials Evaluations And Tests

Jerry Rose, Reginald Souleyrette, University of Kentucky

12:00-13:30

LUNCH

Restaurant "I Sovrani"



13:30-15:30

CONCURRENT TECHNICAL SESSION 5

Room Ribot

Room Varenne

Room Tony Bin

Warm Mix Asphalt Technology

Chair: **Athanasios Nikolaides**

Moisture And Frost Resistance Of Asphalt Concrete With Foamed Bitumen Modified With Synthetic Wax

Marek Iwański, Justyna Mrugała, Kielce University of Technology

Laboratory Studies Concerning "warm Mix" Technology Applied To Asphalt Mixtures With Local Limestone Aggregates For Base Course

Carmen Racanel, Adrian Burlacu, Technical University of Civil Engineering Bucharest

Effects Of Foam Agents On Foaming Processes And Physical And Rheo-logical Properties Of Bitumens

Maurizio Crispino, Filippo Giustozzi, Martinez-Arguelles Gilberto, Emanuele Toraldo, Politecnico di Milano

Microstructural, Chemical And Thermal Analyses Of Warm Mix Asphalt

Ilaria Menapace, Eyad Masad, Texas A&M University at Qatar; Dallas Little, Emad Kassem, Texas A&M University; Amit Bhasin, The University of Texas at Austin

Study Of An Asphalt Mixture For Airport Using "warm Mix" Technology

Carmen Racanel, Claudia Petcu, Technical University of Civil Engineering Bucharest

Measurement And Modeling Of Pavement Friction

Chair: **Adelino Ferreira**

On The Importance Of Rubber Temperature In Tire-rubber Friction On Stone Surfaces

Mirella Maria Villani, Tom Scarpas, Cor Kasbergen, TU Delft; Arian de Bondt, Radjan Khedoe, Fred Spieard, OOMS Civieli; Ignacio Artamendi, AGI

Modeling The Effect Of Vehicle Cornering On Stress Development At Tire-pavement Contact Patch

Jia Sheng Yang, Tien Fang Fwa, Ghim Ping Ong, Department of Civil & Environmental Engineering, National University of Singapore; Chye Heng Chew, Department of Mechanical Engineering, National University of Singapore

Pavement Surface Properties And Their Impact On Performance-related Pay Adjustments

Rosolino Vaiana, Dep. of Civil Engineering, University of Calabria, Arcavacata Campus, Cosenza; Filippo G.M. Praticò, DIMET - DIIES Department, University Mediterranea of Reggio Calabria

Data Monitoring Of Friction Value Tests On A High Seasonality Runway

Franco Pigozzi, Mauro Coni, Silvia Portas, Francesca Maltinti, Department of Civil, Environmental and Architectural Engineering, University of Cagliari

DAWG FORUM

Chair: **Brian Ferne**

Chairman's Welcome

Introduction to the DAWG

A Robert Raab, TRB, Washington, DC, USA

Evaluation And Analysis Of The Ltpc Sps-2 Distress Data

Changwei Xu, University of Cambridge, Cambridge

Accurately Measuring Faulting At High Speeds

D.J. Swan, Fugro Roadware Mississauga, Ontario,

Evaluation Of Gravel Road Roughness Using Mobile-based Response-type Road Roughness Measurement Device

Wynand JvdM Stein, University of Pretoria, Pretoria



15:30 -16:00

NETWORKING TEA BREAK

Exhibit Hall

16:00 -17:30

CONCURRENT TECHNICAL SESSION 6

Room Ribot

Room Varenne

Room Tony Bin

Concrete Pavements And Stabilized Materials

Chair: **Marek Iwansky**

Investigation On The Functional And Mechanical Performance Of Differentially Compacted Pervious Concrete For Road Pavements

Alessandra Bonicelli, Filippo Giustozzi, Maurizio Crispino, Massimo Borsa, Politecnico di Milano

Experimental Study Of Compaction Quality For Roller Compacted Concrete Pavement Containing Rubber Tire Wastes

Meddah Abdelaziz, Bordj Bou-Arréridj University; Beddar Miloud, LMMS, M'sila University; Bali Abderrahim, URIE, Ecole Nationale Polytechnique d'Alger

Proposal Of Eco-compatible Mixtures (c&d-eaf Slag) For Road Constructions

Donato Ciampa, Saverio Olita, University of Basilicata

Evaluation Of Swine Manure Stabilizer On Selected Pavement Material

Wynand JvdM Steyn, Abrie Coetzee, Hannes Welman, University of Pretoria

Emerging Technologies and Equipments

Chair: **Christina Plati**

Efficient Air-launched Ground-penetrating Radar Inspections In A Large-scale Road Network

Fabio Tosti, Andrea Benedetto, Alessandro Calvi, Roma Tre University

Development Of A New Response-type Road Roughness Measuring System

Ezio Santagata, Sergio Sciamanna, Politecnico di Torino

Network Level Experience Using Of 3d Pavement Technology For Evaluating Rutting, Texture, And Distress

D.J. Swan, Fugro Roadware

Automated Active Work Zone Notification System

Jacqueline Jenkins, Cleveland State university; Matthew Shields, Virtus Ventures

New systems for monitoring asphalt laying and compaction

Marcus Watermann, MOBA Mobile Automation AG

DAWG FORUM

Chair: **Brian Ferne**

Implementation Of A Data Base For The Environmental Evaluation Of Pavements
Maria Chiara Zanetti, DIATI, Politecnico di Torino, Torino

Identifying Structural Defects On Rigid Pavements With Continuous Deflection Measurements

Brian Ferne, Transport Research Laboratory, Berkshire

Definition Of Predictive Models Of Permanent Deformation Behavior Of Cement-bitumen Treated Materials

Monica Meocci, University of Florence



19:00-23:00

GALA DINNER

Open gallery of the Museum of the Opera Primaziale Pisana

Technical Program

Friday, 25 April 2014

8:30-9:30

PLENARY SESSION 3 - INVITED PRESENTATIONS

Room Ribot

New materials for sustainability

Chair: Robert Raab

The poroelastic road surface. The quest for an ultra low noise pavement with an acceptable lifetime

Luc Goubert - Belgian Road Research Center, Bruxelles

Innovative bituminous materials for high-performance road pavements

Ezio Santagata- Politecnico di Torino, (ITALY)

09:30-10:00

NETWORKING COFFEE BREAK

Exhibit Hall

10:00-12:00

CONCURRENT TECHNICAL SESSION 7

Room Ribot

Room Varenne

Recycled Asphalt Pavement in Mixtures

Chair: Wynand Jvdm Steyn

Influence Of Reclaimed Asphalt With Polymer Modified Bitumen On Properties Of Different Asphalts For A Wearing Course

Jozef Komačka, **Eva Remišová**, University of Žilina; **Gang Liu**, Delft University of Technology; **Greet Leegwater**, The Netherlands Organization for Applied Scientific Research; **Erik Nielsen**, Danish Road Directorate

The Influence Of The Ac Overlay On The Performance Of Foamed Asphalt Recycled Pavements

Andreas Loizos, **Vasilis Papavasiliou**, **Christina Plati**, National Technical University of Athens

Recycled Materials In Superpave Mixtures In Kansas

Nassim Sabahfar, **Syeda Rubaiyat Aziz**, **Mustaque Hossain**, Kansas State University

Water And Frost Resistance Of Deep Cold Recycled Bases With Foamed Bitumen, Hydrophobic Activators And Fines

Marek Iwanski, **Przemyslaw Buczynski**, **Grzegorz Mazurek**, Kielce University of Technology

Short-term Bearing Capacity Of Foam Bitumen Recycled Mixtures Using Lime As Active Filler

Giacomo Betti, **Umberto Pinori**, **Alessandro Marradi**, University of Pisa; **Andrea Cocurullo**, **Gordon Airey**, University of Nottingham; **Fabio Picariello**, Elletipi s.r.l.; **Gabriele Tebaldi**, University of Parma; **Kim Jenkins**, University of Stellenbosch

Porous pavements

Chair: Halil Ceylan

Effects Of Initial Conditioning Temperature On The Cantabro Test Results Of Porous Asphalt

Mohd Rosli Mohd Hasan, Michigan Technological University; **Meor Othman Hamzah**, University Sains Malaysia; **Pengiran Sakai**, Endaya Construction Sdn. Bhd.

Influences Of Pore Size On The Permeability And Skid Resistance Of Porous Pavement

Lei Zhang, **Ghim Ping Ong**, **Tien Fang Fwa**, National University of Singapore

Minimizing Water Runoff By Permeable Pavements: Pros And Contras

Pasquale Filianoti, **Filippo G. Praticò**, Università Mediterranea di Reggio C.

Hma Sustainability: Producing A Recycled Permeable Mix That Performs As Well As The Original Pem

Filippo Giammaria Praticò, DIMET - DIIES Department, University Mediterranea of Reggio Calabria; **Rosolino Vaiana**, **Teresa luele**, Dep. of Civil Engineering, University of Calabria, Arcavacata Campus, Cosenza; **Anand J. Puppala**, Dep. of Civil Engineering, University of Texas, Arlington

12:00 -12:30

CLOSURE

Room Ribot

13:00 -19:00

TECHNICAL TOUR

Carrara Marble Quarries "Marmo Tour"

Official Headquarter Hotel

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Exhibit Hall Schedule

Tuesday, April 22, 2014

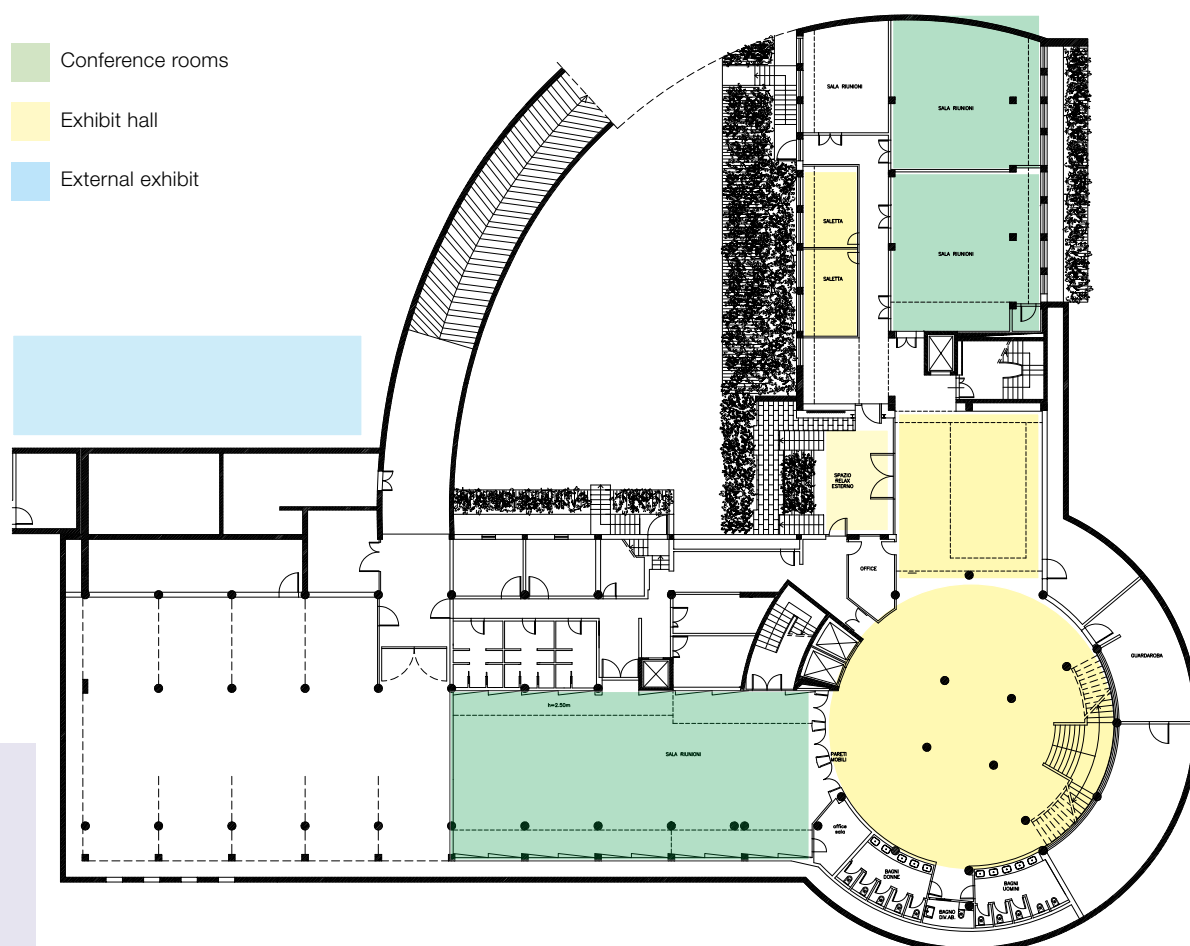
10:00 – 14:00 Exhibitor Move-in
16:30 – 19:00 Exhibit Hall Open/
Welcome Reception

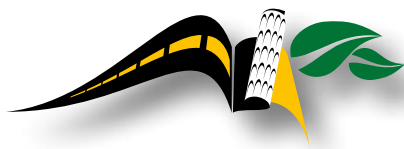
Wednesday, April 23, 2014

08:30 – 17:30 Exhibit Hours
10:00 – 10:30 AM Networking Break
12:00 – 13:30 Lunch
15:00 – 15:30 PM Networking Break

Thursday, April 24, 2014

08:30 – 17:30 Exhibit Hours
10:00 – 10:30 AM Networking Break
12:00 – 13:30 Lunch
15:00 – 15:30 PM Networking Break
15:30 – 18:00 Exhibitor Move Out





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