

# FINAL PROGRAM



## INTERNATIONAL CONFERENCE ON HIGHWAY PAVEMENTS & AIRFIELD TECHNOLOGY

Philadelphia, PA | August 27-30, 2017

### *Sustainable Pavements and Safe Airports*



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★ EARN UP TO  
**22**  
★ DEVELOPMENT HOURS ★



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Loews Downtown Philadelphia Hotel

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The Pavements Conference features three intimate pre-conference short courses, two off-site technical tours to local pavement related locations, four concurrent technical sessions, and poster sessions covering research, practice issues, and more.

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**Milad Saghebhar**, Louisiana State University

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**Kevin Senn**, Nichols Consulting Engineers

**Wynand Steyn**, University of Pretoria

**Shiraz Tayabji**, Applied Research Associates

**Jeb Tingle**, U.S. Army Corps of Engineers

**Erol Tutumluer**, University of Illinois at Urbana-Champaign

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**Debi Denney**, Manager, Transportation & Development Institute

**Mark Gable**, Senior Conference Manager

**Leslie Boyd**, Conference Coordinator

**Susan Dunne**, Conference Registrar

**Drew Caracciolo**, Sponsorship & Exhibit Sales Manager

## Dear Attendee,

On behalf of the Transportation & Development Institute (T&DI) of ASCE, we welcome you to the **International Conference on Highway Pavement and Airfield Technology**.

This conference brings together researchers in pavements and airport safety technologies, designers, project/construction managers, academics, and contractors from around the world to discuss design, implementation, construction, rehabilitation alternatives, instrumentation and sensing, and recent research being performed. The theme of the conference is **“Sustainable Pavements and Safe Airports,”** and is dedicated to the state-of-the-art and state-of-practice areas of innovation, improved durability, cost-effective and more sustainable airport and highway pavements, and recent advancements and technologies to ensure safe and efficient airport operations today and into the future. The conference program includes the following:

- An extensive technical program developed by a scientific committee with over 120 members.
- Three short courses:
  - ▶ Permeable Pavement Design, Construction & Maintenance
  - ▶ Airport Pavement Design - FAARFIELD 1.4
  - ▶ Environmental Project Declarations (EPD)
- Two technical tours:
  - ▶ Rowan University - Center for Research and Education in Advanced Transportation Engineering Systems (CREATeS)
  - ▶ The Capacity Enhancement Program (CEP) at the Philadelphia International Airport (PHL)
- Younger Member events
- Keynote lectures by ASCE award recipients
- Exhibits of companies driving sustainability, innovation, and quality in transportation and airport safety technologies

This Conference offers many opportunities to earn professional development hours (PDHs) for licensed professionals in meeting continuing education requirements. We look forward to continuing the tradition of another successful conference.

## Regards,



**Imad L. Al-Qadi,  
Ph.D., P.E., Dist.  
M.ASCE**  
University of Illinois at  
Urbana-Champaign  
Conference Co-Chair



**Hasan Ozer, Ph.D.,  
A.M.ASCE**  
University of Illinois at  
Urbana-Champaign  
Conference Co-Chair



**Eileen M. Vélez-  
Vega, P.E., M.ASCE**  
Kimley-Horn Puerto Rico,  
LLC  
Conference Co-Chair



**Scott D. Murrell,  
P.E., M.ASCE**  
Applied Research  
Associates  
Conference Co-Chair

# Program Overview

## Schedule-At-A-Glance

(Subject to Change)

### Sunday, August 27, 2017

10:00 a.m. – 7:00 p.m.	<b>Registration</b>
1:00 p.m. – 5:00 p.m.	<b>Short Course: Permeable Pavement Design, Construction &amp; Maintenance Workshop (Extra ticket required)</b>
1:00 p.m. – 5:00 p.m.	<b>Short Course: Airport Pavement Design Workshop – FAARFIELD 1.4 (Extra ticket required)</b>
1:00 p.m. – 5:00 p.m.	<b>Short Course: Environmental Product Declarations (EPD) Workshop (Extra ticket required)</b>
5:00 p.m. – 6:00 p.m.	<b>Committee Meeting: Aviation Operations and Planning</b>
6:00 p.m. – 7:30 p.m.	<b>Andrea C. Baker Reception</b>
6:00 p.m. – 7:30 p.m.	<b>Exhibit Hall Opens</b>

### Monday, August 28, 2017

7:00 a.m. – 5:00 p.m.	<b>Registration</b>
7:30 a.m. – 8:00 a.m.	<b>Breakfast</b>
8:00 a.m. – 10:00 a.m.	<b>Opening Plenary Session</b>
10:00 a.m. – 10:30 a.m.	<b>Networking Break</b>
10:00 a.m. – 4:00 p.m.	<b>Posters &amp; Exhibit Hall Hours</b>
10:30 a.m. – 12:00 p.m.	<b>Concurrent Technical Sessions</b>
12:00 p.m. – 1:30 p.m.	<b>Awards Luncheon</b>
1:30 p.m. – 2:00 p.m.	<b>Networking Break</b>
2:00 p.m. – 3:30 p.m.	<b>Concurrent Technical Sessions</b>
3:30 p.m. – 4:00 p.m.	<b>Networking Break</b>
4:00 p.m. – 5:30 p.m.	<b>Concurrent Technical Sessions</b>
5:45 p.m. – 6:45 p.m.	<b>Committee Meeting: Airfield Pavements</b>
7:00 p.m. – 8:00 p.m.	<b>Committee Meeting: Highway Pavements</b>

### Tuesday, August 29, 2017

7:00 a.m. – 5:00 p.m.	<b>Registration</b>
8:30 a.m. – 10:00 a.m.	<b>Concurrent Technical Sessions</b>
10:00 a.m. – 10:30 a.m.	<b>Networking Break</b>
10:00 a.m. – 3:30 p.m.	<b>Posters &amp; Exhibit Hall Hours</b>
10:30 a.m. – 12:00 p.m.	<b>Concurrent Technical Sessions</b>
12:00 p.m. – 1:30 p.m.	<b>Buffet Lunch</b>
1:30 p.m. – 3:00 p.m.	<b>Concurrent Technical Sessions</b>
3:00 p.m. – 3:30 p.m.	<b>Networking Break</b>
3:30 p.m. – 5:00 p.m.	<b>Concurrent Technical Sessions</b>
5:15 p.m. – 6:15 p.m.	<b>Younger Member Special Session</b>
6:15 p.m. – 7:00 p.m.	<b>Younger Member Social Hour</b>

### Wednesday, August 30, 2017

7:00 a.m. – 12:00 p.m.	<b>Registration</b>
8:30 a.m. – 10:00 a.m.	<b>Concurrent Technical Sessions</b>
10:00 a.m. – 10:30 a.m.	<b>Networking Break</b>
10:30 a.m. – 12:00 p.m.	<b>Concurrent Technical Sessions</b>
12:00 p.m. – 1:00 p.m.	<b>Lunch On Your Own</b>
1:00 p.m. – 3:00 p.m.	<b>Technical Tour: Rowan University- Center for Research and Education in Advanced Transportation Engineering Systems (CREATEs) (Extra ticket required)</b>
1:00 p.m. – 5:00 p.m.	<b>Technical Tour: The Capacity Enhancement Program (CEP) at the Philadelphia International Airport (PHL) (Extra ticket required)</b>

## Sponsorships

### Silver



### Bronze

**Kimley Horn**

## Cooperating Organizations

University of  
Pittsburgh

**PITT** | SWANSON  
ENGINEERING

## Short Courses

Sunday, August 27, 2017

1:00 – 5:00 p.m.

### Environmental Product Declarations (EPD)

Commonwealth A1 (2nd floor)

**Instructors:**

John Harvey, University of California - Davis

Richard Willis, NAPA

Brian Killingsworth, NRMCA

Environmental Product Declarations (EPD) are documents that communicate the environmental impacts of a product from cradle to gate (gate of the manufacturer's facility at which user takes ownership) of a material. EPDs are produced under Product Category Rules (PCR) that follow ISO standards for this use of life cycle assessment (LCA). EPDs can be used for informational purposes (reporting only) and are a source of up-to-date, regionally applicable data for use in any kind of pavement LCA. Provided construction, performance and end-of-life considerations are taken into account, EPDs can also be used as part of the material procurement process.

A few agencies are requiring EPDs for pavement and other transportation infrastructure materials in the United States for information purposes, with none yet using them as part of selection of materials. The pavement materials industry is being strongly incentivized to develop PCRs and produce EPDs by their inclusion in the LEED 4 framework. EPDs are used as part of pavement structure procurement in design-build-maintain projects in northern Europe. A workshop held in September 2016 was organized by Michigan Tech and attended by FHWA, several state and local government transportation agencies, industry, and academia to discuss the present status and issues with production and use of EPDs, and to begin to develop a road map for the future. This short course will summarize the results of the workshop and activities that have taken place following the workshop.

**PDHs: 4 credits**

**Fee: \$150 EB/\$175 ADV**



### Airport Pavement Design Workshop – FAARFIELD 1.4

Congress A1 (4th floor)

**Instructor:**

Jeffrey Gagnon, Federal Aviation Administration

FAARFIELD 1.41 (FAA Rigid and Flexible Iterative Elastic Layered Design) was introduced in November 2016. FAARFIELD continues the “look and feel” of the FAA’s software FAARFIELD 1.3, but also includes significant changes. The FAARFIELD design procedure is the FAA’s standard for airport pavement design and is included in the FAA’s new Advisory Circular 150/5320-6F, “Airport Pavement Design and Evaluation.”

This FAA software workshop is intended for airport operators and others with a practical interest in airport pavement design. Participants in the workshop will:

1. Learn the principles of pavement design and pavement analysis using FAA software including FAARFIELD 1.4 .
2. Experience hands-on demonstrations of the FAARFIELD software, with examples.
3. Understand the major difference between FAARFIELD and previous FAA design procedures.

It is highly recommended that workshop participants bring their own laptops so they can install FAARFIELD to follow along through the training and pavement design examples.

**PDHs: 4 credits**

**Fee: \$150 EB/\$175 ADV**

### Permeable Pavement Design, Construction, & Maintenance

Congress C (4th floor)

**Instructor:**

David Hein, Applied Research Associates

This session will consist of the presentation of four case studies on key design, construction, and maintenance considerations for permeable interlocking concrete, porous asphalt, pervious concrete, and grid pavements. The ASCE Transportation and Development Institute is expected to publish a standard guideline for the design, construction, and maintenance of permeable pavements. ASCE committee members and invited guests will provide an overview of permeable pavements, highlights of the new ASCE standard, and key lessons learned to ensure the success of permeable pavements for airports, roadways, and parking area pavements.

Topics covered include the following:

- Permeable pavement structural and hydraulic design
- Site evaluation and suitability of permeable pavements
- Construction practices for success
- Maintenance of permeable pavements
- Life-cycle cost and water quality improvement benefits
- Case studies and lessons learned

**PDHs: 4 credits**

**Fee: \$150 EB/\$175 ADV**

**A permeable paver demonstration, Austin's Ferry, Tasmania, Australia**  
Photo by JJ Harrison

# Program Highlights

## Sunday, August 27

### Registration

10:00 a.m. – 7:00 p.m.

### Committee Meetings

5:00 p.m. – 6:00 p.m.

### Exhibit Hall Open

6:00 p.m. – 7:30 p.m.

### Andrea C. Baker Reception

6:00 p.m. – 7:00 p.m., *Millennium Hall (2nd floor)*

Break the ice with a little networking among colleagues and exhibitors on the first night of the congress. Welcome old friends, colleagues, and see what's new in technology and services offered by our exhibitors. Relax and Enjoy!

## Monday, August 28

### Registration

7:00 a.m. – 5:00 p.m., *Commonwealth Pre-function (2nd floor)*  
(Closed for Lunch from 12:00 p.m. - 1:30 p.m.)

### Breakfast

7:30 – 8:00 a.m.

### Opening Plenary Session

8:00 a.m. – 10:00 a.m., *Commonwealth B, C, D (2nd floor)*



Wang



Cameron



Tayabji



Lytton

### Welcome by the Co-Chairs

8:00 a.m. – 8:15 a.m.

### Welcome Remarks by Kelvin Wang, Ph.D., P.E., M.ASCE,

*President, T&DI of ASCE*

8:15 a.m. – 8:30 a.m.

### Keynote Speech by Chellie Cameron

*CEO, Philadelphia International Airport*

8:30 a.m. – 9:00 a.m.

### Keynote Speech by Shiraz Tayabji, Ph.D., P.E., M.ASCE

*President, Advanced Concrete Pavement Consultancy*

9:00 a.m. – 9:30 a.m.

### Francis C. Turner Lecture by Robert Lytton, Ph.D., M.ASCE

*Benson Chair Professor, Texas A&M University*

9:30 a.m. – 10:00 a.m.

### Networking Coffee Break in the Exhibit Hall

10:00 a.m. – 10:30 a.m.

### Poster Session and Exhibit Hall Open

10:00 a.m. – 4:00 p.m.

Authors will be available to discuss their posters from 2:00 – 3:30 p.m.

### Concurrent Technical Sessions

10:30 a.m. – 12:00 p.m.

### Awards Luncheon and Carl Monismith Lecture

12:00 p.m. – 1:30 p.m., *Commonwealth B, C, D (2nd floor)*



*Carl Monismith  
Award Winner*

**David A. Anderson,**  
Penn State University



*Francis C Turner  
Award Winner*

**Robert Lytton,**  
Texas A&M  
University



*Airfield Pavement  
Practitioner Award  
Winner*

**Wayne J. Seiler,**  
All About Pavements,  
Inc.



*Robert Horonjeff  
Award Winner*

**W. Charles (Charlie)  
Greer, Jr.,**  
AMEC E&I (Retd)



*James Laurie Prize  
Winner*

**Jeff Gagnon,**  
Federal Aviation  
Administration

### Networking Coffee Break in the Exhibit Hall

1:30 p.m. – 2:00 p.m.

### Concurrent Technical Sessions

2:00 p.m. – 3:30 p.m.

### Networking Coffee Break in the Exhibit Hall

3:30 p.m. – 4:00 p.m.

### Concurrent Technical Sessions

4:00 p.m. – 5:30 p.m.

### Committee Meeting: Airfield Pavements

5:45 p.m. – 6:45 p.m., *Congress A (4th floor)*

### Committee Meeting: Highway Pavements

7:00 p.m. – 8:00 p.m., *Congress B (4th floor)*

## Tuesday, August 29

### Registration

7:00 a.m. – 5:00 p.m., *Commonwealth Pre-function (2nd floor)*  
(Closed for Lunch from 12:00 p.m. - 1:30 p.m.)

### Breakfast

8:00 – 8:30 a.m.

### Concurrent Technical Sessions

8:30 a.m. – 10:00 a.m.

### Networking Coffee Break in the Exhibit Hall

10:00 a.m. – 10:30 a.m.

### Poster Session and Exhibit Hall Open

10:00 a.m. – 3:30 p.m.

Authors will be available to discuss their posters from 10:30 a.m. to 12:00 noon and 1:30 to 3:00 p.m.

### Concurrent Technical Sessions

10:30 a.m. – 12:00 p.m.

### Buffet Lunch in the Exhibit Hall

12:00 p.m. – 1:30 p.m.

### Concurrent Technical Sessions

1:30 p.m. – 3:00 p.m.

### Networking Coffee Break in the Exhibit Hall

3:00 p.m. – 3:30 p.m.

### Concurrent Technical Sessions

3:30 p.m. – 5:30 p.m.

### Younger Member Special Session

5:15 p.m. – 6:15 p.m., *Commonwealth A (2nd floor)*

### What I Wish I Knew

Unwritten rules, hard won knowledge through mistakes, and general career advice; things that leaders and respected veterans of civil engineering have earned, and things our younger members need! Come hear a panel discussion on this topic as experienced leaders of the field pass on their hard-won advice to the younger members.

### Younger Member Social Hour

6:15 p.m. – 7:00 p.m., *Commonwealth Pre-function (2nd floor)*

Come network with leaders in the civil engineering field. The event allows younger members an opportunity to speak directly with company leaders, academic administrators, and other “movers and shakers” in the transportation field.

## Wednesday, August 30

### Registration

7:00 a.m. – 12:00 p.m., *Commonwealth Pre-function (2nd floor)*

### Breakfast

8:00 – 8:30 a.m.

### Concurrent Technical Sessions

8:30 a.m. – 10:00 a.m.

### Networking Break

10:00 a.m. – 10:30 a.m.

### Concurrent Technical Sessions

10:30 a.m. – 12:00 p.m.

### Lunch On Your Own

12:00 p.m. – 1:00 p.m.

### Technical Tours

1:00 p.m. – 3:00 p.m.

**Rowan University — Center for Research and Education in Advanced Transportation Engineering Systems (CREATEs)** (Extra ticket required)

1:00 p.m. – 5:00 p.m.

**The Capacity Enhancement Program (CEP) at the Philadelphia International Airport (PHL)** (Extra ticket required)



# Technical Program

## Sunday, August 27, 2017

1:00 – 5:00 p.m.	<b>Permeable Pavement Design, Construction and Maintenance Workshop</b> , Instructor: David Hein, ARA <i>Congress C (4th floor)</i>
1:00 p.m. – 5:00 p.m.	<b>Airport Pavement Design Workshop – FAARFIELD 1.4</b> , Instructor: Jeff Gagnon, FAA <i>Congress A (4th floor)</i>
1:00 p.m. – 5:00 p.m.	<b>Environmental Product Declarations (EPD) Workshop</b> , Instructors: John Harvey, UC David, Richard Willis, NAPA, and Brian Killingsworth, NRMCA <i>Commonwealth A1 (2nd floor)</i>
6:00 p.m. – 7:30 p.m.	<b>Exhibit Hall Open</b> <i>Millennium Hall (2nd floor)</i>
6:00 p.m. – 7:30 p.m.	<b>Andrea C. Baker Welcome Reception</b> <i>Millennium Hall (2nd floor)</i>

## Monday, August 28, 2017

7:30 a.m. – 8:00 a.m.	<b>Breakfast</b>		
8:00 – 10:00 a.m.	<b>Opening Plenary Session</b> <i>Commonwealth B, C, D (2nd floor)</i> <b>Moderators &amp; Co-Hosts:</b> Imad Al-Qadi, UIUC; Scott Murrell, ARA; Eileen Velez-Vega, Kimley Horn; Hasan Ozer, UIUC <b>Welcome Remarks:</b> Kelvin Wang, T&D President <b>Keynote Speech:</b> Chellie Cameron, CEO, Philadelphia International Airport <b>Keynote Speech:</b> Shiraz Tayabji, President, Advanced Concrete Pavement Consultancy <b>Francis C. Turner Lecture:</b> Pro-Active Pavement Engineering and Management: Robert Lytton, Benson Chair Professor, Texas A&M University		
10:00 a.m. – 10:30 a.m.	<b>Networking Coffee Break in the Exhibit Hall</b> <i>Millennium Hall (2nd floor)</i>		
10:00 a.m. – 4:00 p.m.	<b>Poster Session and Exhibit Hall Open</b> <i>Millennium Hall (2nd floor)</i>		
10:30 a.m. – 12:00 p.m.	<b>Concurrent Sessions</b>		
<b>TRACK A: Design &amp; Construction</b> <i>Congress B (4th floor)</i>	<b>TRACK B: Materials</b> <i>Congress A (4th floor)</i>	<b>TRACK C: Airfield and Safety</b> <i>Commonwealth A (2nd floor)</i>	<b>TRACK D: Innovations &amp; Sustainability</b> <i>Congress C (4th floor)</i>
<b>A.1 Mechanistic Methods and Advanced Modeling to Predict Pavement Response</b> <b>Moderator:</b> Musharraf Zaman, <i>The University of Oklahoma</i>	<b>B.1 Performance and Sustainability Evaluation of In-Place and Central Plant Recycling Options</b> <b>Moderator:</b> Richard Willis, <i>National Asphalt Pavement Association</i>	<b>C.1 Airport Operational Safety</b> <b>Moderator:</b> Ralph Wessels, <i>Port of Seattle</i>	<b>D.1 Next Generation Structural Health Monitoring of Highway/Airfield Pavements</b> <b>Moderator:</b> David Jones, <i>University of California, Davis</i>
<b>Effects of Concrete Stiffness on Mechanistic-Empirical Performance of Un-bonded Jointed Plain Concrete Overlay</b> , Gauhar Sabih and Rafiqul Tarefder, <i>University of New Mexico-Albuquerque</i> <b>Stability Analysis of the Unbound Aggregate Base in Multi-Layer Pavement Structures</b> , Mojtaba Asadi and Reza Ashtiani, <i>The University of Texas at El Paso</i> <b>Load Format Comparison with Stratacalc: A 3d Finite Element Method Pavement Analysis Model</b> , Geoffrey Rowe and Sérgio Raposo, <i>Abatech</i> <b>Extended Finite Element Modeling of Crack Propagation in Asphalt Concrete Pavements Due to Thermal Fatigue Load</b> , Mohammad Hossain, Abdalla Faith E Abdelkarim, and Rohit Mehta, <i>Bradley University; Md. Islam, Colorado State University-Pueblo; Rafiqul Tarefder, The University of New Mexico</i> <b>Simulation of Extreme Cooling Effects on the Propagation of Reflection Cracks</b> , Hao Yin and Tirupan Mandal, <i>Gemini Technologies; Richard Ji and R. Rutter, Federal Aviation Administration</i>	<b>Key Findings from a Comprehensive Study to Investigate the Mechanistic Properties of Pavements Rehabilitated Using Three Full-Depth Reclamation Strategies</b> , David Jones, Stefan Louw, and Rongzong Wu, <i>University of California, Davis</i> <b>Effect of Gradation and Aged Binder Content of Reclaimed Asphalt Pavement (RAP) on Properties of Designed Cold-recycled Asphalt Mix</b> , Amir Ghavibazoo and Paul Soltis, <i>Twining, Inc; Mohamed Ibrahim El-sharkawi Attia, Zagazig University; Hossein Ajideh, City of San Juan Capistrano</i> <b>Research on Sustainable Pavements: Changes in In-place Properties of Recycled Layers Due to Temperature and Moisture Variations</b> , Rajib Mallick, <i>Worcester Polytechnic Institute; Heather Miller and Somayeh Eftekhari, University of Massachusetts, Dartmouth; Maureen Kestler, Laconia, USDA Forest Service; Jo Sias Daniel, University of New Hampshire</i> <b>Improving the Mechanical Properties of Cold Mix Asphalt Mixtures Reinforced by Natural and Synthetic Fibres</b> , Hayder Shanbara, Felicite Roddock, and William Atherton, <i>Liverpool John Moores University</i> <b>Novel Application of Reclaimed Asphalt Pavement in Construction of New Cold Mix Pavements</b> , Saman Barzegari, Shelley Stoffels, and Mansour Solaimanian, <i>The Pennsylvania State University</i>	<b>Ensuring Safe Airports: Modeling Resilience of Airport Infrastructure to Extreme Weather Related Storm Surge Threats</b> , Frederick Kautz, Rajib Mallick, and Michael Radzicki, <i>Worcester Polytechnic Institute</i> <b>Runway Debris Impact on Aircraft Composite Parts</b> , Michele Buonsanti, <i>Mediterranean University of Reggio Calabria Italy</i> <b>Innovative Safety Technologies Employed in Changi Airport in Singapore</b> , Eric Chang, <i>Changi Airport Group, LLC</i> <b>Design and Construction of Runway Extension and Runway Safety Area on Runway 08R-26L at Vancouver International Airport</b> , George Nowak, <i>Hatch Infrastructure</i>	<b>Long-Term Performance Monitoring of Pavement Surface Characteristics with 3D Surface Data</b> , Qiang Joshua Li, Jason Zhan, and Kelvin C. P. Wang, <i>Oklahoma State University</i> <b>Next-Generation, Autonomous Health Monitoring and Management of Transportation Infrastructure Using Unmanned Aircraft Systems</b> , Halil Ceylan, Akash Vidyadharan, Kasthurirangan Gopalakrishnan, Sunghwan Kim, and Christina Bloebaum, <i>Iowa State University; Tyler Carter, InfraDrone LLC</i> <b>Use of Lidar and Photogrammetry for Automatic Detection of Volumetric Distresses on Paved Runway Surfaces</b> , Ernest Berney, <i>U.S. Army Engineer Research and Development Center</i> <b>Characterization of Flexible Pavement Surface Rutting at Naptf Using Ultra-high Speed 3d Scanner Under Accelerated Pavement Testing</b> , Qiang Li, <i>CSRA</i>
12:00 – 1:30 p.m.	<b>Awards Luncheon</b> <i>Commonwealth B, C, D (2nd floor)</i> <b>Francis C Turner Award:</b> Robert Lytton, <i>Texas A&amp;M University</i> <b>Airfield Pavement Practitioner Award:</b> Wayne J. Seiler, <i>All About Pavements, Inc.</i> <b>Robert Horonjeff Award:</b> W. Charles (Charlie) Greer, Jr., <i>AMEC E&amp;I (Retd)</i> <b>James Laurie Prize:</b> Jeff Gagnon, <i>Federal Aviation Administration</i> <b>Carl Monismith Award and Lecture:</b> Measurement of Asphalt Binder Properties for Performance Grading - Rheology from Needles to Chips, David Anderson, <i>Pennsylvania State University</i>		
1:30 – 2:00 p.m.	<b>Networking Coffee Break in the Exhibit Hall</b> <i>Millennium Hall (2nd floor)</i>		
2:00 – 3:30 p.m.	<b>Poster Sessions in Exhibit Hall – Authors Available for Discussion</b> <i>(See page 13 for details) Millennium Hall (2nd floor)</i>		



## Monday, August 28, 2017 *(continued)*

2:00 – 3:30 p.m. Concurrent Sessions			
TRACK A: Design & Construction <i>Congress B (4th floor)</i>	TRACK B: Materials <i>Congress A (4th floor)</i>	TRACK C: Airfield and Safety <i>Commonwealth A (2nd floor)</i>	TRACK D: Innovations & Sustainability <i>Congress C (4th floor)</i>
<p><b>A.2 M-E Design Implementation and Regional Calibration</b> <b>Moderator:</b> Shelley Stoffels, <i>The Pennsylvania State University</i></p> <p><b>Sensitivity Analysis of Coefficients of Rut Transfer Function of Mepdg-Ashtioaware Pavement Me Software</b>, Intikhab Haider, Maryland Department of Transportation; Chuck Schwartz, University of Maryland College Park</p> <p><b>Development of Traffic Inputs Library in Pennsylvania for the Use in Aashtoware Pavement Me Design Software</b>, Biplab Bhattacharya and Olga Selezneva, Applied Research Associates, Inc.; Lydia Peddicord, PA Department of Transportation</p> <p><b>Comparison of Flexible Pavement Design Using Aashto 1993 and Locally Calibrated Mechanistic-Empirical Pavement Design Guide</b>, Shuvo Islam, Abu Sufian, and Mustaque Hossain, Kansas State University</p> <p><b>Evaluation of Methods for Defining In-situ Asphalt Stiffness When Designing Overlays Using Pavement Me</b>, Julie Vandenbossche, Nathan Bech, and Jule Vandenbossche, University of Pittsburgh; Angel Mateos, University of California, Davis</p> <p><b>Recalibration of the Flexible Pavement Rutting Model in Utah</b>, Biplab Bhattacharya and Michael Darter, Applied Research Associates, Inc.; Leslie Titus-Glover, Project Management Associates PLLC; Steven Anderson, Utah Department of Transportation</p>	<p><b>B.2 Concrete Pavement Technology and Performance</b> <b>Moderator:</b> Lev Khazanovich, <i>University of Pittsburgh</i></p> <p><b>Rcc Pavements: A Review of Specifications and Common Construction Deficiencies</b>, Jeff LaHucik, Tigerbrain Engineering; Jeffrey Roessler, University of Illinois</p> <p><b>Interactions Between Concrete Coefficient of Thermal Expansion and Moisture-Related Shrinkage</b>, Angel Mateos, John Harvey, Fabian Paniagua, Julio Paniagua, and Rongzong Wu, University of California Pavement Research Center</p> <p><b>Effect of Joint Width and Slab Curvature on Measured Load Transfer Efficiency for Doweled Joints in Jointed Plain Concrete Pavements</b>, Julie Vandenbossche and Kevin Alland, University of Pittsburgh</p> <p><b>A Forensic Investigation of Continuous Reinforced Concrete Pavement in Georgia</b>, S. Sonny Kim, M.I. Chorzepe, and Stephan Durham, University of Georgia</p> <p><b>Constructing 75-Year Service Life Concrete Pavements Overnight</b>, Michael Mc Nerney, The University of Texas at Arlington</p>	<p><b>C.2 Advanced Modeling and Analysis of Airfield Pavements</b> <b>Moderator:</b> Jeffery Gagnon, <i>Federal Aviation Administration</i></p> <p><b>Airfield Pavement Responses Under F/hwd and Moving Aircraft Loading</b>, Hao Wang, Rutgers University</p> <p><b>Investigation of Deformation Trends Observed in Pavement Test Section Unbound Aggregate Layers Due to Heavy Aircraft Loading with Wander</b>, Erol Tutumluer, University of Illinois at Urbana-Champaign</p> <p><b>Modeling Interface Debonding Between Asphalt Layers Under Dynamic Aircraft Loading</b>, Seyedfarzan Kazemi, Adam Hand, Elie Hajji, Peter Sebaaly, and Raj Siddharthan, University of Nevada, Reno</p> <p><b>Neural-Network Based Critical Pavement Response Models for Rigid Airport Pavement Systems with Cement Treated Base</b>, Halil Ceylan, Iowa State University</p>	<p><b>D.2 Innovative Methods for Highway and Airfield Pavements</b> <b>Moderator:</b> Greg White, <i>University of the Sunshine Coast</i></p> <p><b>Experimental Investigation of Energy Harvesting Prototypes for Asphalt Roadways</b>, Samer Dessouky and Hossein Roshani, University of Texas at San Antonio</p> <p><b>Configuration of Electrodes for Electrically Conductive Concrete Heated Pavements</b>, Halil Ceylan, Hesham Abdulla, Sunghwan Kim, Mani Mina, Kasthurirangan Gopalakrishnan, Peter Taylor, and Kristen Cetin, Iowa State University</p> <p><b>Developing an Anti-icing Airfield Runway Surface Using Heat Wires and Renewable Energy</b>, Ernie Heymsfield, University of Arkansas</p> <p><b>Soil Stabilization for Expedient Rapid-setting Concrete Repairs</b>, Lulu Edwards, Haley Bell, and Jeb Tingle, U.S. Army ERDC</p> <p><b>Refinement of Foam Backfill Technology for Rapid Airfield Pavement Repair</b>, Mariely Mejias-Santiago, Luke Gurtowski, Jared Johnson, and Chris Griggs, U.S. Army Corps of Engineers</p>
3:30 – 4:00 p.m. Networking Coffee Break in the Exhibit Hall <i>Millennium Hall (2nd floor)</i>			
4:00 – 5:30 p.m. Concurrent Sessions			
TRACK A: Design & Construction <i>Congress B (4th floor)</i>	TRACK B: Materials <i>Congress A (4th floor)</i>	TRACK C: Airfield and Safety <i>Commonwealth A (2nd floor)</i>	TRACK D: Innovations & Sustainability <i>Congress C (4th floor)</i>
<p><b>A.3 Design and Construction of Permeable Pavements</b> <b>Moderator:</b> David Smith, <i>Interlocking Concrete Pavement Institute</i></p> <p><b>Fully Permeable Pavement for Stormwater Management: Progress and Obstacles to Implementation</b>, John Harvey, Sifang Shan, Hui Li, David Jones, and Rongzong Wu, University of California Pavement Research Center</p> <p><b>Analysis of the Utilization of Open Graded Friction Course (OGFC) in United States</b>, Mbakisy Onyango, University of Tennessee at Chattanooga; Mark Woods, Tennessee Department of Transportation</p> <p><b>Introduction to Pervious Cellular Concrete, Applications/Recent Projects</b>, Nico Suttmoller and Milton Gomez, Aerix Industries</p> <p><b>Porous Pavement Pilot Project: Design, Construction, and Post Construction Testing</b>, Vivek Jha and Michael Frabizzio, Advanced Infrastructure Design, Inc.; Robert Sauber, RWS Consulting LLC; Robert Blight, New Jersey Department of Transportation</p> <p><b>Use of Permeable Pavements at Airports</b>, James Bruinsma, Kelly Smith, and David Peshkin, Applied Pavement Technology, Inc.</p>	<p><b>B.3. Asphalt Mixture Characterization</b> <b>Moderator:</b> Mohammad Imran Hossain, <i>Bradley University</i></p> <p><b>Development of the Duplicate Shear Test for Asphalt Mixtures</b>, Mohammadreza Khajeh Hosseini, Texas A&amp;M University; Stefan Romanoschi, Reza Saeedzadeh, and Nicky Akbarieh, University of Texas at Arlington</p> <p><b>Development of Asphalt Concrete Dogbone Shape Specimens for Uniaxial Tension Testing</b>, Adrian Archilla and José Corrales-Azofeifa, University of Hawaii at Manoa</p> <p><b>Establishing Design Limits for Cracking Properties of Asphalt Mixtures Using Overlay Tester</b>, Victor Garcia, Soheil Nazarian, Imad Abdallah, and Jose Garibay, University of Texas at El Paso</p>	<p><b>C.3 Case Studies of Airfield Construction Projects</b> <b>Moderator:</b> Murphy Flynn, <i>Federal Aviation Administration</i></p> <p><b>Runway Paving at Thule Air Base, Greenland</b>, John Rushing, ERDC</p> <p><b>Rutting Assessment of Taxiways K and S at Philadelphia Int'l Airport</b>, Manuel Bejarano and Sanjay Chaudhury, ATKINS; Thomas Varughese, Philadelphia International Airport</p> <p><b>A Case Study Keel Section Reconstruction of Runway 08L-26R the 29 Day Wonder at Hartsfield-Jackson Atlanta International Airport</b>, Vissu Dokka, CH2M</p> <p><b>Apron Pavement Design for the Third Runway Concourse at Hong Kong International Airport</b>, Katie Chou, Atkins Global</p> <p><b>Using Historical-Truth Traffic Information for Pavement Engineering Applications</b>, Richard Boudreau, Boudreau Engineering, Inc.</p>	<p><b>D.3 Intelligent Compaction: Challenges and Future Implementation</b> <b>Moderator:</b> Mehran Mazari, <i>California State University, Los Angeles</i></p> <p><b>Illinois Tollway IC Project</b>, Erol Tutumluer, University of Illinois Urbana-Champaign, David White, Iowa State University/Ingios Geotechnics, Inc.</p> <p><b>Evaluating Stiffness Parameters of Unbound Geomaterial Layers Using Intelligent Compaction, Plate Load Test and Light Weight Deflectometer</b>, Mehran Mazari, California State University Los Angeles; Cesar Tirado, Luis Lemus, and Soheil Nazarian, The University of Texas at El Paso</p> <p><b>Use of IC as a Quality Control Tool: Challenges and Opportunities for State DOTs</b>, Musharraf Zaman, University of Oklahoma; Sesh Commuri, University of Nevada, Reno</p>

## Tuesday, August 29, 2017

8:00 – 08:30 a.m.		Breakfast in the Exhibit Hall	
8:30 – 10:00 a.m.		Concurrent Sessions	
<b>TRACK A: Design &amp; Construction</b> <i>Commonwealth C (2nd floor)</i>	<b>TRACK B: Materials</b> <i>Commonwealth B (2nd floor)</i>	<b>TRACK C: Airfield and Safety</b> <i>Commonwealth A (2nd floor)</i>	<b>TRACK D: Innovations &amp; Sustainability</b> <i>Commonwealth D (2nd floor)</i>
<b>A.4 Airfield Pavement Construction</b> <b>Moderator:</b> Rich Thuma, <i>Crawford, Murphy &amp; Tilly</i>	<b>B.4 Characterization of Recycled Materials in Asphalt Mixtures</b> <b>Moderator:</b> Samer Dessouky, <i>University of Texas at San Antonio</i>	<b>C.4 Airfield Pavement Design</b> <b>Moderator:</b> Navneet Garg, <i>Federal Aviation Administration</i>	<b>D.4. Performance Based Specifications</b> <b>Moderator:</b> Ali Butt, <i>University of California, Davis</i>
<p><b>Runway Ride Quality Techniques, Tips and 23 Years of Insight</b>, Michael Gerardi, APR Consultants</p> <p><b>Development and Performance Evaluation of Jet Fuel Resistant Polymer-Modified Asphalt for Airfield Pavements</b>, Ronald Corun, Axeon Specialty Products</p> <p><b>Building a Smooth Runway</b>, Richard Boudreau, Boudreau Engineering, Inc.; Jeremy Hendricks, McCarthy Improvements; Joseph Snyder, Michael Baker International</p> <p><b>Design and Accelerated Construction of Runway 8I/26r at Hartsfield-jackson Atlanta International Airport</b>, Quintin Watkins and Joseph Snyder, Michael Baker International</p> <p><b>Legal Case Study on Whitetopping Projects: how to Prevent Random or Uncontrolled Cracking</b>, Thomas Olson, Olson Construction Law, P.C.</p>	<p><b>Laboratory Investigation of Longevity and Cracking Resistance of Recycled Asphalt Mixtures</b>, Mojtaba Mohammadafzali, Hesham Ali, and Aidin Massahi, Florida International University</p> <p><b>Rutting Susceptibility of Asphalt Mixes with High Rap Content Using Rheological and Performance-Based Test Methods</b>, Syed Ashik Ali, Shivani Rani, and Musharrarf Zaman, The University of Oklahoma; Rouzbeh Ghabchi, South Dakota State University; Craig Parker, Silver Star Construction Co., Inc</p> <p><b>Implications of Using Rap in Asphalt Mixes for Airfield Pavements</b>, Mohammad Zia Alavi and David Jones, University of California Pavement Research Center</p> <p><b>Effect of RAP on Cracking and Rutting Resistance of Hma Mixes</b>, Daba Gedafa, Rajib Saha, Anthony Berg, Bishal Karki, and Robeam Melaku, University of North Dakota</p> <p><b>Assessment of Emulsified Rap Cold Mixes via Non-Destructive Testing</b>, Ilker Boz, Michigan State University; Xuan Chen and Mansour Solaimanian, Pennsylvania State University</p>	<p><b>Airfield Pavement Extended Life Initiative</b>, Gregory Cline, Federal Aviation Administration, Airports Safety &amp; Standards</p> <p><b>Typical Material Properties of Pavements Sampled for the Extended Airfield Pavement Life Program</b>, Timothy Parsons, Applied Research Associates; David Brill, Federal Aviation Administration</p> <p><b>Evaluation of Airfield Pavements Using Faarfield</b>, Andreas Loizos, National Technical University of Athens</p> <p><b>Advances in FAA Pavement Thickness Design Software - FAARFIELD 1.41</b>, David Brill, Federal Aviation Administration</p> <p><b>Predicting the Soil Deformation and Fatigue Performance of a Temporary Airfield Matting System Using Full-scale Data and Laboratory Testing</b>, Timothy Rushing, U.S. Army Engineer Research and Development Center</p>	<p><b>Effect of Sample Size and Plan on Percent Within Limits for Quality Control and Assurance</b>, Syed Haider, Gopikrishna Musunuru, and Karim Chatti, Michigan State University</p> <p><b>Improving Compaction Quality of Unbound Pavement Layers Using Continuous Compaction Control</b>, Luis Lemus, Cesar Tirado, and Soheil Nazarian, The University of Texas at El Paso; Mehran Mazari, California State University Los Angeles</p> <p><b>Performance-Related Specification for In-place Air Void of Asphalt Pavement</b>, Hao Wang, Rutgers University</p> <p><b>Hot Mix Asphalt Segregation Detection Using Florida Texture Meter</b>, Mohamadtaqi Baqersad, Mojtaba Mohammadafzali, Amirmasoud Hamedi, and Hesham Ali, Florida International University; Bouzid Choubane and Charles Holzschuher, Florida Department of Transportation</p> <p><b>Developing Performance-Related Specifications for Preservation Treatments — Micro-surfacing</b>, Syed Haider, Michigan State University</p>
10:00 – 10:30 a.m.		Networking Coffee Break in the Exhibit Hall <i>Millennium Hall (2nd floor)</i>	
10:30 a.m. – 12:00 p.m.		Poster Sessions in Exhibit Hall <i>(See page 14 for details) Millennium Hall (2nd floor)</i>	
10:30 a.m. – 12:00 p.m.		Concurrent Sessions	
<b>TRACK A: Design &amp; Construction</b> <i>Commonwealth C (2nd floor)</i>	<b>TRACK B: Materials</b> <i>Commonwealth B (2nd floor)</i>	<b>TRACK C: Airfield and Safety</b> <i>Commonwealth A (2nd floor)</i>	<b>TRACK D: Innovations &amp; Sustainability</b> <i>Commonwealth D (2nd floor)</i>
<b>A.5 Airport Design Specification and Materials</b> <b>Moderator:</b> Rick Boudreau, <i>Boudreau Engineering Inc.</i>	<b>B.5 Constitutive Modeling and Characterization for Asphalt Mixtures</b> <b>Moderator:</b> Hao Wang, <i>Rutgers University</i>	<b>C.5 Airfield Pavement Asset Management</b> <b>Moderator:</b> Albert Larkin, <i>Federal Aviation Administration</i>	<b>D.5 Climatic Change and Pavement Infrastructure</b> <b>Moderator:</b> John Harvey, <i>University of California, Davis</i>
<p><b>A Review of Airfield Pavement Structure Design/analysis Codes</b>, Ernie Heymsfield, University of Arkansas</p> <p><b>Providing a Durable Concrete Specification at Kansas City International Airport</b>, Christopher Decker, RDM International, Inc.</p> <p><b>FAA Pavement Related Advisory Circulars</b>, Gregory Cline, Federal Aviation Administration</p> <p><b>Towards a Performance-Based Airport Asphalt Specification</b>, Greg White, University of the Sunshine Coast</p> <p><b>Incorporation of Reliability into Airport Pavement Design Using Backcalculated Pavement Layer Moduli</b>, Richard Ji, Federal Aviation Administration; Nassim Sabahfar, Gemini Technologies, Inc.</p>	<p><b>A Laboratory Evaluation of Aging on the Viscoelastic Material Functions of Asphalt Concrete and Its Binder</b>, A.S.M. Rahman, Hasan Faisal, and Rafiqul Tarefder, The University of New Mexico</p> <p><b>Application of Ultrasonic Pulse Velocity Testing of Asphalt Concrete Mixtures to Improve the Prediction Accuracy of Dynamic Modulus Master Curve</b>, Pezhouhan Tavassoti-Kheiry, Ilker Boz, Xuan Chen, and Mansour Solaimanian, The Pennsylvania State University</p> <p><b>Direct Characterization of Aging Diffusion in Asphalt Mixtures Using Micro-Indentation &amp; Relaxation (MIR)</b>, Mohammed Alsalihi, Ahmed Faheem and A. Hosseini, Temple University</p>	<p><b>Puerto Rico Airport Pavement Maintenance and Management Program</b>, Eileen Velez-Vega, Kimley-Horn Puerto Rico, LLC</p> <p><b>Characterization of Pavement Condition Index Deterioration Curve Shape for Usaf Airfield Pavements</b>, Timothy Parsons, Applied Research Associates</p> <p><b>Applying Pavement Management to New Jersey's Airports</b>, Michael Frabizzio, Advanced Infrastructure Design, Inc</p> <p><b>Correlation Between Friction, Roughness, Foreign Object Damage, and Pavement Condition Indices for Pavement Extended Life</b>, Tara Puzin, Endri Mustafa, and Rich Speir, Applied Research Associates</p>	<p><b>A Real Option and System Dynamics Simulation Framework for Resilient Multi-stage Design of Pavements Facing Uncertain Climate Change Threats</b>, Frederick Kautz, Rajib Mallick, and Michael Radzicki, Worcester Polytechnic Institute</p> <p><b>TITLE OF TALK</b>, Steven Miller, Massachusetts DOT</p> <p><b>Proactively Accounting for the Uncertain Climate Changes by Moving Towards Flexibility Considerations in Pavement Infrastructure Management Systems</b>, Tariq Usman Saeed and Samuel Labi, Purdue University</p> <p><b>Incorporating Climate Variability in Pavement Life Cycle Assessment</b>, Yanning Qiao, University of New Hampshire, Center for Infrastructure Resilience to Climate (UCIRC)</p>
12:00 – 1:30 p.m.		Buffet Lunch in the Exhibit Hall <i>Millennium Hall (2nd floor)</i>	
1:30 – 3:00 p.m.		Poster Sessions in Exhibit Hall <i>(See page 15 for details) Millennium Hall (2nd floor)</i>	

Tuesday, August 29, 2017 *(continued)*

1:30 – 3:00 p.m. Concurrent Sessions			
TRACK A: Design & Construction <i>Commonwealth C (2nd floor)</i>	TRACK B: Materials <i>Commonwealth B (2nd floor)</i>	TRACK C: Airfield and Safety <i>Commonwealth A (2nd floor)</i>	TRACK D: Innovations & Sustainability <i>Commonwealth D (2nd floor)</i>
<p><b>A.6. Network Level Performance Indicators</b> <b>Moderator:</b> Mike Frabizzio, <i>Advanced Infrastructure Design</i></p> <p><b>Lessons Learned from the Canadian Agency Implementation of Transportation Asset Management Systems</b>, David Hein and Shila Khanal, <i>Applied Research Associates, Inc.</i></p> <p><b>A Framework for Maintenance Management of Pavement Networks Under Performance-Based Multi-Objective Optimization</b>, Sakthivelan Ramachandran, C. Rajendran, A. Veeraragavan, and R. Ramya, <i>IIITmadras</i></p> <p><b>Use of Multiple Non-Destructive Evaluation Approaches in Connecticut to Establish Accurate Joint Repair and Replacement Estimates for Composite Pavement Rehabilitation</b>, Katherine Keegan, Jonathan Gould, and Tamim Khan, <i>AECOM</i>; Steven Norton, <i>Connecticut Department of Transportation</i>; Cherif Amer-Yahia, <i>Resource International</i></p>	<p><b>B.6 Asphalt Binder Characterization</b> <b>Moderator:</b> Ahmed Faheem, <i>Temple University</i></p> <p><b>Effect of Asphalt Rejuvenating Agent on Aged Reclaimed Asphalt Pavement Cracking Properties</b>, Nassim Sabahfar, Gemini Technologies, Inc.; Mustaque Hossain, <i>Kansas State University</i></p> <p><b>Effects of Different Types of Evotherm on Performance Grade and Moisture-Induced Damage Potential of Asphalt Binder</b>, Shivani Rani, Syed Ashik Ali, Musharraf Zaman, and Edgar A. O’Rear, <i>The University of Oklahoma</i>; Rouzbeh Ghabchi, <i>South Dakota State University</i></p> <p><b>Effects of Rejuvenators on Aging and Durability of Recycled Asphalt Binders</b>, Mojtaba Mohammadafzali and Hesham Ali, <i>Florida International University</i></p> <p><b>Asphalt Binder Properties and Airfield Pavement Cracking</b>, Geoffrey Rowe, <i>Abatech</i></p> <p><b>Binder Rheology Based Dynamic Modulus and Phase Angle predictive Models for Asphalt Concrete</b>, A.S.M. Rahman, Rafiqul Tarefder, and Umme Mannan, <i>The University of New Mexico</i></p>	<p><b>C.6 Airfield Pavement Accelerated Loading Testing - Part 1</b> <b>Moderator:</b> David Brill, <i>Federal Aviation Administration</i></p> <p><b>Behavior of P-401 HMA Surface in Accelerated Pavement Testing at High Temperatures and Tire Pressures</b>, Navneet Garg, <i>Federal Aviation Administration</i>; Timothy Parsons, <i>Applied Research Associates</i></p> <p><b>Sensitivity Analysis of Rut Depth to Longitudinal Measurement Location in Accelerated Pavement Testing with a Heavy Vehicle Simulator</b>, Timothy Parsons, <i>Applied Research Associates</i></p> <p><b>Concrete Pavement Overload Test at The FAA’s National Airport Pavement Test Facility</b>, Hao Yin, <i>Gemini Technologies</i></p> <p><b>Full-Scale Accelerated Pavement Tests on Perpetual Pavements at FAA’s National Airport Pavement Test Facility</b>, Navneet Garg, <i>Federal Aviation Administration</i></p>	<p><b>D.6 Interaction of Vehicles-Tire System with Pavements</b> <b>Moderator:</b> Angel Mateos, <i>University of California, Davis</i></p> <p><b>Pavement-Vehicle Interaction Related Research at the Mit Concrete Sustainability Hub</b>, James Mack, <i>CEMEX</i>; Mehdi Akbarian, <i>Arghavan Louhghalam</i>, and Franz Ulm, <i>Massachusetts Institute of Technology</i></p> <p><b>Investigation of Tire/Pavement Contact Stresses and Strains Displacement Under the Moving Load and Some Effects on the Flexible Pavements</b>, Ainalem Nega and Hamid Nikraz, <i>Curtin University</i></p> <p><b>Effect of Pavement Structural Response on Vehicle Fuel Consumption: Phase II Field Data Collection Methods and Preliminary Results</b>, Ali Butt, Darren Reger, and John Harvey, <i>University of California Davis</i>; Imen Zabaar and Karim Chatti, <i>Michigan State University</i>; Erdem Coleri, <i>Oregon State University</i>; Arghavan Louhghalam, <i>Massachusetts Institute of Technology</i></p> <p><b>Alternative Laboratory Characterization of Low Rolling Resistance Asphalt Mixtures</b>, Matteo Pettinari, Erik Nielsen, and Bjarne Schmidt, <i>Danish Road Directorate</i></p>
3:00 – 3:30 p.m. <b>Networking Coffee Break in the Exhibit Hall</b> <i>Millennium Hall (2nd floor)</i>			
3:30 – 5:00 p.m. Concurrent Sessions			
TRACK A: Design & Construction <i>Commonwealth C (2nd floor)</i>	TRACK B: Materials <i>Commonwealth B (2nd floor)</i>	TRACK C: Airfield and Safety <i>Commonwealth A (2nd floor)</i>	TRACK D: Innovations & Sustainability <i>Commonwealth D (2nd floor)</i>
<p><b>A.7 NDT for Pavement Condition Assessment</b> <b>Moderator:</b> James Gallagher, <i>Resolution Management Consultants, Inc.</i></p> <p><b>A Comparison of Traffic Speed Deflectometer and Falling Weight Deflectometer Data</b>, Eyal Levenberg, <i>Technical University of Denmark</i>; Britt Christensen, <i>Norwegian Public Roads Administration</i>; Matteo Pettinari and Susanne Baltzer, <i>The Danish Road Directorate</i></p> <p><b>Potential Applicability of Sir in Geophysical Investigation of Pavement Structures</b>, Masrur Mahedi, <i>Iowa State University</i>; MD Sahadat Hossain, <i>Asif Ahmed</i>, and Carla Flores, <i>The University of Texas at Arlington</i>; Ahmed Nawal Ahsan, <i>Geotech Engineering and Testing</i>; Mohammad Sadik Khan, <i>Jackson State University</i></p> <p><b>Comparison and Application of Lwd and Fwd on Paved Road Sections</b>, Xiaochao Tang, <i>Widener University</i>; Richard Ji, <i>Federal Aviation Administration</i></p> <p><b>Towards Improved Temperature Correction for NDT Data Analyses</b>, Michaël Broutin and A. Duprey, <i>French Civil Aviation Technical Center (STAC)</i></p> <p><b>Field Investigation of Dowel Misalignment at LTPP Sections</b>, Shreenath Rao and Laxmikanth Premkumar, <i>Applied Research Associates</i></p>	<p><b>B.7 Geotechnical Features for Highway Pavement Design and Construction</b> <b>Moderator:</b> Charles Schwartz, <i>University of Maryland</i></p> <p><b>Soils and Aggregates: The Foundations of Pavement Performance</b>, Charles Schwartz, <i>University of Maryland</i></p> <p><b>Influence of Stress State on M-E Designs of Aggregate Layers</b>, Erol Tutumluer, <i>University of Illinois</i></p> <p><b>Unbound Material Performance in Full-Scale Accelerated Pavement Tests of Airport Pavements at NAPTF</b>, Navneet Garg, <i>Federal Aviation Administration</i></p> <p><b>Development of Rapid Three-Dimensional Finite-Element Based Rigid Airfield Pavement Foundation Response and Moduli Prediction Models</b>, Halil Ceylan, <i>Iowa State University</i></p>	<p><b>C.7 Airfield Pavement Accelerated Loading Testing – Part 2</b> <b>Moderator:</b> Richard Ji, <i>Federal Aviation Administration</i></p> <p><b>Application of the FAA Linear Elastic Program LEAF to Monitor Pavement Elastic Behaviors</b>, Injun Song, <i>CSRA Inc.</i></p> <p><b>Preliminary Test Results from Test Cycle-1 at FAA’s National Airport Pavement and Materials Research Center (NAPMRC)</b>, Navneet Garg, <i>Federal Aviation Administration</i></p> <p><b>Review of a Procedure for Calibrating Unbound Layer Rutting Model in Flexible Airfield Pavements Using Accelerated Pavement Testing Data</b>, Rongzong Wu, <i>University of California Pavement Research Center</i></p> <p><b>Design Features of the FAA’s Full Scale Accelerated Pavement Test Facility NAPMRC</b>, Murphy Flynn and Navneet Garg, <i>Federal Aviation Administration</i>, John Harvey, Qi Ren and Davis Jones, <i>University of California Pavement Research Center</i></p>	<p><b>D.7 How to Avoid Common Mistakes Made Delivering Airfield Pavement Projects</b> <b>Moderator:</b> Scott Murrell, <i>Applied Research Associates</i></p> <p><b>Panelists:</b> <b>Gregory D. Cline, P.E., Sr.</b> Pavements Civil Engineer, <i>Federal Aviation Administration</i>, Office of Airports Safety &amp; Standards, Airports Engineering Division <b>Gary L. Mitchell, P.E.,</b> Vice President—Airports and Pavement Technology, <i>American Concrete Pavement Association</i> <b>Ernesto Larrazabal, P.E.,</b> Assistant Chief Civil Engineer, <i>The Port Authority of New York and New Jersey</i> <b>Timothy Parsons, P.E.,</b> Principal Engineer, <i>Applied Research Associates, Inc.</i></p>
5:15 – 6:15 p.m. <b>Younger Member Special Session: What I Wish I Knew</b> <i>Millennium Hall (2nd floor)</i>			
6:15 – 7:00 p.m. <b>Younger Member Social Hour</b> <i>Commonwealth Pre-function (2nd floor)</i>			

## Wednesday, August 30, 2017

8:00 – 08:30 a.m.		<b>Breakfast</b>	
8:30 – 10:00 a.m.		<b>Concurrent Sessions</b>	
<b>TRACK A: Design &amp; Construction</b> <i>Commonwealth C (2nd floor)</i>	<b>TRACK B: Materials</b> <i>Commonwealth B (2nd floor)</i>	<b>TRACK C: Airfield and Safety</b> <i>Commonwealth A (2nd floor)</i>	<b>TRACK D: Innovations &amp; Sustainability</b> <i>Commonwealth D (2nd floor)</i>
<b>A.8 Pavement Surface Characteristics</b> <b>Moderator:</b> Katie Chou, <i>Atkins Global</i>	<b>B.8 Unbound Material Characterization for Base/Subbase Applications</b> <b>Moderator:</b> Reza Ashtiani, <i>The University of Texas at El Paso</i>	<b>C.8 Airfield Pavement Monitoring, Evaluation, &amp; Nondestructive Testing – Part 1</b> <b>Moderator:</b> Bernadette Caparas, <i>Metropolitan Washington Airports Authority</i>	<b>D.8 Airfield and Highway Sustainability Practices and Assessment</b> <b>Moderator:</b> Manuel Bejarano, <i>ATKINS</i>
<b>Performance of Local Aggregate in High Friction Surface Treatment</b> , Humaira Zahir and Mustaque Hossain, <i>Kansas State University</i> <b>Precision Assessment of the Florida Texture Meter in Hot Mix Asphalt</b> , Mohamadtaqi Baqersad, Mojtaba Mohammadafzali, Amirasoud Hamedi, and Hesham Ali, <i>Florida International University</i> ; Bouzid Choubane and Charles Holzschuher, <i>Florida Department of Transportation</i> <b>Prediction of International Roughness Index of Flexible Pavements Using Artificial Neural Network Modeling</b> , Mohammad Hossain, Leela Sai Praveen Gopiseti, and Md. Miah, <i>Bradley University</i> <b>Certification of Inertial Profilers</b> , Rohan Perera, <i>SME</i>	<b>Comparison of Impact Hammer and Superpave Gyrotory Compaction Methods for Compaction of Soil and Base Materials</b> , Poura Arabali, Sang Ick Lee, Stephen Sebesta, Maryam Sakhaeifar, and Robert Lytton, <i>Texas A&amp;M University</i> <b>Field Performance Evaluation of Pavement Construction Platforms Utilizing Unconventional Large Size Aggregates Packed with Quarry Byproducts, and Higher Fines Aggregate Subgrade Layers</b> , Erol Tutumluer, Issam Qamhia, Hasan Ozer, and Hasan Kazmee, <i>University of Illinois at Urbana-Champaign</i> <b>Analysis of Cyclic Behavior of Geomaterials using Dissipated Energy Concept</b> , Uriel Arteaga and Reza Ashtiani, <i>The University of Texas at El Paso</i>	<b>Construction, Instrumentation, and Performance of a Double Sized Slab Designed for Airport Runways</b> , Michael Mc Nerney, <i>The University of Texas at Arlington</i> <b>Performance of Drainable Base Under Full Scale Aircraft Loading</b> , Jeffrey Gagnon, <i>Federal Aviation Administration</i> <b>National Airport Pavement Test Facility Construction Cycle 7 Hwd Data Analysis</b> , Albert Larkin, <i>Federal Aviation Administration</i> <b>Rutting Performance of Cold-applied Asphalt Repair Materials for Airfield Pavements</b> , John Rushing, <i>ERDC</i> <b>Supporting Airfield Pavements, a Comparison of Subgrade Improvement Methods</b> , Timothy Ward and Joe Grubbs,, <i>CH2M</i>	<b>Life Cycle Assessment of Airfield Pavements</b> , Ali Butt, <i>University of California Davis</i> <b>Development of a Life Cycle Assessment Tool for In-place Recycling Techniques</b> , Mouna Krami Senhaji, <i>University of Illinois at Urbana-Champaign</i> <b>Incorporating Engineering Sustainability to Airport/ Airfield Construction Projects with Examples</b> , Renju Abraham, Burns & McDonnell <b>Mechanical Properties of Polyethylene Terephthalate Particle-Based Concrete Pavements: A Review</b> , Hossein Ataei and Rui Ma, <i>Syracuse University</i>
10:00 – 10:30 a.m.		<b>Networking Coffee Break</b>	
10:30 a.m. – 12:00 p.m.		<b>Concurrent Sessions</b>	
<b>TRACK A: Design &amp; Construction</b> <i>Commonwealth C (2nd floor)</i>	<b>TRACK B: Materials</b> <i>Commonwealth B (2nd floor)</i>	<b>TRACK C: Airfield and Safety</b> <i>Commonwealth A (2nd floor)</i>	<b>TRACK D: Innovations &amp; Sustainability</b> <i>Commonwealth D (2nd floor)</i>
<b>A.9 Pavement Response to Full Scale and APT</b> <b>Moderator:</b> Rajib Mallick, <i>Worcester Polytechnic Institute</i>	<b>B.9 Unbound Layers and Stabilization</b> <b>Moderator:</b> Ping Tian, <i>CH2M</i>	<b>C.9 Airfield Pavement Monitoring, Evaluation, &amp; Nondestructive Testing – Part 2</b> <b>Moderator:</b> Benjamin Mahaffay, <i>Federal Aviation Administration</i>	<b>D.9 Innovations in Concrete Pavements</b> <b>Moderator:</b> Julie VandenBosche, <i>University of Pittsburgh</i>
<b>Similarity Study Between a Reduced-scale Accelerated Loading Device and a Full-Scale Accelerated Testing Facility for Layered Structural Pavement System</b> , Xiaochao Tang, <i>Widener University</i> ; Nima Kargah-Ostadi, <i>Fugro Roadware, Inc.</i> <b>Effect of Loading Conditions on the Magnitude and Variation of Pavement Responses in Accelerated Loading Testing</b> , Cory Zimmerman, <i>Virginia Tech Transportation Institute</i> <b>Effect of Pavement Structure and Loading Conditions on Subgrade Stresses Measured at the National Airport Pavement Test Facility</b> , Carlos Cary, <i>Gemini Technologies</i> ; Navneet Garg and David Brill, <i>Federal Aviation Administration</i> ; Qiang Li, <i>CSRA International, Inc.</i>	<b>In-place Stabilization for the Rehabilitation of Taxiway S at Nashville Int'l Airport</b> , Manuel Bejarano, David Schilling, Sanjay Chaudhury, <i>ATKINS</i> ; Thomas Varughese, <i>Philadelphia International Airport</i> <b>Performance Evaluation of a Polymer Binder Stabilized Aggregate Mixture: A Pilot Study</b> , Elie Hajji, Murugaiyah Piratheepan and Peter Sebaaly, <i>University of Nevada</i> <b>Characterization of Airfield Subbase Materials Using Precision Unbound Material Analyzer (puma)</b> , Qiang Li and Jeffery Stein, <i>CSRA</i> ; Navneet Garg, <i>Federal Aviation Administration</i>	<b>Evaluation of Hwd Backcalculation Tools and Methodologies Using Faa National Airport Pavement Test Facility's Data</b> , Ali Ashtiani, <i>Applied Research Associates, Inc.</i> <b>Evaluation of Flexible Pavement Using Hwd and Pspa at National Airport Pavement and Materials Research Center (NAPMRC)</b> , Qiang Li, <i>CSRA International, Inc.</i> <b>Development of New Roughness Standard for In-Service Airport Pavement</b> , Albert Larkin, <i>Federal Aviation Administration</i>	<b>Recent Innovations in the Design of Bonded Concrete Overlays on Asphalt</b> , John Harvey, <i>UC, Davis</i> <b>Transforming the Design Process for Unbonded Concrete Overlays on Concrete Pavements</b> , Lev Khazanovich, <i>University of Pittsburgh</i> <b>Precast Panels that are Removable &amp; Replaceable and Provide an Overnight Solution that Won't Rut</b> , Peter Smith, <i>Fort Miller, Inc.</i> <b>Backcalculated E* for Rehabilitation Design with Pavement ME</b> , Harold Von Quintus, <i>Applied Research Associates</i>
12:00 – 1:00 p.m.		<b>Lunch on Your Own</b>	
1:00 – 3:00 p.m.		<b>Technical Tour: Center for Research and Education in Advanced Transportation Engineering Systems (CREATEs) Lab of the Henry M. Rowan College of Engineering at Rowan University</b>	
1:00 – 3:00 p.m.		<b>Technical Tour: Philadelphia International Airport (Capacity Enhancement Program)</b>	

## Monday Afternoon Posters

August 28, 2:00 – 3:30 p.m., Millennium Hall (2nd floor)

### Aggregate Base and Subgrade Sstabilization

**A System for Real-Time Measurement of Moisture in Aggregate Mixes Moving on a Conveyor Belt**, Linus Dep, Cheng Thao, and Finch Troxler, Troxler Electronic Laboratories

**Critical Pavement Response Analysis of Pond Ash Stabilized Subgrade Using Non-linear Approach**, Gaurav Gupta and Hemant Sood, National Institute of Tehnical Teachers Training and Research, Pardeep Gupta, Panjab Engineering College, Chandigarh

**Analysis of Large Stone Asphalt Pavement Responses**, Zila Mascarenhas, Matheus Gaspar, Kamilla Vasconcelos, and Liedt Bernucci, University of São Paulo

**A Study on Use of Locally Available Gravel in Pavement Base and Sub-Base**, Mahabir Panda and Prasanta Kumar Bhuyan, National Institute of Technology Rourkela

### Mechanistic Methods and Advanced Modeling and Analysis of Airfield and Highway Pavements

**Analysis of Level-1 MEPDG Traffic Input Parameters for the State of Tennessee in Comparison to Level-3**, Abubakr Ziedan, Mbakisy Onyango, Weidong Wu, Joseph Owino, and Ignatius Fomunung, University of Tennessee at Chattanooga; Sampson Udeh, Tennessee Department of Transportation

**Reflective Cracking Model Based on Extended Finite Element Method**, Kairat Tuleubekov, SRA International, Inc.; Hao Yin, Gemini Technologies; David Brill, Federal Aviation Administration, Airport Technology R&D Branch

**Measured Versus Inter-converted Viscoelastic Material Functions of Asphalt Concrete**, A. S. M. Rahman, Hasan Faisal, and Rafiqul Tarefder, The University of New Mexico

**A Molecular Dynamics Simulation Approach to Predict Release of Polycyclic Aromatic Hydrocarbons from Asphalt Concrete Pavements**, Mohammad Hossain and J. P. S. Yadavalli, Bradley University; Hossain Azam, Manhattan College; Jieli Pan, WSP/Parsons Brinkerhoff

**Research on Mesoscopic Fatigue Mechanism and Dem Model of Asphalt Mixture**, Wenliang Wu and Minghui Li, South China University of Technology

**Effect of Fineness Modulus and Uniformity Coefficient on the Complex Modulus Function of Asphalt Concrete**, A. S. M. Rahman and Rafiqul Tarefder, The University of New Mexico

**Software Based Analysis of Perpetual Pavements in Indian Scenario**, Saurabh Kulkarni and Mahadeo Ranadive, College of Engineering, Pune

**Verification and Local Calibration of the Asphalt Pavement Rutting, Transverse Cracking, and Iri Models in Wisconsin**, Biplab Bhattacharya and Deepak Raghunathan, Applied Research Associates, Inc.; Jagannath Mallela, Parsons-Brinkerhoff, Inc.; Leslie Titus-Glover, Project Management Associates PLLC; Laura Fenley, Wisconsin Department of Transportation

**Recalibration of the JPCP Transverse Cracking, Faulting, and Iri Models in Wisconsin**, Biplab Bhattacharya and Deepak Raghunathan, Applied Research Associates, Inc.; Jagannath Mallela, Parsons-Brinkerhoff, Inc.; Leslie Titus-Glover, Project Management Associates PLLC; Laura Fenley, Wisconsin Department of Transportation

**A Mechanistic Evaluation of Highway Pavement Damage Due to Overweight Trucks**, Nishantha Bandara, Lawrence Technological University

**Dynamic Simulation of Rock Fall Impacts on Road Pavements**, Michele Buonsa, Giovanni Leonardi, Francesco Scopelliti, and Fortunato Ceravolo, Reggio Calabria – Mediterranean University

### Testing and Characterization of Asphalt Binder

**Use of Rubberized Asphalt to Improve Pavement Performance**, Paul Wilke, Applied Research Associates

**A Synthesis of Asphalt Foaming Parameters and Their Association in Foamed Binder and Mixture Characteristics**, Biswajit Bairgi and Rafiqul Tarefder, University of New Mexico

**Merits of Polymer Types Used with Different Local Bitumen Produced in Kurdistan- Iraq**, Faris Jasim, Erbil Polytechnic University; Agreen Azeez, Housing Ministry

**Influence of Viscosities of PDA Pitch and Flux on Blended Bitumen Viscosity**, Uma Chakkoth, Parag Ravindran, and Murali Krishnan, Indian Institute of Technology Madras

**Creep Stiffness Master Curve of Recycled Asphalt Pavement (RAP) Modified Asphalt Binders Based on Binder Beam Rheometer (BBR) Test Data**, Umme Mannan, Hasan Faisal, and Rafiqul Tarefder, University of New Mexico

**Binder Homogeneity of Recycled Asphalt Mixtures**, Mojtaba Mohammadafzali, Mohamadtaqi Baqersad, and Hesham Ali, Florida International University

**Characterization of Mastic Property Through Nanoindentation Test**, Zafrul Khan, Hasan Faisal, and Rafiqul Tarefder, University of New Mexico

**Pros & Cons of New Technologies Employed in Asphalt Binder Study**, S M Kamal Hossain, Punit Singhvi, Hasan Ozer, and Imad Al-Qadi, University of Illinois; Hassan Baaj, University of Waterloo

**Evaluation of the Longevity of Retraced Paint Pavement Marking Retroreflectivity Levels on Tennessee Highways**, Mbakisy Onyango and Joseph Owino, University of Tennessee at Chattanooga; Deo Chimba, Tennessee State University; Jerry Hatcher, Tennessee Department of Transportation

### Geogrid/Geotextile Stabilization

**Experimental Evaluation of the Interaction between Geosynthetic Reinforcements and Hot Mix Asphalt**, Gholam Hossein Roodi, Amr Morsy, and Jorge G. Zornberg, The University of Texas at Austin

**Numerical Analysis of Flexible Pavement Reinforced with Geogrids**, Giovanni Leonardi, Michele Buonsanti, Lidia Sarah Calvarano, Rocco Palamara, and Francesco Scopelliti, University of Reggio Calabria

## Tuesday Morning Posters

August 29, 10:30 a.m. – 12:00 p.m., Millennium Hall (2nd floor)

### Pavement Monitoring, Evaluation, and Nondestructive Testing

**Experimental Study on Macrotexture of Asphalt Pavement**, Zhi Li, Wenliang Wu and Siyu Chen, South China University of Technology; Zhixiong Qiu, Guangdong Provincial Expressway Development Company Limited

**Remote Sensing for Pavement Evaluation and Traffic Characterization**, Eyal Levenberg, Technical University of Denmark

**Modelling a Hybrid Pavement Conditions**

**Monitoring Framework for Botswana District Road Transportation Networks**, Adewole Oladele, Botswana International University of Science and Technology

**Preliminary Performance of a Deep-Learning System for Automated Cracking Survey**, Preliminary

**Performance of a Deep-Learning System for Automated Cracking Survey**, Qiang Joshua Li and Kelvin Wang, Oklahoma State University

**Selection of Critical Time for preventive Maintenance Treatment at Project Level**, Sakthivelan Ramachandran, Chethana Ramachandra, and Veeraragavan A, IIT Madras

### Concrete Pavement Technology

**Probability Analysis of Flexural Fatigue Data of High Volume Fly Ash Concrete**, Aravindkumar Harwalkar and Sidramappa Awanti, P.D.A.College of Engineering

**Experimental Analysis of Interface Shear Fatigue Performance of Ultra-thin Whitetopping**, K. Jayakesh and S.N. Suresha, National Institute of Technology Karnataka

**Full Field Temperature Curling Evaluation of Continuously Reinforced Highway Concrete**

**Pavement**, Youngguk Seo, Kennesaw State University; Han Jin Oh, Korea Expressway Corporation; Young Kyo Cho and Seong-Min Kim, Kyung Hee University

**Quality Management for Rubber Tire Concrete Applications in Highway and Airfield Pavements Construction**, Hossein Ataei and Chinmay Narahari, Syracuse University

**Performance of Fiber-Reinforced Polymer Panels as an Expedient Temporary Repair for Airfields**, Webster Floyd, U.S. Army Engineer Research and Development Center

**Frictional Characteristics and Joint Activation Within Unbonded Concrete Overlays of Existing Concrete and Composite Pavements**, Julie Vandenbossche, Steve Sachs, John DeSantis, and Kevin Alland, University of Pittsburgh

### Testing and Characterization of Asphalt Mixtures

**Effect of Asphalt Rejuvenating Agent on Rutting Properties of Aged Reclaimed Asphalt Pavement**, Nassim Sabahfar, Gemini Technologies, Inc.; Mustaque Hossain, Kansas State University

**Use of Marginal Materials in Asphalt Pavements**, Ali Jamshidi, Hokkaido University; Gregory White, University of the Sunshine Coast

**Effects of RAP Sources for Performance Testing of Asphalt Concrete**, Hasan Faisal, Umme Mannan, ASM Rahman, and Rafiqul Tarefder, University of New Mexico

**Stress, Temperature and Load Frequency Sensitivity of Cold Recycled Mixtures**, Andre Kuchiishi, Kamilla Vasconcelos, Lucas Andrade, and Liedi Bernucci, Polytechnic School from University of Sao Paulo

**Investigation on Effects of Heat Type on Asphalt Mix Performance**, S.M. Kamal Hossain and Imad Al-Qadi, University of Illinois; Peter Mikhailenko and Hassan Baaj, University of Waterloo

**Monitoring the Deformation of Asphalt Concrete Under Repeated Tensile and Shear Stresses Through Micro Cracks Healing Cycles**, Saad Sarsam and Hanan Husain, University of Baghdad

**Effect of Nanomaterials on Binder and Mix Performance**, Daba Gedafa, University of North Dakota

**Cracking and Rutting Performance of Field and Laboratory Hma Mixes**, Daba Gedafa and Robeam Melaku, University of North Dakota

**Impact of Rejuvenators on the Binder Rheological Characterization of Hot In-place Recycled Mixtures**, Punit Singhvi, Hasan Ozer, Imad Al-Qadi, and Robeam Melaku, University of Illinois at Urbana Champaign

**Laboratory Performance of Superpave Mixes for Perpetual Pavements**, Priyanka Ashoka and A.U. Ravi Shankar, National Institute of Technology Karnataka (NITK); Goutham Sarang, National Institute of Technology Calicut (NITC); B.M. Lekha, KVG College of Engineering

**Influence of Coal Combustion by Products Carbon Content on Aging Related Performance of Asphalt Mastics and HMA**, Emil Bautista, GeoTest, Inc.; Ahmed Faheem and Mohammed ALSalih, Temple University; Clayton Cloutier and Konstantin Sobolev, University of Wisconsin-Milwaukee

## Tuesday Afternoon Posters

August 29, 1:30 – 3:00 p.m., Millennium Hall (2nd floor)

### Airport Design Specification and Materials

**Measured Concrete Pavement Responses Under Falling/Heavy Weight Deflectometer and Aircraft Gear Loadings**, Jeffrey Gagnon, Federal Aviation Administration

**Comparison and Correlation of Dynamic Cone Penetration Results at the Faa National Airport Pavement Test Facility**, Jeffrey Gagnon, Federal Aviation Administration

**Non-dimensional Sensitivity Analysis of Airport Rigid Pavement Critical Responses**, Halil Ceylan, Adel Rezaei-Tarahomi, Orhan Kaya, Kasthurirangan Gopalakrishnan, and Sunghwan Kim, Iowa State University; David Brill, FAA Airport Technology R&D Branch

**Micro-Damage Evaluation of Runway Pavements Under Impulsive Loads**, Giovanni Leonardi, Michele Buonsanti, Fortunato Ceravolo, Rocco Palamara, and Francesco Scopelliti, University of Reggio Calabria

**ASR Induced Blowups in Airfiled Pavements: Identification, Evaluation, and Repair of Materials Related Distress**, Benjamin Birch, CTLGroup

**National Airport Pavement Material Research Center Test Cycle 1 Instrumentation**, Suvansh Damaraju, Applied Research Associates; Navneet Garg, Federal Aviation Administration

**Advanced Statistical Learning and Prediction of Complex Runway Incursion**, Ikkyun Song, Iowa State University

### Winter Maintenance of Pavements – Use of Innovative Techniques and Materials

**Synthesis of Superhydrophobic Coating Materials for Asphalt Concrete Pavements**, Halil Ceylan, Alireza Sassani, Sunghwan Kim, Kasthurirangan Gopalakrishnan, and Ali Arabzadeh, Iowa State University

**Effect of Deicing Chemicals on Water and Ice Repellent Concrete Pavements**, Halil Ceylan, Ali Arabzadeh, Sunghwan Kim, Kasthurirangan Gopalakrishnan, Alireza Alireza, Sriram Sundararajan, and Peter Taylor, Iowa State University

**Concrete Pavement Containing Phase Change Materials to Melt Snow and Ice**, Yaghoob Farnam, Drexel University; Hadi Shagerdi, Pablo Zavattieri, and John Haddock, Purdue University; Jason Weiss, Oregon State University

### Use of Innovative Techniques and Sustainable Materials in Pavement Construction

**Synergistic Effect of Cement and Mucilage Opuntia Ficus-indica Cladodes on Strength Properties of Lateritic Soil**, Ayobami Busari, Olatokunbo Ofuyatn, and Joseph Akinmusuru, Covenant University

**Evaluation of Cool Pavement Strategies on Concrete Pavements**, Ram Kumar Veeraragavan, Aaron Sakulich, and Rajib Mallick, Worcester Polytechnic Institute

**Quantifying the Sustainability of Rapid-Setting Calcium Sulfoaluminate Concrete**, Eric Bescher, University of California Los Angeles; John Kim, CTS Cement Manufacturing Co.



**THULE AIR BASE, Greenland** -- Contractors work to upgrade the Thule Air Base runway July 11, 2015. The first half of the project -- the first 5,000 feet of the 10,000 foot runway -- began in early June and is scheduled to be completed by Sept. 15. The second half of the upgrade will begin next year. (U.S. Air Force photo by Tech. Sgt. Jared Marquis)

# Technical Tours

## Rowan University – Center for Research and Education in Advanced Transportation Engineering Systems (CREATEs)

**Wednesday, August 30, 1:00 – 3:00 p.m.**

The Center for Research and Education in Advanced Transportation Engineering Systems (CREATEs) at Rowan University has a certified Construction Materials Laboratory and a Full-Scale Accelerated Pavement Testing Facility. These resources are located at the South Jersey Technology Park (107 Gilbreth Pkwy, Mullica Hill, NJ). Through a tour of CREATEs facilities, the attendees will get a chance to see Rowan's Heavy Vehicle Simulator and Rowan's Heavy Weight Deflectometer. The attendees will also learn more about the various research projects that are currently being conducted at CREATEs.

The entire group of attendees will sit through a 15-minute presentation at the South Jersey Tech Park. The attendees will then be divided into two groups; Group 1 will be taken on a tour of the certified binder and construction materials laboratory while Group 2 will tour the accelerated pavement testing facility. These tours will be approximately 45 minutes long. The groups will then be swapped to tour the facilities they did not get a chance to see. In these tours, posters of current and completed projects in the laboratory and at accelerated pavement test facility will be presented. The estimated time for these tours will be approximately 2 hours including transition periods.

**PDHs: 2 credits**

**Fee: \$25 EB/\$40 ADV**



## The Capacity Enhancement Program (CEP) at the Philadelphia International Airport (PHL)

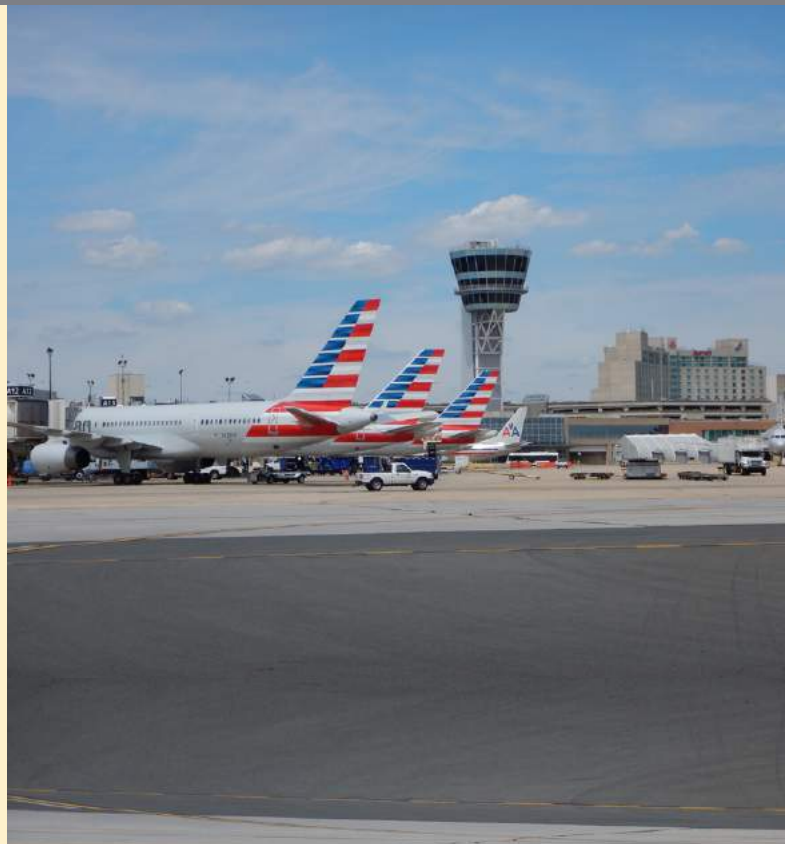
**Wednesday, August 30, 1:00 – 5:00 p.m.**

The Capacity Enhancement Program (CEP) at Philadelphia International Airport (PHL), a multi-year, multi-phased program, is comprised of a complex grouping of airfield and facilities projects. The CEP's airfield efforts have been broken into various stages of development. Stage 1 of the airfield development includes three distinct projects: Realign Taxiway H and Establish Taxiway F (North), Install Runway 9R Replacement Localizer, and Runway 27L Extension and Associated Taxiways.

At the time of the 2017 ASCE Highway and Airfield Pavement Conference, PHL will be in the middle of construction for the RW 27L extension and Associated Taxiway Project. The project includes earthwork, subgrade stabilization, Portland cement concrete pavement hold pads, and hot mixed asphalt runway/taxiway pavements. Also included, PHL has been working with the FAA technology center to install pavement monitoring instrumentation for the new PCC and HMA pavements. The Runway 27L & Associated Taxiways project total approximately \$125 million in construction cost.

**PDHs: 3 credits**

**Fee: \$25 EB/\$40 ADV**





## ADA Compliance

The Loews Philadelphia Hotel is fully accessible to the physically challenged and provides auxiliary aids and services. If you require special assistance at the Pavements Conference, please submit a written description of your requirements with your registration form or email [registrations@asce.org](mailto:registrations@asce.org) **BEFORE, July 12, 2017**. While ASCE will make every effort to meet the needs of the physically challenged, accommodations cannot be guaranteed without prior notification.

## Attendee Packets

Advance registrants will receive their name badges and any tickets ordered at the ASCE Registration Desk during registration hours. Advance registrants should present the official ASCE registration receipt to on-site registration staff to obtain Pavements Conference materials. If you submit a registration form via fax or postal mail one week prior to or after the registration cut-off date, please be sure to bring a copy of your fax or postal confirmation (as well as your email confirmation if you have received one), along with the original registration form paperwork to ensure ASCE on-site registration staff can process your registration. Due to the time constraints near and after the registration cut-off date, the appropriate paperwork may not have been forwarded to the on-site staff before their departure.

## Attire

The dress code for the Pavements Conference is business casual (i.e. slacks, casual dresses) to business attire (i.e. neckties, business suits). Meeting room temperatures will vary, so wear layered clothing to ensure your personal comfort. We also recommend attendees wear comfortable shoes. Please note that certain events may have specific details on attire, and you should refer to the event description for more information.

## Badge Policy and Ribbons

Your Pavements Conference registration name badge is your admission to the educational sessions. Please wear your badge at all times while at the Loews Philadelphia Hotel. Tickets are required for the pre- and post-convention events, meals, and special events. Where tickets are required, please be sure to bring your tickets with you to each event as you will not be admitted without a ticket. Ribbons will be available at the Registration Desk. ASCE recommends you remove your badge when leaving the hotel.

## City Information

For more information on Philadelphia, PA, or the surrounding area, please visit the location page on the Pavements Conference website.

## Sustainable Congress Policy Statement

ASCE is committed to sustainable meetings in accord with the ASCE policy on The Role of the Civil Engineer in Sustainable Development. ASCE defines sustainability as a set of economic, environmental, and social conditions in which all of society has the capacity and opportunity to maintain and improve its quality of life indefinitely, without degrading the quantity, quality, or availability of natural resources and ecosystems.

Sustainable development is the process of converting natural resources into products and services that are more profitable, productive, and useful, while maintaining or enhancing the quantity, quality, availability, and productivity of the remaining natural resource base and the ecological systems on which they depend. To that end, ASCE works with hotels and convention centers that strive to make our events green and include amenities such as reusable pitchers and water coolers rather than plastic bottles.

## International Letter of Invitation Requests

- Send requests to [International@asce.org](mailto:International@asce.org) and your conference invitation letter will be prepared and sent in pdf format via email. Registration must be completed and paid before a Letter of Invitation can be sent. A copy of your registration confirmation email must accompany your letter request. Please be ready to provide your complete official name, date of birth, physical address, email address, and passport number (if available)
- Letters may be faxed if requested. Please provide a fax number and indicate that, in addition to the email copy, you would also like to receive the letter via fax.
- Letters cannot be emailed or sent to the U.S. Embassy or Consulate. ASCE cannot intervene on behalf of invitees with the U.S. Embassy or Consulate via fax, phone, surface mail, or email.

- If you have any questions, please contact us at: [international@asce.org](mailto:international@asce.org).
- If you are unable to obtain a visa, your cancellation must be received in writing by ASCE by, **August 2, 2017**, to receive a refund for registration fees. A \$100 processing fee will be deducted from all refunds.
- Visit the conference website for additional information regarding letters of invitation.

## Meeting Room Overcrowding

ASCE will make every effort to schedule popular events in rooms large enough to accommodate anticipated attendance. Because many events are extremely popular, it is wise to select alternative events as you plan your conference schedule. ASCE and the Loews Philadelphia Hotel are REQUIRED to follow local fire regulations and may ask participants in rooms filled to capacity to choose another event.

## No Smoking Policy

ASCE supports a "No Smoking" policy. Smoking is prohibited in the Loews Philadelphia Hotel, and at all indoor venues hosting ASCE events.

## Proceedings

All full registrants are able to receive proceedings online. Link will be included in the final program.

## Professional Development Hours (PDHs)

You may earn 22 PDHs, which are nationally recognized units of record, by attending the Pavements Conference concurrent sessions and short courses. Please note there are differences from state to state in continuing education requirements for professional engineering licensure. ASCE follows NCEES guidelines on continuing professional competency. Because continuing education requirements for P.E. license renewal vary from state to state, ASCE strongly recommends that individuals regularly check with their state requirements that affect P.E. licensure and the ability to renew licensure. For details on your state's requirements, please go to: [www.ncees.org/Licensing\\_boards.php](http://www.ncees.org/Licensing_boards.php).

## Program Changes

ASCE reserves the right to cancel programs and/or sessions because of low registration. In the unlikely event of a cancellation, all registrants will be notified and will receive a full refund, if applicable. Programs and sessions are subject to change and ASCE reserves the right to substitute a program, session, and/or speaker of equal caliber to fulfill educational requirements.

## Recording of Sessions

Video or audio recording of any educational session is strictly prohibited without prior written permission from both ASCE and the session presenter(s).

## Release/Waiver/Special Assistance

**Photographs and Video:** Photographs and video of the event may be taken by ASCE, its agents, contractors, or representatives, and such photographs and video may be used for any purpose at ASCE discretion.

**Liability Waiver:** By submitting my registration, I acknowledge and agree that I am undertaking to participate in the conference activities as my own voluntary and intentional act. I agree that I alone am responsible for determining whether I am physically capable of participating in any conference activity, and I understand that there is risk associated with my participation, which may include without limitation, injury or loss caused by my own negligence or the negligence of others. With knowledge and acceptance of the risks involved, I accept full responsibility for my own safety and well-being. In consideration of my participation in conference activities, I hereby waive, release, hold harmless, and discharge ASCE and its officers, directors, and employees from any and all loss or injury that may be suffered by me in connection with conference activities to the fullest extent permitted by law.

## Weather

The temperatures should average from a high of about 85 and low of about 70 degrees.

# Housing & Transportation

## Housing

Official Headquarters Hotel of the Pavements Conference 2017:

### Loews Philadelphia Hotel

#### Standard Room Rates:

**Single/ Double** \$169.00 per night

A very limited number of rooms are being held at the prevailing government rate.

\*All room rates are subject to applicable tax

In order to receive the discounted Pavements Conference room rate, you must ask for the ASCE/Pavements Conference 2017 room block when calling to make your reservation.

**Reservation cutoff date:** Thursday, August 3, 2017

## Parking

Valet Parking is available at \$49 per night, and is the only hotel parking option.



## Younger Member Social Hour

**Tuesday, August 29, 6:15 – 7:00 p.m.**

After discussing the unwritten rules, hard-won knowledge through mistakes, and general career advice, come network with leaders in the civil engineering field. The Younger Member Social Hour provides an opportunity to speak directly with company leaders, academic administrators, and others in the civil engineering field and pavements research and development fields. Join us!



# Registration Policies & Procedures

## Early Bird Registration Discount

ASCE invites registrants to take advantage of an early bird registration discount. The deadline for early bird registration is **July 12, 2017**. Registration forms, including complete payment information, must be RECEIVED by this date to qualify for the early bird registration discount.

## Advance Registration Discount

ASCE invites registrants to take advantage of an advanced registration discount. The deadline for advanced registration is **August 2, 2017**. Registration forms, including complete payment information, must be RECEIVED by this date to qualify for the advanced registration discount.

## On-site Registration

Please do not mail registration forms through the U.S. Postal Service after **August 2, 2017**, in order to ensure your registration is processed in a timely manner. After this date, registrations must be secured with a credit card either online via the conference website or download the PDF registration form and submit it onsite along with your full credit card payment.

## Members Benefit: Receive Member Rates

Not a member of ASCE? Join today and save on your conference registration. Simply visit [www.asce.org/join](http://www.asce.org/join) or call **(800) 548-ASCE (2723)** to request an application and/or register for the conference. For more information on member benefits, go to [www.asce.org/membership](http://www.asce.org/membership). NOTE: You must be a member in good standing to qualify for the member rates.

## Payment Information

Acceptable forms of payment include:

**CHECK:** Payable to Pavements Conference 2017 (In U.S. dollars, drawn on a U.S. bank. Include attendee's name in the memo area of the check.)

**CREDIT CARD:** VISA, MasterCard, American Express, Diners Club, and Discover

**PURCHASE ORDER:** P.O. #, company name and address or other billing address (This includes Government P.O. use)

**Mail registrations to:** Pavements Conference 2017, P.O. Box 79668, Baltimore, MD 21279-0668 OR register online at [www.pavementsconference.org](http://www.pavementsconference.org). Must be postmarked by **August 2, 2017**.)

Full payment MUST accompany all registration forms. Forms will not be processed without payment or copy of purchase order.

## Cancellations/Refunds

All cancellations must be received by ASCE in writing. A refund will be issued, minus a \$100 processing fee, if the cancellation notice is received by **August 2, 2017**. No refunds will be made for cancellations received after **August 2, 2017**. Send cancellations to Registrations or fax to (866) 902-5593.

## On-Site Registration Hours

Sunday, August 27 12:00 – 7:00 p.m.  
 Monday, August 28 7:00 a.m. – 5:00 p.m.  
 Tuesday, August 29 7:00 a.m. – 5:00 p.m.  
 Wednesday, August 30 7:00 a.m. – 12:00 p.m.

*\*Hours are subject to change.*

The on-site Registration Desk will be closed for no more than one hour each day for lunch. Please come back at the appropriate time so we can better serve you. Thank you.

## Registration Questions

For registration questions contact [registrations@asce.org](mailto:registrations@asce.org) or call **(800) 548-2723** or **(703) 295-6300** and ask to speak with a registration customer service representative.

## Confirmation of Registration

A confirmation will be emailed to all advance registrants within one week of registering for the conference. Advanced registrants will receive their name badges and any tickets ordered at the on-site ASCE Registration Desk during registration hours. If you do not receive confirmation within one week, please contact ASCE registration at **(800) 548-2723** and ask to speak with Customer Service, or email [registrations@asce.org](mailto:registrations@asce.org). Please reference the Pavements Conference 2017 in the subject line.

## Speaker Registration

All speakers are required to register for the conference by **May 1, 2017**. Speakers must check in at the conference registration desk to pick up badges and tickets.

## Your conference registration gives you admittance to the following:

	Full Registration	Daily : Monday	Daily: Tuesday	Daily: Wednesday	Student*	Exhibitor	Sponsor
Welcome Reception (Sunday)	✓				✓	✓	✓
Awards Luncheon (Monday)	✓	✓			✓	✓	✓
Tuesday Buffet Lunch	✓		✓		✓	✓	✓
Proceedings	✓				✓		✓

*\*Proof of student status required*

# Sponsors & Exhibitors



## ASCE Philadelphia Section

asce-philly.org

For over 100 years, the Philadelphia Section of ASCE have been serving a community full of Civil Engineering professionals, younger members, and students, in Philadelphia and surrounding regions.

**Conference Technical Tour Silver Sponsor**

Booth # 9

## Aerix Industries

[www.aerixindustries.com](http://www.aerixindustries.com)

Aerix Industries manufactures and supplies a dynamic product line of engineered foam liquid concentrates. It's high-quality, lightweight, cost-effective and the most stable in the industry.

Booth # 3

## Alchemy - Spetec, LLC

[www.alchemy-spetec.com](http://www.alchemy-spetec.com)

Alchemy-Spetec is 100% focused on providing the most powerful polymers, painless procedures and rapid results. Seal leaks, stabilize soil, lift slabs.



Booth # 15

## Applied Research Associates, Inc.

[www.ara.com](http://www.ara.com)

ARA provides services and technologies that enhance facility safety and security, and support the full infrastructure life cycle – from planning through preservation.

**Conference Technical Tour Silver Sponsor**

Booth # 6

## Associated Asphalt

[www.associatedasphalt.com](http://www.associatedasphalt.com)

Associated Asphalt has supplied quality performance graded liquid asphalts since 1948, servicing the highway and airfield industry and meeting their highest performance demands.



CH2M

[www.ch2m.com](http://www.ch2m.com)

CH2M leads the professional services industry providing consulting, design, engineering and management services for clients needing world-class solutions in environmental; industrial and advanced facilities; transportation; and water markets.

**Conference Technical Tour Silver Sponsor**



## Crawford, Murphy & Tilly

[www.cmfengr.com](http://www.cmfengr.com)

For over 70 years, Crawford, Murphy & Tilly (CMT) has provided planning, design, and construction services to civilian and military airports throughout the United States. CMT offers our clients the insights of a highly-focused group of aviation professionals. Our genuine customer-centric approach means an uncommon level of investment in client goals and success. Our creative approaches, backed by decades of experience, deliver value in performance and results.

**Conference Lanyard Silver Sponsor**



Booth # 10

## CTS Cement Manufacturing Corporation

[www.ctscement.com](http://www.ctscement.com)

Rapid Set® cement products are used in airfield and highway pavement applications requiring high durability and fast strength gain, achieving one-hour structural and drive-on strength.

**Conference Lanyard Silver Sponsor**

Booth # 17

## Infrasense

[www.infrasense.com](http://www.infrasense.com)

Infrasense is a consulting firm that specializes in the non-destructive evaluation (NDE) of bridge decks, highway and airfield pavements, tunnels, parking structures, and other transportation facilities. We utilize ground penetrating radar (GPR), infrared thermography (IR), impact echo (IR), and other acoustic and geophysical technologies to detect and map subsurface conditions.

## Kimley»Horn

Kimley-Horn

[www.kimley-horn.com](http://www.kimley-horn.com)

Kimley-Horn provides a wide range of consulting services to public and private clients for the visible built environment and the less-visible elements related to these facilities. We plan and design roadways and bridges, airport runways and transportation systems, traffic signals, water/sewer systems, parking, transit systems, and more. We are civil, transportation, and systems engineers; urban and land planners; environmental specialists; landscape architects and urban designers; and computer/systems specialists. #ConferenceRefreshment

**Break Bronze Sponsor**

Booth # 18

## KSE Testing Equipment

[www.kesslerdcp.com](http://www.kesslerdcp.com)

KSE Testing Equipment is the leading Dynamic Cone Penetrometer manufacturer; and distributor for Zorn Soil/Asphalt Light Weight Deflectometers and MIT pavement thickness/dowel bar NDT equipment.

Booth # 5

## Lufft USA Inc.

[www.lufft.com](http://www.lufft.com)

Real-time monitoring of pavement surface conditions has never been more important. Lufft's stationary and mobile (MARWIS) weather sensors solutions provide the decision support information required.

Booth # 7

## Nomaco

[www.nomaco.com](http://www.nomaco.com)

Providing a complete line of construction foam products including expansion joint, concrete forms and backer rod materials for commercial, airfield, roadway and other DOT applications.

Booth # 16

## SealMaster

[sealmaster.net](http://sealmaster.net)

SealMaster pavement maintenance products for airfields are engineered to protect, preserve and extend the operative life of paved assets for maximum durability and sustainability.

Booth # 14

## Slag Cement Association

[www.slacement.org](http://www.slacement.org)

The Slag Cement Association is dedicated to communicating the performance and environmental benefits of slag cement and slag blended cements through promotion, education and technology development.

Booth # 4

## Triple Bonded

[www.triplebonded.com](http://www.triplebonded.com)

TripleBonded is a distributor and installer of the USA-made concrete repair product FastPatch, specifically engineered for spalls, deteriorating joints, and keeping pavement in peak condition.

Booth # 8

## URETEK USA INC.

[www.uretekusa.com](http://www.uretekusa.com)

Uretek USA specializes in Soil Stabilization and Pavement Lifting. Return your pavement system to its original design with a stronger subbase, improved soil structure, and zero daytime lane closures.

Booth # 19

## Zydex Industries

[www.zydexindustries.com](http://www.zydexindustries.com)

Zydex offers state of art Nanotechnology GREEN products for the 21st century. Based on an Organo-silane nanotechnology re-active chemistry that loves water and oil (hydrophobic) and will not stick to steel lower maintenance cost at plant and field on equipment.