SUNDAY 26TH 2022
(subject to change)

STANDARD 800€ (880$)
STUDENTS 300€ (330$)
*Students are required to provide proof of status

GOVERNMENT EMPLOYEES 121 €
from all over the world
(Federal, State or Local Road Agencies)
**Proof of status required. Vat included

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SUNDAY 26TH 2022
(subject to change)

Sunday 26th 2022
14:30 - 18:00
Stand mounting & Registration

Simultaneous Translation
English ⇔ Spanish
www.rar2022.net
Monday 27th 2022

09:00 - 10:00
Registration

10:00 - 10:50
Chairman’s Welcome / Authorities Welcome

10:50 - 11:35
Eminent Speaker: Dr. Kevin Trenbeth
2007 Nobel Peace Prize

11:35 - 11:45
Questions and answers

11:45 - 12:15
Coffee Break*

12:15 - 13:45
Spanish and Portuguese Administration Perspectives
Moderator: Manuel Solas

13:45 - 14:15
Lunch*

14:15 - 15:15
Keynote Speaker: Prof. John Harvey

15:15 - 15:45
Review Of The Changing World Of Crumb Rubber Wet And Dry Process
authors: George R. Way

15:45 - 16:15
An update of 16-year review of successful bitumen-rubber asphalt use in China
authors: Alex Yasar, Shang Nanjun, James Ding

16:15 - 16:30
Mixtures With Reacted And Activated Rubber From Recycled Tires
authors: Jorge Sousa, Luis Quaresma, Gerge Way, Francisco Silva

16:30 - 16:45
Open Graded Friction Course Performance in California
authors: Jose Medina, Linda Pierce, Jeff Stempelar

16:45 - 17:15
Coffee Break*

17:15 - 17:30
Pushing the Limit on Recycling Old Tires in Asphalt Mixtures
authors: Peter J. Sembala

17:30 - 17:45
Development Of New Specifications For Bituminous Mixtures With Reacted And Activated Rubber From Recycled Tires
authors: Luis Quaresma, Eugenia Correia, Margarida Goncalves, Filipa Marques, Anabela Martins, Maria Conceicao Machado, Nelder Loureiro, Carlos Sousa

17:45 - 18:00
Environmental benefits and Carbon Footprint reduction when executing roads with asphalt mixtures that incorporate secondary raw materials from the recycling of used tires.
authors: José Luis Canga Cubanas

18:00 - 18:15
Evaluating Performance of Various Rubberized Chip Seals
authors: DingXin Cheng, Lerooe Lane, Steve J. Lee

18:15 - 18:30
Performance And Cost-Effectiveness Of Bitumen Rubber Chip Seals
authors: Carrie Van Zyl, Reinard Vossell

Note: GaLa Dinner* - Castillo de Gibralfaro

* included in the fee
OPENING CEREMONY

Francisco de la Torre Prados
EXCELENTISIMO ALCALDE
MALAGA

Fernando J. Burgaz Moreno
GENERAL SUBDIRECTION OF CIRCULAR ECONOMY
G. D. OF QUALITY AND ENVIRONMENTAL EVALUATION
MINISTRY FOR ECOLOGICAL TRANSITION
AND THE DEMOGRAPHIC CHALLENGE

Enrique Catalina Carmona
GENERAL MANAGER
OF INFRASTRUCTURES OF
THE GOVERNMENT OF ANDALUSIA

Jorge Urrecho Corrales
GENERAL DIRECTOR OF ROADS
COMMUNITY OF MADRID

Jose Serrano Gordo
VICE-PRESIDENT OF THE EXECUTIVE
BOARD OF DIRECTORS OF
INFRAESTRUTURAS DE PORTUGAL

Juan Jose Potti
PRESIDENT OF ASEFMA
PRESIDENT OF LA EAPA

MONDAY
27TH 2022
(subject to change)

www.rar2022.net
Dr. Kevin E. Trenberth is a Distinguished Scholar at the National Center for Atmospheric Research and a faculty member at the University of Auckland, New Zealand. From New Zealand, he obtained his Sc. D. in meteorology in 1972 from Massachusetts Institute of Technology.

He was a lead author of the 1995, 2001 and 2007 Scientific Assessment of Climate Change reports from the Intergovernmental Panel on Climate Change (IPCC), and shared the 2007 Nobel Peace Prize which went to the IPCC. He served from 1999 to 2006 on the Joint Scientific Committee of the World Climate Research Programme (WCRP), and chaired Global Energy and Water Exchanges (GEWEX) from 2010-2014. He has also served on many national committees. He is a fellow of the American Meteorological Society (AMS), the American Association for Advancement of Science, the American Geophysical Union, and an honorary fellow of the Royal Society of New Zealand.
Spain and Portugal are two of the countries in the world where the use of asphalt rubber is growing the most. This debate is an opportunity to know the vision of the different administrations.

MONDAY 27th 2022
As a lookout post, we can consider it related to the origins of Málaga as a human settling.

It must have already existed previous to the Roman dominance, but the Arabs gave it a structure of strength. The mount received the name of "Jabal-Faruk" (lighthouse mountain), from where it is said its current name comes. In the first half of the XIV century, Yusuf Y built the castle and other outbuildings.

The Catholic Kings choose the Castillo de Gibralfaro for the coat of arms they gave the city in 1494.
**Tuesday 28th 2022**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00-08:30</td>
<td><strong>Welcome</strong></td>
</tr>
<tr>
<td>08:30-09:00</td>
<td><strong>Keynote Speaker: Prof. Peter Sebaaly</strong></td>
</tr>
<tr>
<td>09:00-09:15</td>
<td>Testing of two sections of bituminous mixtures made with crumb tire rubber on CET-CEDEX Full-Scale Accelerated Pavement Test Track authors: Jorge Carriénervo, Manzanares, Maria N. Sánchez Pallares, Rafael Jimenez Saez</td>
</tr>
<tr>
<td>09:15-09:30</td>
<td>Performance Tests On Hot Bituminous Mixtures Produced With A Pre-Digested Crumb Tire Rubber Additive authors: Maria N. Sánchez Pallares, Belén Ectorio Ramos, Rafael Jimenez Saez</td>
</tr>
<tr>
<td>09:30-09:45</td>
<td>Time Evaluation Of The Properties Of Hot Bituminous Mixtures With Crumb Tire Rubber authors: Maria N. Sánchez Pallares, Belén Ectorio Ramos, Rafael Jimenez Saez</td>
</tr>
<tr>
<td>09:45-10:00</td>
<td>The Use Of Reacted And Activated Rubber By The Semi-Wet Viscose Case Studies Of In Mexico. authors: Guillermo Yarras, Israel Samoreva, Hugo Rueda, Ignacio Grameda</td>
</tr>
<tr>
<td>10:00-10:15</td>
<td>Test-Trial Of An Asphalt-Rubber SMA In The Douro Interior Subconcession In Portugal authors: Jota A.Silva, Francisco Silva, Jorge Sousa, Rui Guimaraes</td>
</tr>
<tr>
<td>10:15-10:30</td>
<td>Wet Process Rubber Asphalt Successfully Laid In Argentina authors: Marcella Balage, Ruben Gomerez</td>
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<td>10:30-11:00</td>
<td><strong>Coffee Break</strong></td>
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<tr>
<td>11:00-11:30</td>
<td><strong>Keynote Speaker: Prof. Jorge Alarcón Ibarra</strong></td>
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<tr>
<td>11:30-11:45</td>
<td>Superpave Mix Design and Laboratory Testing of Rubber Modified Asphalt Mixtures authors: Jannak Shah, Ayonk Ofevwho, Samad Nafkha</td>
</tr>
<tr>
<td>11:45-12:00</td>
<td>Viscosity Prediction Model for Reacted and Activated Rubber Modified Bituminous Using Artificial Neural Networks authors: Manzam M. Isael, Meen I. Souniann</td>
</tr>
<tr>
<td>12:00-12:15</td>
<td>High-RAP Rubber Modified Asphalt Mixes for Reducing Reflective Cracking authors: Frederic Saladeo, PhD, PhD, Gerardo Kintisch, PhD, PhD, José Ramon Marcella</td>
</tr>
<tr>
<td>12:15-12:30</td>
<td>Mechanistic Analysis and Cost Effectiveness of Asphalt Rubber Pavement Under Various Axle Loading Conditions authors: Logan Pavaa, Meen I. Souniann</td>
</tr>
<tr>
<td>12:30-12:45</td>
<td>Evaluation Of Anti-Reflective Cracking Mixtures Made With High Ny Asphalts authors: Adriam Segura, Juan Gallego, Natalia S., Belén Raggetti</td>
</tr>
<tr>
<td>12:45-13:00</td>
<td>Pavements And Water, Future Climate Change Challenges, Role Of Porous Pavements / Asphalt Rubber In Sustainable Strategies authors: Douglas Rhee, George B. Heng, Nami E. Madhyan</td>
</tr>
<tr>
<td>13:00-14:00</td>
<td><strong>Lunch</strong></td>
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<tr>
<td>14:00-14:30</td>
<td><strong>Keynote Speaker: Prof. Gerardo Botasso</strong></td>
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<tr>
<td>14:30-14:45</td>
<td>Fatigue Damage Evolution And Life Prediction Method Of Asphalt Modified With High Content Of Rubber Powder authors: Ursula Chen, Uranian Pan, Tongwei Chu, Chao Wang, Zhang Qiu, Yunting Qin, Xiaoping Liu, Chao Wang, Shaojun Yang, Chen Wang, Shaojun Yang, Youjie Wang, Yuming Wang, Xiaodong Yin, Xiaolin Lin, Shiliang Qian, Yunxiong Wang, Xiaoling Zhao, Xiaolin Wang, Xiaomeng Wang, Xiaomin Wang, Xiaoliang Yang, Xiaoxiao Yang</td>
</tr>
<tr>
<td>14:45-15:00</td>
<td>Application Of High Gr Percentage Asphalt Rubber In Perpetual Pavement: Expressway Projects Experience Of Yixing, China authors: Guoping Wang, Zhiyong Chen, Xianguang Yang, Xinhua Zhu, Xiaokun Chen</td>
</tr>
<tr>
<td>15:00-15:15</td>
<td>A Cradle-to-Gate Lifecycle Assessment of Modified Asphalt-Rubber authors: Chiara Vanheule, Yinong F. Nwogu, Niall O'Sullivan, Krishna Prasanna Bhargava</td>
</tr>
<tr>
<td>15:15-15:30</td>
<td>Study of the mechanical performance of crumb rubber modified bitumen under severe traffic and climate conditions authors: J. Moreno-Navarro, Francisco J. Sierra-Carrillo del Molinero, M. Solis-Sanchez, M.C. Rubio-Fuentes, R. Perez-Sparicio, E. Saez-Sanchez</td>
</tr>
<tr>
<td>15:30-15:45</td>
<td>Effect Of CRM Curing Level On Asphalt Binder And Mixture Performance Characteristics authors: Manoj Saini, Satish, Ali Sabri, Joubert</td>
</tr>
<tr>
<td>15:45-16:00</td>
<td>Promoting the use of rubberized asphalt mixtures in India by introducing performance related characterisation authors: Guopure Gonscett, Sillio, Milazzo, Chandra Sekhar, Madhuri, Sanjeev Bairagi, Daniel Formis, Davide Lo Presti</td>
</tr>
<tr>
<td>16:00-16:30</td>
<td><strong>Coffee Break</strong></td>
</tr>
<tr>
<td>16:30-17:30</td>
<td><strong>Extended Producer Responsibility</strong> Moderator: MIGUEL ANGEL SANZ</td>
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</tbody>
</table>

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* Included in the fee

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**Cocktail Andalusia** - Kalelde Puerto Malaga

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**Simultaneous Translation**

English - Spanish

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**TUESDAY 28TH 2022**

(subject to change)

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The organization in the management and recycling of the tire is vital for the use of tire dust to advance in the countries. In this block we will be able to listen to the vision of five integral management systems of different countries.

Daniele Fornai
ECOPNEUS
ITALY

Gabriel Leal
SIGNUS
SPAIN

Paulo Silva
VALORPNEU
PORTUGAL

Barry Takallou
TRAC
CANADA

IVAN VILLAR
EcoNeu
CHILE

TUESDAY 28th 2022
Wednesday 29th 2022

08:00:00 08:30:00
Registration

08:30:00 09:00:00
Keynote Speaker: Prof. Kamil Kaloush

09:00:00 09:15:00
Dry-Process Rubberized Asphalt Using Engineered Crumb Rubber: Field Performance In Use And In Europe
authors: N. Schiesser, P. Rath, L.A. de Leon, S. Megert, W. Buttler, R. Clark

09:15:00 09:30:00
Experimental study of low temperature cracking of bituminous materials containing crumb rubber from end-of-life tires
authors: Vaclav Maloumoud, Salvatore Manganaro, Cedric Sansouez, Horve Di Benedetto, Simon Pongrat, Frederic Loup, Julien Van Rompy, Jean-Philippe Juare

09:30:00 09:45:00
Experimental Comparison Of The Acoustic Performance Of Rubberized And Conventional Road Surfaces
authors: Luca Guerrera Del Pizzo, Gloria Scialfino, Francesco Bianco, Antonio More, Fabio Broccoli, Julien Girerdon, Filippe Guernarme Pratesi, Gaetano Locat

09:45:00 10:00:00
Characterisation Of The Sound Absorption Of Bituminous Mixtures Modified With Rubber From End-Of-Life Tires
authors: Freddy B. Apaza, Juan Gallego, Victor F. Vazquez, Santiago Jujo, Roberto Perez, Leticia Saiz

10:00:00 10:30:00
Coffee Break*

10:30:00 11:00:00
Keynote Speaker: Dr. Shakhir Shhatnawi

11:00:00 11:15:00
Effect of rubberized asphalt on the performance of hot-mix asphalt with recycled concrete aggregates
authors: Ignacio Perez, Ana R. Pasandir, Pablo Oroz

11:15:00 11:30:00
Unraveling the Physico-chemical Structure of Reacted and Activated Rubber
authors: Chatanna Basumbera, Vinas J. Nangwaza, Krishna Prasanna Sujag, Jorge B. Sousa

11:30:00 11:45:00
Evaluation of Hot Mix Asphalt Containing Processed and Conventional Crumb Rubber
authors: Amir Xavass, Mohdshah Dostl, Mehd Azzam, Peyman Haj Aabassi

11:45:00 12:00:00
Evaluation and Characterization of the Mechanical Properties of Warm Pavements by Adding Percentages of Vehicles and Aircraft Tire Dust from The Mariscal Sucre International Airport
authors: Yelen Canto, Maurice Carlo, Jorge Bucheli, Katrina Andrade, Andrea Montalto

12:00:00 12:15:00
New Crumb Rubber Modified Bitumen for Warm Mixes
authors: Vicente Perez Mena, Maria del Mar Cola Victoria, Fernando Moreno Navarro, M Carmen Rubio Gonzalez

12:15:00 12:30:00
Influence of Chemical-Based warm mix additive (WMA) on the rheological properties of Colombian asphalt rubbers
authors: Gilberio Martinez-Arreguiles, Emilio Turkish, Rodrigo Pinto-Mendoza, Edgar Sanchez-Corte, Luis Fuentes

13:00:00 14:00:00
Lunch*

14:00:00 14:15:00
Mechanical Evolution of Rubber Swelling in Bitumen
authors: Shengzheng Wang, Gordoncoverage, Chao Long

14:15:00 14:30:00
Comparing the effectiveness of using SBS and Crumb rubber as asphalt mixture modifiers with different modification processes
authors: Manofedisa Salokanami, Saeed Basirat Tafull, Nader Mahmodow

14:30:00 14:45:00
Foreseen environmental and economic potentials of highly rubberised and Impact-Absorbing cold asphalt
authors: Christina Makonuu, Fredrik Arde

14:45:00 15:00:00
The use of polymers to reduce volatile organic compounds emission from crumb rubber modified bitumen
authors: Jafer Brezan Barnwell, Miguel Alberto Estrada, Juliana Oliveira Costa, Jacoan Flam, David Horna, Wil Van Den Bergh, Cedric Vu
e

15:00:00 15:15:00
Re-Engineered Asphalt-Rubber: Product Development & Characterization
authors: Yining H. Nangwaza, Kristina Franquesa Bilgic

15:15:00 15:30:00
Comparison of SBS Polymer and Rubber Modified Mixtures Using Balanced Mix Design and Structural Capacity Assessment
authors: Carolina Radzczewicz, Pia Powell, Nathan Moore, Adam Taylor

15:30:00 15:45:00
The natural rubber modified asphalt pavement field performance: A case study
authors: Dr. Shahlida Binti Ariffin

15:45:00 16:00:00
The Effectiveness of Micro-Surfacing As a Thin Layer In Mitigating Reflective Cracking
authors: Nurali Nasir, Huw Jowsey, Shahlida Binti Ariffin

16:00:00 16:15:00
Closing Session

* included in the fee
CLOSING CEREMONY

Raul Lopez Maldonado

TENIENTE DE ALCALDE Nº 6,
CONCEJAL DELEGADO DEL ÁREA DE ORDENACIÓN DEL TERRITORIO
MALAGA
SOCIAL EVENTS

Monday 27th 2022
GALA DINNER
CASTILLO DE GIBRALFARO

Tuesday 28th 2022
COCKTAIL ANDALUZ
KALEIDO RESTAURANT
EMINENT SPEAKER

KEVIN E. TRENBERTH
National Center for Atmospheric Research (NCAR)

KEYNOTE SPEAKERS

PROFESSOR JOHN HARVEY, Ph.D., P.E
Department of Civil and Environmental Engineering,
University of California Davis, USA

PETER E. SEBAALY, PhD, PE
Director of Pavement Engineering & Science Program,
University of Nevada, USA

KAMIL ELIAS KALOUSH, Ph.D., P.E
FORTA Professor of Pavement Engineering,
Arizona State University, USA

GERARDO BOTASSO, Ph.D.
Director LEMaC, Road Research Center,
National Technological University of La Plata, Argentina

DR. SHAKIR SHATNAWI, P.E.
President of Shatdec Engineering Consultants, LLC
California, USA

JORGE ALARCÓN IBARRA, Ph.D.
Professor and Researcher at the School of Civil Engineering of the UMSNH, México
**Scientific Content Accepted Abstracts**

24 Countries

- **Review Of The Changing World Of Crumb Rubber Wet And Dry Process**
- **An update of 16-year review of successful bitumen-rubber asphalt use in China**
- **Open Graded Friction Course Performance in California**
- **Mixtures With Reacted And Activated Rubber From Recycled Tires**
- **Pushing the Limit on Recycling Old Tires in Asphalt Mixtures**
- **Development Of New Specifications For Bituminous Mixtures With Reacted And Activated Rubber From Recycled Tires**
- **Environmental benefits and Carbon Footprint reduction when executing roads with asphalt mixtures that incorporate secondary raw materials from the recycling of used tires.**
- **Evaluating Performance of Various Rubberized Chip Seals**
- **Performance And Cost-Effectiveness Of Bitumen Rubber Chip Seals**
- **Testing of two sections of bituminous mixtures made with crumb tire rubber on CET-CEDEX Full-Scale Accelerated Pavement Test Track**
- **Performance Tests On Hot Bituminous Mixtures Produced With A Pre-Digested Crumb Tire Rubber Additive**
- **Time Evolution Of The Properties Of Hot Bituminous Mixtures With Crumb Tire Rubber**
- **The Use Of Reacted And Activated Rubber By The Semi-Wet Via. Case Studies Of Success In Mexico.**
- **Test-Trial of An Asphalt-Rubber SMA In The Douro Interior Subconcession In Portugal**
- **Wet Process Rubber Asphalt Successfully Laid In Argentina**
- **Superpave Mix Design and Laboratory Testing of Rubber Modified Asphalt Mixtures**
- **Viscosity Prediction Model for Reacted and Activated Rubber Modified Binders Utilizing Artificial Neural Networks**
- **High-RAP Rubber Modified Asphalt Mixes for Reducing Reflective Cracking**
- **Mechanistic Analysis and Cost Effectiveness of Asphalt Rubber Pavement Under Various Axle Loading Conditions**
- **Evaluation Of Anti-Reflective Cracking Mixtures Made With High Nfu Asphalts**
- **Pavements And Water, Future Climate Change Challenges, Role Of Porous Pavements / Asphalt Rubber In Sustainable Strategies**
- **Fatigue Damage Evolution And Life Prediction Method Of Asphalt Modified With High Content Of Rubber Powder**
Application Of High Gtr Percentage Asphalt Rubber In Perpetual Pavement: Expressway Projects Experience Of Xiong’an, China

A Cradle-to-Gate Lifecycle Assessment of Modified Asphalt-Rubber

Study of the mechanical performance of crumb rubber modified bitumen under severe traffic and climate conditions

Effect of CRM Curing Level on Asphalt Binder and Mixture Performance Characteristics

Promoting the use of Rubberised Asphalt Mixtures in Italy by introducing performance related characterisation

Dry-Process Rubberized Asphalt Using Engineered Crumb Rubber: Field Performance In USA And In Europe

Experimental study of low temperature cracking of bituminous materials containing crumb rubber from end-of-life tires

Long-life resurfacing asphalt based on rubber powder or cellulose fibres

Characterisation Of The Sound Absorption Of Bituminous Mixtures Modified With Rubber From End-Of-Life Tires

Effect of rubberized asphalt on the performance of hot-mix asphalt with recycled concrete aggregates

Unraveling the Physico-chemical Structure of Reacted and Activated Rubber

Evaluation of Hot Mix Asphalt Containing Processed and Conventional Crumb Rubber

Evaluation and Characterization of the Mechanical Properties of Warm Pavements by Adding Percentages of Vehicles and Aircraft Tire Dust from The Mariscal Sucre International Airport

New Crumb Rubber Modified Bitumen for Warm Mixes

Influence of Chemical-Based warm mix additive (WMA) on the rheological properties of Colombian asphalt rubbers

Mechanical Evolution of Rubber Swelling in Bitumen

Comparing the effectiveness of using SBS and Crumb rubber as asphalt mixture modifiers with different modification processes

Foreseen environmental and economic potentials of highly rubberised and Impact-Absorbing cold asphalt.

The use of geopolymers to reduce volatile organic compounds emission from crumb rubber modified bitumen

Re-Engineered Asphalt-Rubber: Product Development & Characterization

Comparison of SBS Polymer and Rubber Modified Mixtures Using Balanced Mix Design and Structural Capacity Assessment

When Rubber Is In The Road

The Effectiveness of Micro-Surfacing As a Thin Layer In Mitigating Reflective Cracking

Experimental Comparison Of The Acoustic Performance Of Rubberized And Conventional Road Surfaces
THE CONFERENCE CHAIRMANS

Dr. Jorge B. Souza
George Woy, P.E.
Prof. Juan Gallego
Miguel Angel Sanz Coll

CONFERENCE COORDINATOR

ORGANIZATION COMMITTEE

HONORARY COMMITTEE

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HISTORY

Asphalt Rubber 2000
Vilamoura – Portugal

Asphalt Rubber 2003
Brasilia – Brazil

Asphalt Rubber 2006
California – USA

Asphalt Rubber 2009
Nanjing – China

Asphalt Rubber 2012
Munich – Germany

Asphalt Rubber 2015
Las Vegas – USA

Asphalt Rubber 2018
Kruger Park – South Africa

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