



Welcome to the 13th
**ARIZONA PAVEMENTS/
MATERIALS CONFERENCE**

2016 Sustaining Performance



Tempe, Arizona
November 16-17, 2016

Welcome to the 13th Arizona Pavements/Materials Conference

Following up with last year's theme on Progress in Pavement Practices, this year's theme is focused on "Sustaining Performance". We will address pavement sustainability and preservation, while reviewing fundamentals of pavement engineering, specifications and best construction practices.

We are also excited to bring back by popular demand, Professor Braden Allenby and Grady Gammage, Jr. of ASU. Come and meet our nationally recognized speakers who will address issues from the perspective of ADOT, FHWA, AZ Counties and Maricopa Association of Governments.

Location

This two-day conference sponsored by Arizona State University (ASU), Arizona Department of Transportation (ADOT), Federal Highway Administration (FHWA), Arizona's industry and local governments will be held at **Arizona State University, Tempe Campus** (1290 S. Normal Ave., Tempe, AZ 85281) on **November 16-17, 2016** in the Memorial Union (MU).

The MU serves as the central meeting and conference center for the ASU community.

Speaker presentations will be in the *Ventana* and *Turquoise* Ballrooms with Exhibitors, Luncheons, Refreshment Breaks and Welcome Reception in the Arizona Ballroom.

Visitor Parking at ASU

The conference will validate your parking at three parking structures on the ASU Tempe Campus.

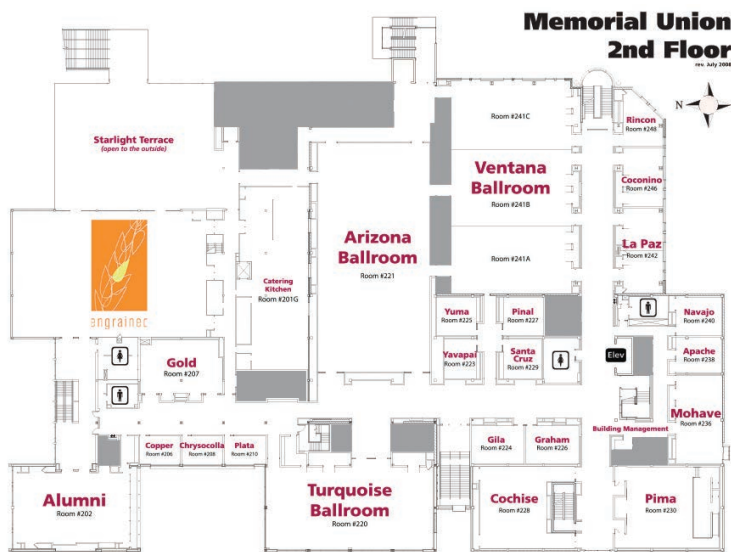
1. Fulton Center (Foundation Building) located at University Drive and College Avenue (NE Corner)
2. Rural Road Structure located at Rural Road and Terrace Road (SW corner)
3. Apache Blvd. Structure located at Apache Blvd and Normal Avenue (NW corner)

The Fulton Center and Rural Road Structures have the largest number of visitor spots.

A limited number of reservations have been made at the Apache Blvd. Parking Structure. If the visitor spots in Apache Parking have been used up identify yourself as an attendee of the Pavement Conference to receive one of the reserved spots. If parking is not available in Apache please check the Fulton Center and Rural Road structures as they contain a larger number of visitor spaces.

Accommodations

Visit our website <http://pavement.engineering.asu.edu> for a list of hotels conveniently located within walking distance of the campus. Call the hotel directly to make your reservation. ASU and government rates may be available.



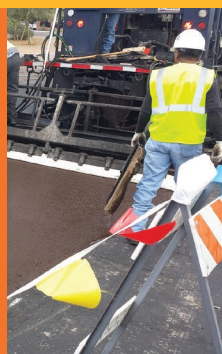
Conference Sponsors



**AGC/ASU Materials
Conference Pavement
Preservation
Demonstrations**

Tuesday, Nov. 15, 2016

Visit website for details
and registration.



2016 Conference Program

DAY 1 | AGENDA WEDNESDAY, NOVEMBER 16, 2016

8:00-10:00am	REGISTRATION, EXHIBIT VIEWING - Continental Breakfast - Arizona Ballroom 221	
	OPENING SESSION: Ventana Ballroom 241 Moderator: Tom Buick , Consultant	
10:00-10:15am	Welcome from Arizona State University G. Edward (Edd) Gibson, Jr., PhD, Director, School of Sustainable Engineering and the Built Environment, ASU	
10:15-10:30am	ADOT Agency Issues Overview Floyd Roehrich, Jr., PE, Executive Officer, Arizona Department of Transportation	
10:30-11:00am	Achieving Asphalt Pavement Sustainability John Bukowski, Materials & Quality Assurance, Team Leader, Federal Highway Administration	
11:00-11:30am	Financing Transportation Improvements, including Pavement Preservation, for Economic Expansion and Community Wellbeing Chuck Huckelberry, County Administrator, Pima County	
11:30-12:00am	MAG Overview Dennis Smith, Executive Director, Maricopa Association of Governments (MAG)	
12:00-1:30pm	LUNCH: Arizona Ballroom 221 (Community Service Awards Luncheon) Moderator: David Martin , President, Arizona Chapter Associated General Contractors	
1:30-2:00pm 2:00-2:30pm 2:30-3:00pm	TRACK 1 SESSION 1: PAVEMENT SUSTAINABILITY Ventana Ballroom 241 Moderator: Kami Kaloush , PhD, Associate Professor, ASU	TRACK 2 SESSION 2: AZ STATE RESEARCH PROGRESS Turquoise Ballroom 220 Moderator: Jean Nehme , PhD, PE Director of Performance Management, ADOT
	Advancing Sustainability with INVEST: Focus on Pavements - Connie Hill, PhD, Environmental Protection Specialist, FHWA	The Application of GIS and Accelerometers in Pavement Condition Assessment Chun-Hsing (Jun) Ho, PhD, PE, Assistant Professor, NAU
	Performance Specifications and Durability W. Jason Weiss, PhD, Head of School of Civil and Construction Engineering, Oregon State University	Pavement Research at ASU and its Relevance to Arizona B. Shane Underwood, PhD, Assistant Professor, ASU
	Advancements in Asphalt Sustainability Heather Dylla, PhD, Director of Sustainable Engineering, National Asphalt Pavement Association	Utilization of Wastes in Pavement Construction through Geopolymerization Lianyang Zhang, PhD, PE, Associate Professor, UA
	BREAK: Arizona Ballroom 221	
	GENERAL SESSION: Ventana Ballroom 241 Moderators: Bob McGennis , Technical Manager, HollyFrontier Refining & Marketing and Don Cornelison , Vice President/Division Manager, Speedie & Associates, Inc.	
3:30-4:30pm	Hot Mix Asphalt Construction Quality Assurance Specifications - What's Good and What's Bad/Less Good John Shi, Maricopa County DOT, Tom Kaczmarowski, City of Glendale, Paul Burch, ADOT, Phillip Reid, Vulcan Materials Company	
4:30-6:00pm	WELCOME RECEPTION - STUDENT POSTER SESSION Moderator: Claudia Zapata , PhD, Associate Professor, ASU Door Prizes, Refreshments, Complimentary Bar All Conference attendees are invited to attend.	Arizona Ballroom 221

2016 Conference Program

DAY 2 | AGENDA THURSDAY, NOVEMBER 17, 2016

7:00-8:00am	REGISTRATION, EXHIBIT VIEWING Continental Breakfast - Arizona Ballroom 221	
8:00-8:30am	GENERAL SESSION: PAVEMENT PRESERVATION 1 Ventana Ballroom 241 Moderator: Mo Rahman , PE, Technical Services Manager, Alon Asphalt Company	
8:30-9:00am	Lessons Learned in Pavement Preservation: A National Perspective Larry Galehouse, PE, Director, National Center for Pavement Preservation	
9:00-9:30am	Crumb Rubber in Asphalt Pavements-History, Uses and Benefits Jon Epps, PhD, PE, Executive Associate Director, Texas A&M Transportation Institute	
9:30-10:00am	Performance Characteristics of HMA/WMA Rubber/Polymer Modified Asphalt Mixtures Peter Sebaaly, PhD, Director of Western Regional Superpave Center, University of Nevada, Reno	
10:00-10:30am	MnROAD - A National Treasure Ben Worel, MnROAD Operations Engineer, Minnesota Department of Transportation	
10:30-11:00am	BREAK: Arizona Ballroom 221	
11:00-11:30am	TRACK 1 SESSION 3: PAVEMENT PRESERVATION 2 Ventana Ballroom 241 Moderator: Bill Hurguy , ADOT (Retired)	TRACK 2 SESSION 4: PAVEMENT ENGINEERING 101 Turquoise Ballroom 220 Moderator: Joe Phillips , Principal, Terracon
11:30-12:00pm	Cold Asphalt Recycling for a Sustainable Future Chuck Valentine, Pavement Recycling Systems	Pavement Triangle: Design/Construction Practice/Preservation Matt Manthey, Pavement Management Supervisor, City of Mesa
12:00-1:30pm	ADOT Roadway Friction Studies Kevin Robertson, PE, Pavement Condition & Evaluation Manager, ADOT	Mechanistic-Empirical Pavement Design: History and Future Feng Mu, PhD, CEMEX, Inc.
1:30-2:00pm	Hot in Place Recycling-the First 50 Years John Rathbun, Cutler Repaving, Inc.	Implementation Process of Pavement ME Design in Maricopa County DOT Gant Yasanayake, PhD, PE, MCDOT
2:00-2:30pm	LUNCH: Arizona Ballroom 221 (Sponsors/Exhibitors Awards Luncheon) Moderator: Steve Trussell, Arizona Rock Products Association Speaker: Braden Allenby, PhD, Professor, Arizona State University (Introduced by Edward Kavazanjian, Jr., PhD, ASU)	
2:30-3:00pm	SESSION 5: GEOTECHNICAL TECHNOLOGY Ventana Ballroom 241 Moderator: Armando de la Rocha , P.E., Senior Geotechnical Engineer/Principal, Western Technologies	SESSION 6: BEST CONSTRUCTION PRACTICES Turquoise Ballroom 220 Moderator: Paul Burch , P.E., Manager, Pavement & Structural Materials Testing, ADOT
3:00-3:30pm	Utilizing Soil Stabilization in your Sustainable Engineered Designs Marco Estrada, Pavement Recycling Systems	Contractor's Perspective on Achieving Quality and Smoothness in Hotmix Paving Mark Belshe, PE, Executive Director, Rubber Pavements Association
3:30-4:00pm	Geosynthetic Reinforced Soil Integrated Bridge System-GRS-IBS: An Overview Laura Spencer, PhD, PE, Project Manager, Terracon Consultants, Inc.	Lessons Learned in Building the Phoenix Freeway System Matt McNeil, Vice President, McNeil Brothers
4:00-4:30pm	GENERAL SESSION: Ventana Ballroom 241 Moderator: Kamil Kaloush , PhD, Associate Professor, Arizona State University	
4:30-5:00pm	The Future of the Suburban City Grady Gammage, Jr., Senior Fellow, ASU's Morrison Institute	
5:00-5:30pm	END OF CONFERENCE: Grand Prize Drawing Ventana Ballroom 241	

Conference Sponsorship Opportunities



ARIZONA PAVEMENTS/MATERIALS CONFERENCE Sustaining Performance

November 16-17, 2016

Why Sponsor...

- To raise your company profile
- To network
- To reach your target audience
- To demonstrate your company's commitment to the pavements/materials industry

The 2016 conference has several sponsorship packages available, providing sponsors with a choice of exposure related to financial commitment.

☐ Reception Sponsor \$4,000 (one available) (FMV = \$750.00)

- Three (3) conference registrations
- Opportunity to provide your sign displayed at the Reception refreshment station
- Acknowledgement sign on luncheon tables
- Signage at the conference
- Recognition in the conference program *
- Your logo and link to your website on the conference Website
- Acknowledgement during the opening session
- Award recognition during conference Sponsor luncheon

☐ Platinum Level \$3,000 (unlimited) (FMV = \$500.00)

- Two (2) conference registrations
- Acknowledgement sign on luncheon tables
- Signage at the conference
- Recognition in the conference program *
- Your logo and link to your website on the conference Website
- Acknowledgement during the opening session
- Award recognition during conference Sponsor luncheon
- Opportunity to provide your sign displayed at the refreshment station

☐ Gold Level \$2,000 (unlimited) (FMV = \$250.00)

- One (1) conference registration
- Signage at the conference
- Recognition in the conference program *
- Your logo and link to your website on the conference Website
- Acknowledgement during the opening session
- Award recognition during the conference Sponsor luncheon

☐ Silver Level \$1,000 (unlimited)

- Signage at the conference
- Recognition in the conference program *
- Your logo and link to your website on the conference Website
- Acknowledgement during the opening session
- Award recognition during the conference Sponsor luncheon

*If paid before print deadline.

Sponsorship Agreement

Level of Sponsorship: _____

Company Name: _____

Contact Person: _____

Address: _____

Email: _____

Phone: _____

Payment Method: ☐ Check (made payable to **ASU Foundation**)

☐ Visa ☐ MasterCard ☐ American Express

Card #: _____

Expiry Date: _____ CCV code: _____

Name on Card: _____

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

☐ ~~Name Badge Lanyard Sponsor \$1,500 (one available)~~ (no longer available)

- Your name imprinted on lanyards
- Signage at the conference
- Recognition in the conference program *
- Your logo and link to your website on the conference website
- Acknowledgement during the opening session
- Award recognition during the conference Sponsor luncheon

☐ Bronze Level \$500 (unlimited)

- Signage at the conference
- Recognition in the conference program *
- Your logo on the conference website
- Acknowledgement during the opening session
- Award recognition during the conference Sponsor luncheon

Send
completed
sponsorship
forms to:

Attn: Judy Reedy

Pavements/Materials Conference
Arizona State University
PO Box 873005
Tempe, AZ 85287-3005

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

<http://Pavement.engineering.asu.edu>

Exhibitor Space Registration



ARIZONA PAVEMENTS/MATERIALS CONFERENCE Sustaining Performance

November 16-17, 2016

Participating as an exhibitor at the 2016 Arizona Pavements/Materials Conference will demonstrate your level of support and commitment to the pavements / materials industry.

The undersigned hereby applies for space as an Exhibitor at 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 \$799 includes one six foot table with two chairs and electricity in the Arizona Ballroom plus registration to the conference for two (2) people.

Register to be an Exhibitor - \$799.00

- ☐ My check for \$799.00 is enclosed payable to **Arizona State University**.
- ☐ I wish to pay with a credit card at the conference website <http://pavement.engineering.asu.edu>

Company Name: _____

Name of attendees: (1) _____

(2) _____

Address: _____

City/State/Zip: _____

Email: _____

Phone: _____

Table Number (first choice) _____ Table Number (second choice) _____

Please indicate here if you would like a vegetarian lunch. ☐ **Attendee #1** ☐ **Attendee #2**

Requests will not be taken at the conference.

Exhibit space is limited. All payments for exhibiting are due at the time of registration.

Location: Arizona State University,
Memorial Union Building, 2nd Floor
Arizona Ballroom,
1290 S. Normal Avenue, Tempe, AZ 85281

**Send
completed
form to:**

Attn: Judy Reedy
Pavements/Materials Conference
Arizona State University
PO Box 873005
Tempe, AZ 85287-3005

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



Conference Attendee Registration



13th Arizona Pavements/Materials Conference ▪ Sustaining Performance

Early registration deadline is October 24, 2016

(Use this form if paying with a check or Purchase Order – Register online if paying with a credit card. <http://pavement.engineering.asu.edu>)

Attendee Information

Name: _____

Company: _____

Address: _____

City/State/Zip: _____

Email: _____

Phone: _____ Date: _____

Attendee Profile

- | | |
|---|---|
| <input type="checkbox"/> Full-Time Student | <input type="checkbox"/> Consulting Engineer |
| <input type="checkbox"/> Contractor | <input type="checkbox"/> Equipment Manufacturer |
| <input type="checkbox"/> Materials Testing Laboratory | <input type="checkbox"/> Materials Producer |
| <input type="checkbox"/> Materials Supplier | <input type="checkbox"/> Federal Government |
| <input type="checkbox"/> State Government | <input type="checkbox"/> County Government |
| <input type="checkbox"/> City Government | <input type="checkbox"/> Other _____ |

Registration 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>

Cancellation Policy

Registrants unable to attend are encouraged to send a substitute at no additional charge. No refunds will be made after Oct. 24, 2016.

Registration Fees

	Before Oct. 24, 2016	After Oct. 24, 2016
<input type="checkbox"/> FULL REGISTRATION (two days)	\$250	\$300
<input type="checkbox"/> FULL-TIME STUDENT (two days)	\$25	\$25
<input type="checkbox"/> Pavement Maintenance Demo Only (Nov.15)	\$75	\$75
<input type="checkbox"/> Pavement Maintenance Demo With Conference Registration	\$50	\$50

Method of Payment

(Please check one)

- ☐ Check Enclosed (made payable to Arizona State University)
- ☐ PO # _____

If paying with a credit card, please register online at
<http://pavement.engineering.asu.edu>

In order to assist with conference planning, please check the conference events you will attend (Open to all attendees):

- | | |
|--|---|
| <input type="checkbox"/> Day 1 Lunch | <input type="checkbox"/> I would like a vegetarian meal |
| <input type="checkbox"/> Day 1 Welcome Reception | |
| <input type="checkbox"/> Day 2 Lunch | <input type="checkbox"/> I would like a vegetarian meal |

Please Note: Request for a vegetarian lunch must be made on this registration form. Requests will not be taken at the conference.

Submit this form to:

Attn: Judy Reedy

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

Community Service Award Nomination Form

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 16**.

One award will recognize a person working in the public sector - federal, state, local 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 this form to submit your nomination by October 21, 2016. 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.

Nominations may be submitted at the conference website under the Service Awards tab or by completing this form and submitting it to:

Attn: Judy Reedy

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

<http://PavementEngineering.asu.edu>

2015 Community Service Award Recipients



Bob Erdman



Shane Underwood



Equbalali Charania

2016 Community Service Award Nomination Form

Nomination deadline **October 21, 2016**

(Only award winners will be notified of their nomination.)

Nominee (Full Name): _____

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: _____

Organization: _____

Phone: _____

Email: _____

Date: _____