

The Rubber Pavements Association

invites you to its

Asphalt-Rubber 101, A Technology Workshop

Come and meet the leading EXPERTS in Asphalt-Rubber Technology. The course is designed to provide the attendee with all of the information needed to overcome barriers to the greater use of rubberized asphalt concrete in City and County public works projects.

***Registration fees includes:
The AR2006 Conference DVD a
\$100 value!
Plus a complete specifications notebook.***

Following the completion of this course the attendees will:

- ◆ Recognize the difference between in the various processes of incorporating crumb rubber into asphalt.
- ◆ Recognize applications such as A-R chip seals and open graded friction course overlays for use in pavement preservation and rehabilitation.
- ◆ Be familiar with quality control in accordance with ASTM and standard specifications from routine user agencies
- ◆ Know the benefits of the use of tire rubber in asphalt such as safety, noise reduction and long term performance.
- ◆ Be confident in specifying A-R in your projects!

For more information contact:

**Rubber Pavements Association
1801 S. Jentilly Ln. Ste. A-2
Tempe, AZ 85281-5738
Toll Free: 877-517-9944
(480) 517-9944 / Fax (480) 517-9959
www.rubberpavements.org**

gdickerson@rubberpavements.org

AGENDA

**Registration starts at 7:30 AM
Workshop starts at 8:30 AM**

- **Welcome and Introduction to Asphalt-Rubber**
By Doug Carlson, Exec Dir RPA

An overview of the development of asphalt-rubber technology and its entrance into the public domain and ASTM

- **Crumb Rubber Production and Specifications**
By Barry Takallou P.E. PhD. President CRM

A look at Scrap Tire processing into an engineered product and agency specifications and quality control

- **Asphalt Rubber Research and Development**
By George Way P.E. ADOT (Ret)

Research progress in Noise Reduction and long term performance predicted by the FHWA ALF tests

- **Asphalt Rubber Applications**
By Maghsoud Tahmoressi P.E., PaveTex Engineering

The use of tire rubber in chip seals, under seals and stone matrix and friction course hot mix materials

- **Asphalt Rubber Binder Design**
By Mark Belshe P.E., FNF Construction

How asphalt and scrap tire rubber are combined and tested to ensure good engineering properties

- **Asphalt Rubber Mix Design**
By Anne Stonex P.E., MACTEC Engineering

Methods used by departments of transportation to design SMA and Friction Courses with Asphalt-Rubber

- **Texas Asphalt Rubber Specifications and Safety**
By Dale Rand P.E. Texas DOT

An overview of the Texas Specifications and Safety Benefits of PFCs

- **The City of Phoenix Use of Asphalt Rubber**
By Joe Cano P.E. US Bureau of Indian Affairs, Roads Div.

How the city of Phoenix developed AR Chips Seals, Scrub Seals and Hot Mix and a look at the Dobbins Road 1988 Test.

Adjourn at 3:15 PM

Asphalt-Rubber 101

A Simple Technology Workshop

**Learn how to recycle your city's tires
into safe, quiet and durable streets at
the APWA Expo.**

**TUESDAY, SEPTEMBER 11,
2007**

8:30 AM—3:15 PM

**HYATT REGENCY SAN ANTONIO
123 Losoya
San Antonio, TX 78205**

REGISTRATION FEES:

General \$100

APWA Registrants \$75

RPA Members \$50

Register at:

www.rubberpavements.org

Or call 877-517-9944



Meet the Speakers

Douglas D. Carlson

Executive Director

Rubber Pavements Association

1801 S. Jentilly Lane Ste A-2

Tempe, AZ 85281-5738

480-517-9944, 480-517-9959 fax

Over nine years of experience working within the rubberized asphalt industry conducting over 60 conferences, workshops, seminars, and technology tours in Arizona, California, Texas and worldwide with the Rubber Pavements Association. He is a recognized expert used for presentations in conferences concerning rubberized asphalt, tire recycling and the use of granulated tire rubber in engineering materials. He has held or maintained the following positions: Executive Director, Rubber Pavements Association, February 2003 to Present, Director, Recycled Tire Engineering and Research Foundation, November 2003 to Present, Federal Highway Administration Quiet Pavement Technology European Scan Team Member 2004, Member of the US Quiet Pavements Expert Task Group, 2004 to Present, Member, Transportation Research Board 2004 to Present, Member, American Society for Testing Materials 1999 to Present, Member, Caltrans Rubberized Asphalt Concrete Task Group March 1998 to Present (Co-Chairman of the Rubberized Asphalt Concrete, Special Provision Performance Grade Binder Update 2005), Member, US EPA Resource Conservation Challenge, Tire Cluster, Rubber Modified Asphalt Subcommittee May 2002 to Present.

He has other unique qualifications: Project Administrator, Crumb Rubber Concrete Design Guide Development, Arizona Department of Environmental Quality, Contract EV 05-0002 AC, October 2004 to Present, Executive Board Member, Arizona Highway Users Conference 2002 to Present, Project Proposal Reviewer for EPA projects related to waste tires, Paper Reviewer for granulated tire rubber technologies, ASCE and JSWTM, Trained Combat Engineer and Bulk Fuel Specialist. USMC 1987-1995

Barry Takallou, Ph.D, P.E.

President, CRM (Crumb Rubber Manufacturers) of America

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Dr. Takallou received a B.S. in Civil Engineering at California State University in 1981. He received his M.S. and Ph.D. in Civil Engineering at Oregon State University. Dr. Gary Hicks was his professor and mentor at OSU. He is affiliated with numerous professional organizations including the Transportation Research Board (TRB), APWA, ASCE, AAPT, ISAP and many others.

He has authored numerous publications on asphalt rubber pavement technology and has been a speaker at several national and international symposiums, including the American Society of Civil Engineers, American General Contractors, National Paving Association, ASTM, national tire seminars in Florida, Philadelphia and Transportation Research Board, New York, Swedish National Paving Conference, and the International Conference on Paving in Cold Regions held in Ottawa, Canada.

He is currently a member of the RPA Executive Committee, a founding Director of the Recycled Tire Engineering and Research Foundation and is active in many local California technical organizations including the Greenbook Committee. Dr. Takallou spent many years in the crumb rubber modified industry prior to becoming involved in tire recycling. He has authored numerous technical papers on rubber modified asphalt pavements as well as tire recycling. Dr. Takallou has recently established a tire processing equipment manufacturing plant, Artisan Machinery Global, in Illinois. He currently operates two tire recycling plants, the Queen Creek plant in Arizona and a Los Angeles plant.

Mark Belshe

Vice President, Asphalt-Rubber

FNF Construction, Inc.

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Mark Belshe is a Vice President and Project Sponsor for FNF Construction, Inc., one of the largest contractors and producers of asphalt rubber binders in the Southwest United States. FNF, a general contractor based in Tempe, Arizona, provides asphalt rubber binders for its own hotplants and also

works as a supplier to various hotmix material suppliers throughout Arizona, California and other market areas. Mark has been with FNF for nearly 20 years working as a Project Engineer, Estimator, Project Manager and Project Sponsor, and he was instrumental in building the company's asphalt rubber operations. Mark has been active in the Rubber Pavements Association, serving as the Association President in 1999 and 2000. He is also active in various technical committees including the Pacific Coast Conference on Asphalt Specifications, the Arizona Rock Products Association, the RPA Technical Advisory Committee and several standing committees with the Arizona Department of Transportation. Mark has a B.S. in Civil Engineering from the University of Arizona and a M.S. in Civil Engineering from Arizona State University. He is a Registered Professional Engineer in California and Arizona as well as a Registered Land Surveyor in Arizona.

MAGHSOUD TAHMORESSI, P.E.

PRESIDENT

PAVETEX ENGINEERING AND TESTING, INC.

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DRIPPING SPRINGS, TX 78620

PHONE: 512-894 3040

e-mail: MT@pavetex.com

Maghsoud is a registered professional engineer in the state of Texas. He has a BS and MS degree in Civil Engineering from University of Texas at Austin. He is currently President of Pavetex Engineering and Testing, Inc. Pavetex is a consulting engineering firm specializing in all aspects of hot mix, Asphalt Rubber, Seal Coat, Microsurfacing and Cold Mix design, construction and evaluation. Pavetex also has a state of the art laboratory for materials testing and design.

Prior to forming Pavetex, Maghsoud was the State Bituminous Engineer for Texas Department of Transportation. In that capacity he was responsible for all-bituminous materials specification as well as QC and QA bituminous materials. Maghsoud has worked extensively with dense graded and gap graded mixtures. He developed a Coarse Matrix High Binder mixture for TxDOT which strives to reduce rutting through stone-on-stone contact. During implementation of CMHB, he devised method to improve resistance to permeability. He has also conducted research to improve measurement of bulk specific gravity of cores for mixes, which tend to have interconnected air voids. Maghsoud has also worked at University of Texas as a research engineer and at southwestern laboratories as a materials engineer prior to working at TxDOT. Among the research projects he worked on are SHRP A-001 and SHRP A-004 contracts. He was also the project engineer for LTPP Southern Regional sampling contract.

Maghsoud is very active in research related to hot mix. He is Past chairman of TRB committee A2F02 "Construction and Rehabilitation of Flexible Pavements". He is also chairman and Panel member of several NCHRP projects.

Maghsoud has authored or co-authored more than 50 technical papers and reports.

ANNE STONEX, Ph. D.

SENIOR PAVEMENT ENGINEER

MACTEC ENGINEERING & CONSULTING, INC.

3630 EAST WIER AVE.

PHOENIX, AZ 85040

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Ms. Stonex has specialized in conventional and modified bituminous and hot-mixed asphalt (HMA) pavement materials and construction for over 20 years and is a nationally recognized expert on asphalt rubber paving materials. Her career to date has provided a wide range of experience including conducting sponsored research projects, writing technical reports, setting up and managing materials testing laboratories, structural pavement design, forensic analysis of distressed pavements, use of Marshall, Hveem, and Superpave systems for mixture design and analysis of asphalt paving materials, developing asphalt rubber binder and mixture products and specifications, design and application of surface treatments and of cold mixes for in-place and plant recycling, field control of pavement construction, Superpave implementation, and HMA technology transfer including conducting large training and certification programs.

Ms. Stonex has also planned and performed numerous pavement and related geotechnical investigations, and has developed structural pavement designs, pavement management plans and bid packets for construction and rehabilitation of roadway and airport pavements and parking facilities. She has served a variety of public and private sector clients throughout the United States, including the U.S. Air Force Engineering and Services Center, Bureau of Indian Affairs, various state and municipal agencies, the Northeast Regional Pooled-Fund Study, the Pennsylvania Department of Transportation Bituminous Technician Certification Program, Ford Motor Company, Chrysler Corporation, Michigan

DALE RAND, P.E.

FLEXIBLE PAVEMENTS BRANCH DIRECTOR, TEXAS DOT

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Dale worked two summers for TxDOT in the Odessa Area Office beginning in 1983. Duties included seal coat inspection and surveying. Graduated from Texas Tech University in 1987 with a Bachelors Degree in Civil Engineering. In 1987, started working for TxDOT in the Abilene Area Office as an Engineering Assistant. Worked for two years in Abilene primarily in construction before transferring to the Materials and Tests Division in Austin.

Worked from 1989 to 1996 in the Bituminous Branch of the Materials and Tests Section. Duties in the Bituminous Branch included research, field engineering, and laboratory supervisor. In 1996, entered TxDOT's Master's Program and received a Masters Degree in Engineering from the University to Texas in 1997. Became the Director of TxDOT's Soils and Aggregates Branch in February of 1998. In April of 1999, left TxDOT to become the Technical Director of the Texas Asphalt Pavement Association. In May of 2000, returned to TxDOT as the Director of the Flexible Pavements Branch in the Construction Division.

JOE CANO, P.E.

MATERIALS ENGINEER

BUREAU OF INDIAN AFFAIRS

2 Arizona Center, 13th Floor

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Phoenix, AZ 85004

PHONE: 602-379-6782, FAX: 602-379-3837

Joe Cano is a graduate of Arizona State University with a Bachelor of Science degree in Civil Engineering. He retired from the City of Phoenix in January, 1992 after 32 years of service. Mr. Cano served as the Engineering Supervisor of the Materials Laboratory for Phoenix Street Transportation Department, responsible for the testing and quality assurance of all construction materials used by the city. He developed the gap-graded Asphalt-Rubber hot mix used by the city to resurface badly cracked streets. Mr. Cano has authored several papers on the use of Asphalt-Rubber including the Twenty-Year Study of Asphalt-Rubber Pavements in the City of Phoenix, Arizona. Prior to joining the BIA in as a Materials Engineer in 1999, Joe served as a Technical Director of International Surfacing Systems from 1992-1996. He is a member of the RPA Technical Advisory Board.

GEORGE WAY, P.E.

CHAIRMAN, RECYCLED TIRE ENGINEERING RESEARCH FOUNDATION

ARIZONA DOT (Ret).

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George retired in 2004 from the Arizona DOT as the Chief Pavement Design Engineer with 35 years of experience in Pavement Structural Design, Materials Testing, Materials Pavement Research, Pavement Condition Inventory, Pavement Management, Asphalt and Asphalt Rubber Mix Design, Concrete Mix Design, and all related materials composing the pavement structure from the soil foundation to the surface of the pavement. His service with ADOT coincided with the development of asphalt-rubber materials used by the agency beginning in 1972.

Also during his career with ADOT he served on the Strategic Highway Research Program (SHRP) AASHTO Task force that developed the original Long Term Pavement Performance (LTPP) plan. He is an active member of many engineering Associations and Societies including the following: American Society of Civil Engineers (ASCE), American Institute of Chemical Engineers (AIChE), National Society of Professional Engineers (NSPE), Association of Asphalt Paving Technologists (AAPT), American Society for Testing Materials (ASTM), Transportation Research Board (TRB), Panel member NCHRP I-37A (1998-2004), Pacific Coast User Producer Conference on Asphalt Specifications, Chairman of the Rubber Pavement Association (RPA) Technical Advisory Board, and Chairman of the Recycled Tire Engineering and Research Foundation (RTÉRF). He has authored and co-authored over 70 published reports in technical journals, conferences and proceedings many involving the research, design, and use of asphalt rubber materials.

Attendee # 2 Personal Information			
Full Name:			
	Last	First	M.I.
Company Name		Job Title	
Phone:	()	E-mail Address:	

Attendee # 3 Personal Information			
Full Name:			
	Last	First	M.I.
Company Name		Job Title	
Phone:	()	E-mail Address:	

Attendee # 4 Personal Information			
Full Name:			
	Last	First	M.I.
Company Name		Job Title	
Phone:	()	E-mail Address:	

Attendee # 5 Personal Information			
Full Name:			
	Last	First	M.I.
Company Name		Job Title	
Phone:	()	E-mail Address:	

Attendee # 6 Personal Information			
Full Name:			
	Last	First	M.I.
Company Name		Job Title	
Phone:	()	E-mail Address:	

Attendee # 7 Personal Information			
Full Name:			
	Last	First	M.I.
Company Name		Job Title	
Phone:	()	E-mail Address:	