Current Challenges
Sustainable Solutions

11th Arizona Pavements/Materials Conference

November 19-20 • 2014
Arizona State University • Tempe, AZ
Ira A. Fulton Schools of Engineering
pavement.engineering.asu.edu
A two-day conference with a theme on “Current Challenges/Sustainable Solutions” sponsored by Arizona State University (ASU), Arizona Department of Transportation (ADOT), Arizona industry and local governments. The conference will be held at ASU on November 19-20, 2014 in the Memorial Union, Tempe Campus.

This year’s conference will include nationally recognized speakers who will address the audience on national and Arizona pavements issues. Sessions will include:

- ADOT Update & FHWA-Transportation Reauthorization Bill
- Quantifying Sustainability in Pavements-A National Perspective
- Arizona’s Economic Recovery: Are We There Yet?
- Sustainable Pavement Infrastructure
- Panel Discussion on Warm Mix Asphalt (Q&A)
- SYMPOSIUM on Pavement Cracking Distress & Performance Prediction
- Quality Assurance & Update on NCHRP Project 20-07
- Pavement Preservation
- Local Government Challenges – City of Phoenix – City of Mesa
- Geotechnical Concerns in Arizona and the Southwest
- America Unearthed

Location
The conference is being held at the Memorial Union (MU) on Arizona State University’s (ASU) Tempe Campus (1290 S. Normal Ave., Tempe, AZ 85287) in the Ventana Ballroom, Arizona Ballroom and Pima Auditorium located on the second floor. The MU serves as the central meeting and conference center for the ASU community.

Parking at ASU – Visitor spots fill up quickly – arrive early!
A limited number of parking spaces will be reserved in the following parking structures:

- Fulton Center (Foundation Building) located at University Drive and College Ave.
- Rural Road Structure located at Rural Road and Terrace Road (SW corner)
- Apache Blvd. Structure located at Apache Blvd. and Normal Avenue (NW corner)

When entering the parking structure, check with the attendant and identify yourself as attending the “Pavement Conference”. A sign indicating “Lot Full” does not apply to reserved spots.

The cost of parking is included in your registration fee. Please bring your parking ticket to the registration table when you arrive to obtain a validation stamp. ASU parking locations and maps are located at: https://cfo.asu.edu/pts-visitor-tempe

Accommodations
Following is a list of neighboring hotels conveniently located within walking distance of the campus. Call the hotel directly to make your reservation. ASU and government rates may be available. Additional information is listed on our website: http://pavement.engineering.asu.edu

Four Points by Sheraton
1333 Rural Road
Tempe, AZ 85281
(480) 968-3451
www.fourpoints.com

Tempe Mission Palms
60 East 5th Street
Tempe, AZ 85281
(800) 547-8705
www.missionpalms.com

Residence Inn Marriott
510 South Forest Ave.
Tempe, AZ 85281
(480) 967-2300
www.marriott.com
<table>
<thead>
<tr>
<th>Day 1</th>
<th>Wednesday, November 19, 2014</th>
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<tbody>
<tr>
<td>8:10am</td>
<td>Registration, Exhibit Viewing</td>
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<tr>
<td></td>
<td>Continental Breakfast</td>
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<tr>
<td></td>
<td>Arizona Ballroom 221</td>
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<tr>
<td>10am</td>
<td>OPENING SESSION: Ventana Ballroom 241</td>
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<tr>
<td></td>
<td>Moderator: Bill Hurgy, ADOT</td>
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<tr>
<td>10:15am</td>
<td>ADOT Overview - Dallas Hammit, ADOT</td>
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<tr>
<td>10:30am</td>
<td>Implementation of MAP-21 Performance Provisions-A Focus on Infrastructure Condition Management</td>
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<td></td>
<td>Peter J. Stephanos, FHWA</td>
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<tr>
<td>11am</td>
<td>Quantifying Sustainability in Pavements - A National Perspective</td>
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<td></td>
<td>Thomas Harman, FHWA</td>
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<tr>
<td>11:30am</td>
<td>Arizona’s Economic Recovery: Are We There Yet?</td>
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<td></td>
<td>Lee McPheters, ASU</td>
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<tr>
<td>12pm</td>
<td>COMMUNITY SERVICE AWARDS LUNCHEON</td>
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<tr>
<td></td>
<td>Arizona Ballroom 221</td>
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<tr>
<td></td>
<td>Moderator: Dave Martin, AGC</td>
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<tr>
<td>1:30pm</td>
<td>SESSION 1: Material Technologies for a More Sustainable Pavement Infrastructure</td>
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<tr>
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<td>Ventana Ballroom 241</td>
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<td>Moderator: Waleed Zeiada, ASU</td>
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<tr>
<td>2pm</td>
<td>Fibers in Pavements</td>
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<td></td>
<td>Shane Underwood, ASU</td>
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<td>2:30pm</td>
<td>Pretreated Rubber Technologies</td>
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<td></td>
<td>Doug Carlson, Liberty Tire</td>
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<tr>
<td>3pm</td>
<td>Geopolymers for PCC Recycling</td>
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<td></td>
<td>Lianyang Zhang, University of Arizona</td>
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<tr>
<td>3:15pm</td>
<td>Panel Discussion on Warm Mix Asphalt (Q&amp;A)</td>
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<tr>
<td></td>
<td>Randy West, NCAT • Matthew Corrigan, FHWA • John Heisley, Fann Contracting</td>
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<tr>
<td>4:45pm</td>
<td>End of Day 1</td>
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<tr>
<td>4:45-6pm</td>
<td>Welcome Reception</td>
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<td>Door Prizes • Refreshments</td>
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<td>Student Poster Session</td>
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<td></td>
<td>Free to all registered conference attendees</td>
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<tr>
<th>Day 2</th>
<th>Thursday, November 20, 2014</th>
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<tbody>
<tr>
<td>7:8am</td>
<td>Registration, Exhibit Viewing - Continental Breakfast</td>
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<tr>
<td></td>
<td>Arizona Ballroom 221</td>
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<tr>
<td>8am</td>
<td>GENERAL SESSION: Ventana Ballroom 241</td>
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<tr>
<td></td>
<td>Pavement Cracking Distress and Performance Prediction</td>
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<td></td>
<td>Moderator: Joe Phillips, Terracon</td>
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<tr>
<td>8:30am</td>
<td>Observed Pavement Performance • Matthew W. Witzczak, Consultant</td>
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<tr>
<td>9am</td>
<td>Asphalt Binder Characteristics Affecting Durability Cracking</td>
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<td></td>
<td>Mike Anderson, Asphalt Institute</td>
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<tr>
<td>9:30am</td>
<td>Asphalt Mix Characteristics Affecting Durability Cracking</td>
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<td></td>
<td>Mike Anderson, Asphalt Institute</td>
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<tr>
<td>10am</td>
<td>BREAK: Arizona Ballroom 221</td>
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<tr>
<td>10:30am</td>
<td>Key Elements of ADOT's Quality Assurance Program</td>
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<td></td>
<td>Chad Auker, ADOT</td>
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<tr>
<td>11am</td>
<td>Alternate Project Delivery Methods for Infrastructure Projects</td>
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<td></td>
<td>Wylie Bearup, ASU</td>
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<tr>
<td>11:30am</td>
<td>Update on NCHRP Project 20-07/Task 349 - Guidelines for Developing Materials Acceptance Plans for Alternative Contracting Methods</td>
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<td></td>
<td>Amir N. Hanna, NCHRP</td>
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<tr>
<td>12pm</td>
<td>SPONSORS/EXHIBITORS AWARDS LUNCHEON</td>
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<td></td>
<td>Arizona Ballroom 221</td>
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<tr>
<td></td>
<td>Door Prizes</td>
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<td>Moderator: Steve Russell, Arizona Rock Products Association</td>
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<tr>
<td>1:30pm</td>
<td>SESSION 5: LOCAL GOVERNMENT CHALLENGES</td>
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<td></td>
<td>Ventana Ballroom 241</td>
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<td></td>
<td>Moderator: Mohammad Rahman, Paramount Petroleum</td>
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<tr>
<td>1:30pm</td>
<td>Street Transportation Department's Capital Needs Assessment • Ray Dovalina, City of Phoenix</td>
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<td>SR87 Curve Realignment Slope Stabilization Using High Strength Steel Wire Mesh</td>
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<td>Scott Neely, Terracon</td>
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<tr>
<td>2pm</td>
<td>Successful Revenue Generators for Pavement Management and Pavement Preservation • Lenny Hulme and Matt Manthey, City of Mesa</td>
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<td>Determination of In-Situ Density of Planned Roadway Cuts in Cemented and Coarse-Grained Soils Using Seismic Geophysical Methods to Estimate Earthwork Factors, Daniel Frechette, AMEC</td>
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<tr>
<td>2:30pm</td>
<td>Pavement Preservation Challenges</td>
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<td>Jenny Grote, City of Phoenix</td>
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<td></td>
<td>Biogeotechnical Solutions for Mitigation of Fugitive Dust and Erosion Control</td>
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<td>Ed Kavazanjian, ASU</td>
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<tr>
<td>3:00pm</td>
<td>AMERICA UNEARTHED - X Files in the Desert Southwest</td>
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<td>Scott Wolter, American Petrographic Services, Inc.</td>
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<tr>
<td>3:45pm</td>
<td>END OF CONFERENCE</td>
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<tr>
<td></td>
<td>Grand Prize Draw • Ventana Ballroom 241</td>
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</tbody>
</table>
On behalf of the Arizona Pavements/Materials Conference please accept our invitation to participate as a sponsor in this year’s Arizona Pavements/Materials Conference. We anticipate over 300 registrants, with representation from Arizona’s federal, state and local governments, as well as suppliers, contractors and consulting engineers who design, construct and manage roadways throughout the Southwestern United States.

- **Platinum Level $3,000**
  - benefits include your sign displayed at the refreshment station
  - acknowledgement card on luncheon tables
  - signage, recognition in the program*
  - your logo and link to your website on the conference website
  - acknowledgement during the opening session and sponsor luncheon
  - one conference registration fee (FMV = $250.00)

- **Gold Level $2,000**
  - benefits include signage
  - recognition in the program*
  - your logo and link to your website on the conference website
  - acknowledgement during the opening session and sponsor luncheon
  - one conference registration fee (FMV = $250.00)

- **Silver Level $1,000**
  - benefits include signage
  - recognition in the program* and on the website
  - acknowledgement during the opening session and sponsor luncheon

- **Bronze Level $500**
  - benefits include signage
  - recognition in the program* and on the website
  - acknowledgement during the opening session and sponsor luncheon

*If paid before print deadline

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**Sponsorship Opportunities**

**Sponsorship Application**

Sponsorship amount $_______________________________

Payment Method:  
- [ ] Check (made payable to ASU Foundation)  
- [ ] Visa  
- [ ] MasterCard  
- [ ] American Express

Card #: ____________________________________________

Expiry Date: ____________________ CCV code: __________

Name on Card:  _______________________________________

Address: _____________________________________________

Phone: _______________________________________________

Email: _______________________________________________

Signature: ____________________________________________

**Send completed forms to:**

Attn: Judy Reedy

Mail:  
School of Sustainable Engineering and the Built Environment  
Arizona State University  
PO Box 873005  
Tempe, AZ 85287-3005

Fax: (480) 965-0557  
Email: judy.reedy@asu.edu

All funds will be deposited into an account with the ASU Foundation, a separate non-profit organization that exists for the benefit of ASU. Due to the value of benefits received, only payments in excess of fair market value (FMV) may be considered a charitable contribution. Conference sponsorships and proceeds will be used toward facilitating the Arizona Pavements/Materials Conference as well as funding undergraduate and graduate student projects, activities and a scholarship endowment with the ASU Foundation for A New American University. 30001468
The undersigned hereby applies for space as an Exhibitor at the Arizona Pavements/Materials Conference. Upon submitting this application we agree to conform to the exhibit regulations of the Arizona Pavements/Materials Conference. There are a limited number of exhibit spaces available for the conference on a first come/first serve basis.

The exhibitor registration fee of $699 includes one six foot table with two chairs and electricity in the Arizona Ballroom plus registration to the conference for two people including entry to the technical sessions, Wednesday and Thursday continental breakfasts, luncheons, refreshment breaks, Welcome Reception and parking during the conference. Additional attendees will be charged a discounted conference fee of $225 per person.

Exhibitor Reservation Form

Company: ____________________________________________
________________________________________________
Contact Person: _______________________________________
Address: _____________________________________________
________________________________________________
City: ________________________________________________
State, Zip Code: ______________________________________
Phone: ______________________________________________
Fax: ________________________________________________
Email: ______________________________________________

Number of booths requested ($699 each): ________________

Names of attendees: (1) ________________________________
(2)________________________________________________

Additional attendees ($225 each): (List names)
________________________________________________
________________________________________________

Description Of Products/Services To Be Shown: This description will appear on the conference signage. (maximum 40 words)
________________________________________________
________________________________________________
________________________________________________
________________________________________________
________________________________________________

Payment Information

Total $ __________________________

Payment Method: □ Check (made payable to ASU)
□ Visa □ MasterCard □ American Express

Card #: ______________________________________________
Expiry Date: ____________________ CCV code: ____________
Name on Card: _______________________________________

Address: _____________________________________________
________________________________________________
Phone:_______________________________________________
Email: _______________________________________________

Signature: ____________________________________________

Attn: Judy Reedy
Mail: School of Sustainable Engineering and the Built Environment
Arizona State University
PO Box 873005
Tempe, AZ 85287-3005
Fax: (480) 965-0557
Email: judy.reedy@asu.edu

Send completed forms to: pavement.engineering.asu.edu
As part of the Arizona Pavements/Materials Conference, three individuals who have made significant contributions to the advancement of the pavement/materials technology and programs in Arizona will be recognized and honored with a Pavements/Materials Conference Community Service Award to be presented during the luncheon on the first day of the conference, November 19.

One award will recognize a person working in the public sector - federal, state (ADOT), local (cities, counties) government agencies. The second award will recognize a person working in the private sector - contractors, consultants, material supplies, equipment suppliers, etc. and the third award will recognize someone in academia.

The basis for an award should be one or more of the following attributes:

• Exceptional contributions to technology enhancement relating to pavements/materials
• Excellence in implementing advanced technology into practice
• Excellence in bridging the gap between research and practice
• Exceptional contributions to the advancement of paving/materials programs in Arizona

The only restrictions on nominations are (1) recipients of the awards must conduct work in or reside in Arizona, and (2) members of the Award Selection Committee are not eligible.

Please use the attached form to submit your nomination. The Awards Selection Committee needs a concise paragraph outlining the basis for the nomination, emphasizing the notable contributions of the nominee to the pavements/materials program and/or industry in Arizona.

Nomination Form
Nomination deadline October 24, 2014
(Only award winners will be notified of their nomination.)

Nominee: ____________________________________________
(Full Name - Please Print)

Organization/Agency/Firm: _____________________________

Position/Title: _______________________________________

Contact Information:
Email: ______________________________________________
Phone: ______________________________________________

Award Category: (Please indicate category for nominee)
☐ Government/Public  ☐ Industry/Private  ☐ Academia

Award Basis: (Please provide a concise paragraph describing the basis for your nomination. Attach additional paper if necessary.)

Submitted by:
Name: ______________________________________________
Firm: ______________________________________________
Phone: ______________________________________________
Email: ______________________________________________
Date: ______________________________________________

Submit nomination forms to:
Attn: Judy Reedy
Mail: School of Sustainable Engineering and the Built Environment
      Arizona State University
      PO Box 873005
      Tempe, AZ 85287-3005
      Fax: (480) 965-0557
      Email: judy.reedy@asu.edu

2013 Community Service Award Recipients

Julie Kliwer, ADOT
Barzin Mobasher, ASU
Joe Phillips, AMEC
Attendee Information
Name: _______________________________________________
Title:  ________________________________________________
Company: ____________________________________________
Address: _____________________________________________
________________________________________________
City/State/Zip: ________________________________________
Email: _______________________________________________
Phone:_______________________________________________
Date: ________________________________________________

Payment Information
Total $______________________________________________
Payment Method:  
- Check (made payable to ASU)
- Visa
- MasterCard
- American Express
PO#:  _______________________________________________
Card #: ______________________________________________
Expiry Date: ____________________ CCV code: ____________
Name on Card:  _______________________________________
Address: _____________________________________________
________________________________________________
Phone:_______________________________________________
Email: _______________________________________________
Signature: ___________________________________________

Attendee Profile
- Student
- Contractor
- Materials Testing Laboratory
- Materials Supplier
- State Government
- City Government
- Consulting Engineer
- Equipment Manufacturer
- Materials Producer
- Federal Government
- County Government
- Other

Special Needs
- Please note my dietary or physical requirements:
  __________________________________________________
  __________________________________________________

Registration Fees
Early registration deadline is October 24, 2014

Before Oct. 24/14
- FULL REGISTRATION (two days) .................. $250
- STUDENT (two days) ................................. $25

After Oct. 24/14
- FULL REGISTRATION (two days) ................. $300
- STUDENT (two days) ................................. $25

Registraion Fee Includes:
Entry to technical sessions, Wednesday and Thursday continental breakfasts, luncheons, refreshment breaks, Welcome Reception Wednesday evening and parking during the conference. Presentations will be posted on the website after the conference.
http://pavement.engineering.asu.edu

Canceller Policy
Registrants unable to attend are encouraged to send a substitute at no additional charge.
No refunds will be made after Oct. 24, 2014.
Conference Highlights

**ADOT Overview**
Dallas Hammit, PE • Senior Deputy State Engineer, ADOT
Dallas Hammit is the Senior Deputy State Engineer for Development and Operations in the Intermodal Transportation Division for the Arizona Department of Transportation. He oversees the coordination of the Statewide Program preconstruction engineering functions which also include project management, support and construction and maintenance in the eight outlying districts.

**Implementation of MAP-21 Performance Provisions - A Focus on Infrastructure Condition Management**
Peter J. Stephanos, PE • Director, Office of Transportation Performance Management, FHWA
Peter Stephanos is responsible for leading the efforts to implement new MAP-21 requirements to integrate performance into the federal-aid highway program. Prior to joining FHWA Pete worked for the Maryland State Highway Administration and in the private sector.

**Quantifying Sustainability in Pavements - A National Perspective**
Thomas Harman • Manager, Pavement & Materials Technical Service Team • FHWA Resource Center
Tom has over 25 years of experience in technology implementation, policy, and research. His expertise is in technology deployment, asphalt mixture design, warm mix asphalt, and quality assurance.

**Arizona’s Economic Recovery: Are We There Yet?**
Lee McPheters, PhD • Research Professor of Economics and Director of the JP Morgan Chase Economic Outlook Center in the W.P. Carey School of Business at ASU
Dr. McPheters has published numerous research studies emphasizing issues in regional economic development. His writings on the economy have been quoted in the Wall Street Journal, USA Today, The Economist, Business Week, The New York Times, and the Huffington Post.

**Panel Discussion on Warm Mix Asphalt (Q & A)**
Randy West, PhD • Director, National Center for Asphalt Technology (NCAT), Auburn University
Randy was named director of NCAT in 2007. He stays involved in a variety of research projects and educational programs and is a frequent speaker on advancements in asphalt pavement technologies. He is a registered engineer in Georgia and Alabama.

**Matthew Corrigan, PE • Asphalt Pavement Engineer, U.S. Department of Transportation, Federal Highway Administration (FHWA), Office of Asset Management, Pavement, and Construction, Washington, DC**
Matthew Corrigan operates the FHWA Mobile Asphalt Testing Trailer Program and additional program areas of quality assurance, statistical acceptance specifications, and innovative materials and testing.

**John Heisley • Vice President/General Manager, Fann Contracting, Inc.**
John has over 35 years’ experience in construction work, including operation and construction management, heavy equipment maintenance and repair and managing equipment operations, estimating, and asphalt and paving operations management. He has worked for Fann Contracting, Inc. since 1982.

**An Overview of Pavement Cracking Distress and Performance Prediction**
Matthew W. Witczak, PhD
Consultant, Professor Emeritus
Dr. Witczak is an Emeritus Professor at both the University of Maryland and Arizona State University. His area of expertise is in Pavement Systems, focusing upon the design, performance modeling and characterization of materials. He is currently a Partner in 2W Consultants LLC.

**Asphalt Binder Characteristics Affecting Durability Cracking**
Mike Anderson • Director of Research and Laboratory Services, Asphalt Institute
Mike has worked for the Asphalt Institute since 1991. He started his career in 1987 with the Kentucky Department of Highways as asphalt mix design engineer; worked as a researcher on the Strategic Highway Research Program (SHRP), SHRP implementation projects, and NCHRP projects involving asphalt materials. He authored or co-authored more than 25 published peer-reviewed papers and is registered as a professional engineer in Kentucky.

**Biogeotechnical Solutions for Mitigation of Fugitive Dust and Erosion Control**
Ed Kavazanjian, PhD
Arizona State University
Ed Kavazanjian is the Ira A. Fulton Professor of Geotechnical Engineering at Arizona State University. He joined the faculty at ASU in 2004 after 20 years in practice. He is the lead author of the FHWA guidance document on geotechnical earthquake engineering. He was elected to the U.S. National Academy of Engineering in 2013 for his contributions to geotechnical engineering for transportation systems.

**America Unearthed - X Files in the Desert Southwest**
Scott Wolter • President, American Petrographic Services, Inc.
Forensic geologist Scott Wolter is the host of History’s H2 network hit show America Unearthed that follows him on his quest to uncover the truth behind historic artifacts and sites found throughout North America. He has been the principal petrographer in more than 5,000 material forensic investigations throughout the world, including the evaluation of fire-damaged concrete from the Pentagon following the attacks of September 11, 2001.