



## Monday October 22<sup>nd</sup>, 2012

Hotel: *The Westin Grand München*  
*Arabellastraße 6*  
*D-81925 München*

**Evening Event** **7:00 pm Exhibitor Briefing hotel lobby**

## Tuesday October 23<sup>rd</sup>, 2012

Event Hotel: *The Westin Grand München*  
*Arabellastraße 6*  
*D-81925 München*

Conference: Delegate Registrations

**Registration Opening hours:** **9:00 AM until 9:00 PM (Lobby)**

**Presenters & Moderators:** **3:00 PM to 3:30 PM Presenter & Moderator briefing meeting (München Room)**

**Evening Event** **6:00 PM till 8:00 PM Cocktail Reception (München Room)**

**Exhibitors:** **9:00 PM Exhibition stand / accessories set up (Foyer of Ballroom)**

## Conference Agenda

### Wednesday October 24<sup>th</sup>, 2012 / AR-2012 Munich Conference – Day One

**7:00 AM** **Exhibition stand / accessories set up (Foyer of Ballroom) finished latest 8:00 AM**

**8:00 AM** **Late Registrations & morning coffee (Foyer of Ballroom)**

**9:00 AM** **Delegates take seats for conference (Ballroom)**

**9:20 AM** **Conference Opens - Chairman's Welcome**  
 Dr. Jorge Sousa - President CONSULPAV & Board Member Rubber Pavements Association

- 9:40 AM Bjoern Dosch – Head of Traffic Dept. **ADAC** Germany - *Greetings*
- 10:00 AM Andreas Biedermann – Representative International Road Federation Geneva - *Greetings*
- 10:20 AM Coffee Break (Foyer of Ballroom)**
- 11:00 AM Mats Wendel – Swedish Transport Administration
- 11:20 AM Mark Belshe – Director Rubber Pavements Association
- 11:40 AM Eng. Abdulaziz alGhannam – Director of Strategic Studies Arriyadh Development Authority (ADA) Riyadh, Kingdom of Saudi Arabia
- Noon Buffet Lunch (Foyer of Ballroom)**

**Moderator – Asphalt Rubber Ambassador – Lebanon - Prof. Kamil Kaloush – Arizona State University**

- 1:00 PM **Asphalt-Rubber 45 years of Progress** – George B. Way, P.E., Chief Engineer, Consulpav International, United States
- 1:20 PM **Field Performance of Projects Containing Crumb Rubber Modified Asphalt Concrete** – Dr. Louay Mohammad, Samuel B. Cooper, Jr., and Mostafa Elseifi, Dept. of Civil and Environmental Engineering & Louisiana Transportation Research Center - Louisiana State University, Louisiana, United States
- 1:40 PM **Development of a Crumb Rubber Modified (CRM) PG Binder Specification** – Gaylon Baumgardner, Chief of Paragon Technical Services, Mississippi, John A. D'Angelo, President, D'Angelo Consulting, LLC, Virginia, United States
- 2:00 PM **Asphalt Rubber: How to successfully overcome the barrier towards greater sustainability** – Dr. Ines Antunes, Technical Director Asphalt Rubber Italia Srl, Daniele Fornai, Ecopneus Italy, Research Manager and Irene Bartolozzi, Sant'Anna School of advanced studies, PHD research fellow, Pisa, Italy
- 2:20 PM **Asphalt Standard Practice Guide – An Overview** – George B. Way, Chief Engineer, Consulpav International, Kamil Kaloush, Associate Professor, Arizona State University, Krishna Prapoorna Biligiri, Research Scientist, Arizona State University, United States
- 2:40 PM **Elastomeric Asphalt Extender** – A new frontier on asphalt rubber mixes Dr. Jorge Sousa, Consulpav International, California, United States, Andrey Vorobiev, Alltech Investments, Russia, Prof. Ilan Ishai, Technion University, Haifa, Israel.
- 3:00 PM Coffee Break (Foyer of Ballroom)**

**Moderator – Asphalt Rubber Ambassador – China - Dr. Rongji Cao – Vice President Jiangsu Transportation Research Institute**

- 3:40 PM **Laboratory Performance Evaluation of a Gap-Graded Asphalt Rubber Mixture in Puerto Rico** – Dr. Kamil E. Kaloush, Associate Professor Arizona State University (ASU) – Jeffrey Stempihar, Graduate Research Associate ASU, Mena I. Souliman, Graduate Research Associate ASU, Krishna P. Biligiri, Research Scientist ASU, George B. Way, Chief Engineer Consulpav International, Mark Belshe, Director, Rubber Pavements Association, Arizona, United States
- 4:00 PM **The first Brazilian experience with in-situ field blend asphalt rubber** – Ângelo Pinto, Division Head, Rio de Janeiro State, Highway Department, Jorge B. Sousa, President Consulpav International, California
- 4:20 PM **Dense graded asphalt rubber in cold climate conditions** – Thorsten Nordgren and Anders Tykesson, Swedish Transport Administration, Sweden

- 4:40 PM **Laboratory Evaluation of Asphalt Rubber Gap Graded Mixture Constructed on Stockholm Highway in Sweden** – Dr. Kamil E. Kaloush, Professor, Arizona State University (ASU) Krishna P. Biligiri, Research Scientist ASU, Thorsten Nordgren, Swedish Transport Administration, Sweden, Waleed A. Zeiada, Researcher ASU, Maria C. Rodezno, National Center for Asphalt Technology, Alabama, – Mena I.Souliman, Researcher ASU, Jordan X. Reed, Researcher ASU, Jeffrey Stempihar, Researcher, ASU, United States
- 5:00 PM **European Approach to Asphalt Rubber** – Jan Kudrna and Ondřej Dašek, Brno University of Technology Faculty of Civil Engineering, Czech Republic
- 5:20 PM **Effects of Crumb Rubber modification on binder aggregate adhesion** – Dr. Carl Christian Thodesen, Research Scientist, SINTEF Road and Railway Engineering, Trondheim, Norway, Inge Hoff, Norwegian University of Technology and Science: Civil Engineering Department, Trondheim, Norway
- 5:40 PM **The impact of Federal & State policies on Asphalt Rubber in the United States** – Michael Blumenthal, Vice President, Rubber Manufacturers Association, Washington, DC, United States
- 6:00 PM **End of Day One Sessions**
- 7:00 PM **AR2012 Banquet event at Sheraton hotel (5 min walk) “Cuvillies“ Room**
- Dinner Guests at Door €60,00

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## Thursday October 25<sup>th</sup>, 2012 / AR-2012 Munich Conference – Day Two

**Moderator – RPA TAB Chairman George Way, P.E. – Chief Engineer Consulpav**

- 8:30 AM **Research in Tire/Pavement Noise Reduction and Safety** – George B. Way, Chief Engineer, Consulpav International, Ali Zareh, Transportation Engineer, Arizona Department of Transportation, Arizona, United States
- 8:45 AM **Asphalt Rubber** – a new concept for asphalt rubber pavements in Poland – Adam Bisek, Manager, BISEK INDUSTRIES INC., Wroclaw , Poland
- 9:00 AM **Bitumen Rubber Seal behavior assessment & performance prediction** – Dr. T. I. Milne, Technical Director, Aurecon South Africa (Pty) Ltd; AT Visser, Emeritus Professor, Department of Civil Engineering, University of Pretoria, South Africa
- 9:15 AM **Comparing Effects of Crumb Rubber & Synthetic Polymers on Hot Mix Asphalt Performance** – Dr. Hussain Bahia, Professor, Department of Civil and Environmental Engineering, University of Wisconsin - Madison, United States
- 9:30 AM **Performance Characteristics of Arizona Asphalt Rubber & Conventional Mixes Using Beam Fatigue & Simple Shear tests** – George B. Way, Chief Engineer, Consulpav, International, Kamil Kaloush, Associate Professor, Arizona State University, Jorge Sousa, President, Consulpav International, Krishna Prapoorna Biligiri, Research Scientist, Arizona State University, United States
- 9:45 AM **Relationship between Crumb Rubber Morphology & Asphalt Rubber Viscosity** – Ezio Santagata, Davide Dalmazzo, Michele Lanotte, Maria Chiara Zanetti and Barbara Ruffino, Politecnico di Torino, Department of Environmental, Land and Infrastructure Engineering, Italy
- 10:00 AM **Coffee Break (Foyer of Ballroom)**

**Moderator – Dr. Shakir Shatnawi – President Shatec Engineering Consultants, LLC.**

- 10:30 AM **Asphalt Rubber as an alternative of polymer modified bitumen** – Prof. Piotr Radziszewski, Prof. Jerzy Piłat, Dr Michał Sarnowski, Dr Karol J. Kowalski and Dr Jan Król, Road Materials and Technology Division Institute of Road and Bridges Faculty of Civil Engineering Warsaw University of Technology, Director Zbigniew Krupa, Polski Asfalt Sp. z o. o., POLAND
- 10:45 AM **Comparison of Laboratory & Field Aging Properties of Asphalt Rubber and other binders in Arizona** – Dr. Krishna Prapoorna Biligiri, Research Scientist, Arizona State University, Arizona, George B. Way, Chief Engineer, Consulpav International, United States
- 11:00 AM **Mitigation Strategies to Avoid Asphalt Rubber Placement & Early Traffic Related Concerns** – George B. Way, Chief Engineer, Consulpav International, Mark Belshe, Director Rubber Pavement Association, Jorge Sousa, President, Consulpav International, Krishna Prapoorna Biligiri, Ph.D., Research Scientist Arizona State University, United States
- 11:15 AM **Utilizing Warm Mix Technologies in Rubberized Asphalt Pavements** – Dr. DingXin Cheng, Leros Lane and R. Gary Hicks, California Pavement Preservation Center, California State University, California, United States
- 11:30 AM **Performance of Recycled Rubber Modified Binders in Warm Mix Asphalt Mixtures** – Dr. Peter Sebaaly, Pavements/Materials Program, University of Nevada, Nevada; E. Y. Hajj and E. Hitti, Paramount Petroleum Corporations, California, United States
- 11:45 AM **Research findings on the use of Rubberized Warm Mix Asphalt in California** – Dr. David Jones and Rongzong Wu, University of California at Davis Pavement Research Center, Cathrina Barros and Joseph Peterson, California Department of Transportation, United States

**Noon to 1:00 PM** **Buffet Lunch (Foyer of Ballroom)**

**Moderator – Asphalt Rubber Ambassador – South Africa - Prof. Alex Visser**

- 1:00 PM **Effectiveness of Bitumen Rubber Double Seal for Heavy Maintenance** – NJJ Jooste, Technical Director, KBK Engineers (Pty) Ltd; AT Visser, Emeritus Professor, Department of Civil Engineering, University of Pretoria, Pretoria, South Africa
- 1:15 PM **New Bitumen Rubber Technology improves storage, handling and stability of Bitumen Rubber** – Johan Muller, Sasol Technology, Republic of South Africa (RSA), Thorsten Butz and Jens Arnold, Sasol Wax, Hamburg, Germany, Stefan Strydom, Sasol Wax, RSA, Jacques van Heerden, Sasol Technology, RSA
- 1:30 PM **Development & Application of the Asphalt Rubber Three Layer Cape Seal Pavement Preservation System** – Jack Van Kirk, Director of Asphalt Technology Basic Resources Inc., California
- 1:45 PM **Asphalt Rubber Chip Seal & Polymer Modified Asphalt Rubber Two Layer System, Case Studies** – Jeffrey R. Smith, Manager International Surfacing Systems, George B. Way, Chief Engineer, Consulpav International, Inc. USA
- 2:00 PM **Asphalt Rubber Chip Seal Construction Evaluation & Comparison of Binder Types** – J. Shawn Rizzutto, P.E., DingXin Cheng, Director, California Pavement Preservation Center, Leros Lane, Senior Pavement Preservation Engineer, California Pavement Preservation Center and R. Gary Hicks, Program Manager, California Pavement Preservation Center, California, United States
- 2:15 PM **Asphalt Rubber versus other modified bitumen** – Dr. Szabolcs Biro and Bence Fazekas, Bitumen Engineering, Hungary

- 2:30 PM **Influence of Processing conditions on Rheology of tyre rubber modified bitumens** – D. Lo Presti, N.Memon and G.Airey, Nottingham Transportation Engineering Centre University of Nottingham, Nottingham, United Kingdom
- 2:45 PM **Superior Ageing Characteristics of Asphalt Rubber** – Dr. Shakir Shatnawi, President, Shatec Engineering Consultants, LLC, California

**3:00 PM Coffee Break (Foyer of Ballroom)**

**Moderator – Dr. Ines Antunes – Technical Director Asphalt Rubber Italia**

- 3:30 PM **Comparisons of Rubberized Asphalt Binders: Asphalt Rubber & Terminal blend** – Dr. Shakir Shatnawi, President, Shatec Engineering Consultants, LLC, California
- 3:45 PM **Comparison of Conventional, Polymer, and Rubber Asphalt Mixes using Viscoelastic Continuum Damage Model** – Dr. Waleed A. Zeiada, Graduate Research Associate, Arizona State University (ASU), Shane Underwood, Assistance Professor ASU, Tina Pourshams, Graduate Research Associate, ASU, Jeffrey Stempihar Graduate Research Associate, ASU and Kamil Kaloush, Associate Professor, ASU, Arizona, United States
- 4:00 PM **The Perceived versus actual Shelf Life & Performance Properties of Bitumen Rubber** – Johan Muller, Sasol Technology Fuels Technology, South Africa, Herman Marais, Much Asphalt (Pty) Ltd, South Africa
- 4:15 PM **Hot Mix Asphalt Rubber Material** – Lubomír Žalman, Petr Špaček, Skanska a.s., Czech Republic
- 4:30 PM **Internal Structure Characteristics of Crumb Rubber Modified Asphalt Binders: An Analysis using 3D X-ray Microtomography Imaging** – M. Emin Kutay and Hande Ozturk, MICHIGAN STATE UNIVERSITY, Michigan, United States
- 4:45 PM **Using Statistical Analysis to Compare Life Cycle Costs of Rubberized Hot Mix Asphalt with Conventional Hot Mix** – Dr. DingXin Cheng, Lerose Lane and R. Gary Hicks, California Pavement Preservation Center, California State University, California, United States, George B. Way, Chief Engineer, Consulpav International
- 5:00 PM **Asphalt Rubber Properties Indicative of Noise Dampening Characteristics** – Dr. Krishna Prapoorna Biligiri, Research Scientist, Arizona State University, Arizona, George B. Way, Chief Engineer, Consulpav International, Ali Zareh, Transportation Engineer, Arizona Department of Transportation, Arizona, United States
- 5:15 PM **Evaluation of Noise Reduction of Asphalt Rubber in cities** – Dr. Ines Antunes, Technical Director Asphalt Rubber Italia Srl; Sergio Luzzi, Francesco Borchini and Luca Barbieri, Vie En.Ro.Se. Ingegneria, Italy
- 5:30 PM **Crumb Rubber Modified Asphalt Concrete for Low Noise Surfaces** – Massimo Losa, Pietro Leandri and Patrizia Rocchio, University of Pisa, Department of Civil Engineering, Italy
- 5.45pm **The Environmental Impact Assessment of Asphalt Rubber: Life Cycle Assessment** – Irene Bartolozzi PHD research fellow and Francesco Rizzi, Assistant Professor Sant'Anna School of advanced studies, Institute of management, Pisa Italy, Ines Antunes, Technical Director Asphalt Rubber Italia Srl, Pistoia, Italy

**6:00 PM End of Day Two Sessions**

**7:00 PM Bavarian Beer Fest Gala celebration / "Paulaner's" beer cellar in Westin Grand Hotel**

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(Pre-booked Tickets via Invoice, Web Page or Guests at door €40,00)

## **Friday October 26<sup>th</sup>, 2012 / AR-2012 Munich Conference – Day Three**

### **Moderator – Dr. John D'Angelo – President Dangelo Consulting LLC**

- 8:30 AM                    **Life-Cycle Cost Analysis of Flexible Pavement Systems** – Rehabilitated with the use of Asphalt Rubber Interlayers – Dr. Shakir Shatnawi, President, Shatec Engineering Consultants, LLC, California
- 8:45 AM                    **Rubber Modified Stone Matrix Asphalts** – Lukasz Skotnicki, Henryk Koba and Antoni Szydlo, Wroclaw University of Technology, Poland
- 9:00 AM                    **Laboratory evaluation of asphalt rubber mastic prepared using mixed (wet + dry) method** – Henryk Koba, Łukasz Skotnicki and Antoni Szydło, Wroclaw University of Technology, Poland
- 9:15 AM                    **Investigating the in-situ Properties of Crumb Rubber Modified (CRM) Bitumen** – Georges A. J. Mturi, Johan O'Connell and Keneilwe Mogonedi, CSIR Built Environment Transport Infrastructure Engineering, South Africa
- 9:30 AM                    **Evaluation of an alternative gradation of Crumb Rubber on Binders & Asphalt Hot mixes** – Gilberto Martinez, PhD. Student, Department of Civil Engineering – Transportation Infrastructure section, Politecnico di Milano. Milan, Italy and Department of Civil Engineering, Universidad Piloto de Colombia. Bogotá, Colombia, Maurizio Crispino, Full professor, Department of Civil Engineering – Transportation Infrastructure section, Politecnico di Milano. Milan, Italy, Luis G. Fuentes, Assitant Professor, Department of Civil Engineering, Universidad del Norte, Barranquilla, Colombia
- 9:45 AM                    **Influence of Asphalt Rubber on the crushing of recycled aggregates used in dense HMA** – Marcio Muniz de Farias, Ferney Quiñones Sinisterra, Alejandra María Gómez Jiménez, Marcus Vinicius Ribeiro e Souza and Paulo Roberto Farias Falcão, University of Brasilia, Brazil

### **10:00 AM                    **Coffee Break (Foyer of Ballroom)****

### **Moderator – Asphalt Rubber Ambassador – Sweden - Thorsten Nordgren**

- 10:30 AM                    **Design of Asphalt Rubber Overlays for PCC Pavements in Airport Runways: The Case of the Airport of Vitoria, Spain** – Juan Gallego and Julián Sierra, Technical University of Madrid, Ignacio Pérez , Universidade da Coruña, Madrid, Spain
- 10:45AM                    **Asphalt Rubber in the Czech Republic** – Ondřej Dašek, Jan Kudrna and Jiří Kachtlík, Brno University of Technology Faculty of Civil Engineering, Karel Spies, Stradis, s.r.o., Czech Republic
- 11:00 AM                    **Crumb rubber modified bituminous emulsions / CRE emulsions** – Nuria Querol Sola and Emeline Marty, SORIGUE Ctra, Spain
- 11:15 AM                    **Research on the Terminal Blend Rubberized Asphalt with High Volume of Rubber Crumbs and its Gap Graded Mix** – Dr. Chunying Wu, Kaiqiong Liu, Jianya Tang and Aifang Li, Jiangsu Transportation Research Institute CO.,LTD, Nanjing, Jiangsu, China
- 11:30 AM                    **How Rubber meets more Rubber** – Vasco Pampulim, *RECIPNEU, Portugal*
- 11:45 AM                    **Development of Polymerized Asphalt Rubber Pelleted Binder for HMA Mixtures** – Dr. Serji Amirkhanian and Kelly Sockwell, Phoenix Industries, LLC), Nevada, United States
- Noon                        **"Sub-ballast Project" – Design of a new recycled crumb rubber bituminous layer in the railway track subgrade** – J. M. Berenguera and E. Griñána, Aglomerados Los Serranos; V. Puigb GTP, Pda.; A.Galisteoc, L. Montalbánc and J. I. Realc Department of Transportation Engineering and Infrastructures, School of Civil Engineering, Technical University of Valencia, Spain

12:15 PM

CLOSING REMARKS – Dr. Jorge Sousa / Conference Chairman

1:00 PM

Conference closes – [Exhibitors tear-down booths]

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