

PRELIMINARY PROGRAM



INTERNATIONAL CONFERENCE ON HIGHWAY PAVEMENTS & AIRFIELD TECHNOLOGY

Philadelphia, PA | August 27-30, 2017

Sustainable Pavements and Safe Airports



★ PROFESSIONAL
★ EARN UP TO
22
★ DEVELOPMENT HOURS



Register by July 12, 2017 and Save \$100.

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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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Deb Mishra, Boise State University

Gary Mitchell, American Concrete Pavement Association

Scott D. Murrell, Applied Research Associates

Boohyun Nam, University of Central Florida

Kent Newman, U.S. Army Engineer Research and Development Center

George Nowak, Hatch Infrastructure

Aybike Ongel, Bahcesehir University

Hasan Ozer, University of Illinois at Urbana-Champaign

Tom Papagiannakis, The University of Texas at San Antonio

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Jim Patterson, Jr., Federal Aviation Administration

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Charles Schwartz, University of Maryland

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Drew Caracciolo, Sponsorship & Exhibit Sales Manager

Dear Prospective Attendee,

On behalf of the Transportation & Development Institute (T&DI) of ASCE, we invite you to the **International Conference on Highway Pavement and Airfield Technology** scheduled to be held in Philadelphia, Pennsylvania, on August 27-30, 2017.

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. Please join us! 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. **Registration**
- 1:00 p.m. – 5:00 p.m. **Short Course: Permeable Pavement Design, Construction & Maintenance Workshop (Extra ticket required)**
- 1:00 p.m. – 5:00 p.m. **Short Course: Airport Pavement Design Workshop – FAARFIELD 1.4 (Extra ticket required)**
- 1:00 p.m. – 5:00 p.m. **Short Course: Environmental Product Declarations (EPD) Workshop (Extra ticket required)**
- 5:00 p.m. – 6:00 p.m. **Committee Meetings**
- 6:00 p.m. – 7:30 p.m. **Andrea C. Baker Reception**
- 6:00 p.m. – 7:30 p.m. **Exhibit Hall Opens**

Monday, August 28, 2017

- 7:00 a.m. – 5:00 p.m. **Registration**
- 7:30 a.m. – 8:00 a.m. **Breakfast**
- 8:00 a.m. – 10:00 a.m. **Opening Plenary Session**
- 10:00 a.m. – 10:30 a.m. **Networking Break**
- 10:00 a.m. – 4:00 p.m. **Posters & Exhibit Hall Hours**
- 10:30 a.m. – 12:00 p.m. **Concurrent Technical Sessions**
- 12:00 p.m. – 1:30 p.m. **Awards Luncheon**
- 1:30 p.m. – 2:00 p.m. **Dessert in the Exhibit Hall**
- 2:00 p.m. – 3:30 p.m. **Concurrent Technical Sessions**
- 3:30 p.m. – 4:00 p.m. **Networking Break**
- 4:00 p.m. – 5:30 p.m. **Concurrent Technical Sessions**
- 5:45 p.m. – 6:45 p.m. **Committee Meeting: Airfield**
- 7:00 p.m. – 8:00 p.m. **Committee Meeting: Highway**

Tuesday, August 29, 2017

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

Wednesday, August 30, 2017

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

Exhibitors

Applied Research Associates, Inc.

Axeon Specialty Products

Infrasense

KSE Testing Equipment

Lufft USA Inc.

Nomaco

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Engineers and Consultants

Crawford, Murphy & Tilly

Bronze

Kimley Horn

Cooperating Organizations

University of Pittsburgh

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Short Courses

Sunday, August 27, 2017

1:00 – 5:00 p.m.

Environmental Product Declarations (EPD)

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

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

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.

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.

(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.



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

12:00 p.m. – 1:30 p.m.



Keynote Speaker & Carl Monismith Award Winner
David A. Anderson, Ph.D.

Dessert 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

5:45 p.m. – 6:45 p.m.

Committee Meeting: Highway

7:00 p.m. – 8:00 p.m.

Tuesday, August 29

Registration

7:00 a.m. – 5:00 p.m.

(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. – 12:00 noon and 1:30 – 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.

Younger Member Social Hour

6:15 p.m. – 7:00 p.m.

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.

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)



Sunday, August 27, 2017

1:00 – 5:00 p.m.	Permeable Pavement Design, Construction and Maintenance Workshop, Instructor: David Hein, ARA
1:00 p.m. – 5:00 p.m.	Airport Pavement Design Workshop – FAARFIELD 1.4, Instructor: Jeff Gagnon, FAA
1:00 p.m. – 5:00 p.m.	Environmental Product Declarations (EPD) Workshop, Instructor: John Harvey, UC Davis
6:00 p.m. – 7:30 p.m.	Exhibit Hall Open
6:00 p.m. – 7:30 p.m.	Andrea C. Baker Welcome Reception

Monday, August 28, 2017

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

Monday, August 28, 2017 *(continued)*

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

Tuesday, August 29, 2017

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

Tuesday, August 29, 2017 *(continued)*

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

Wednesday, August 30, 2017

8:00 – 08:30 a.m.		Breakfast	
8:30 – 10:00 a.m.		Concurrent Sessions	
TRACK A: Design & Construction	TRACK B: Materials	TRACK C: Airfield and Safety	TRACK D: Innovations & Sustainability
A.8 Pavement Surface characteristics	B.8 Unbound Material Characterization for Base/Subbase Applications	C.8 Airfield Pavement Monitoring, Evaluation, & Nondestructive Testing – Part 1	D.8 Airfield and Highway Sustainability Practices and Assessment
<p>Performance of Local Aggregate in High Friction Surface Treatment, Humaira Zahir and Mustaque Hossain, Kansas State University</p> <p>Precision Assessment of the Florida Texture Meter in Hot Mix Asphalt, Mohamadaqi Baqersad, Mojtaba Mohammad-afzali, Amirmasoud Hamed, and Hesham Ali, Florida International University; Bouzid Choubane and Charles Holzschuher, Florida Department of Transportation</p> <p>Prediction of International Roughness Index of Flexible Pavements Using Artificial Neural Network Modeling, Mohammad Hossain, Leela Sai Praveen Gopiseti, and Md. Miah, Bradley University</p> <p>Certification of Inertial Profilers, Rohan Perera, SME</p>	<p>Unbound Aggregate Material Properties Affecting Shear Strength Behavior: Implications on the Use of Recycled Materials in Flexible Pavements, Debakanta Mishra and S M Nazir Mahmud, Boise State University</p> <p>Comparison of Impact Hammer and Superpave Gyrotory Compaction Methods for Compaction of Soil and Base Materials, Poura Arabali, Sang Ick Lee, Stephen Sebesta, Maryam Sakhaeifar, and Robert Lytton, Texas A&M University</p> <p>Field Performance Evaluation of Pavement Construction Platforms Utilizing Unconventional Large Size Aggregates Packed with Quarry Byproducts, and Higher Fines Aggregate Subgrade Layers, Erol Tutumluer, Issam Qamhia, Hasan Ozer, and Hasan Kazmee, University of Illinois at Urbana-Champaign</p> <p>Analysis of Cyclic Behavior of Geomaterials using Dissipated Energy Concept, Uriel Arteaga and Reza Ashtiani, The University of Texas at El Paso</p> <p>Evaluating the Effect of a Drainage System on the Pavement Subgrade Moisture Condition, Maryam Sadat Hosseini, Masoud Seyed Mohammad Ghavami, Pablo Zavattieri, and John Haddock, Purdue University</p>	<p>Construction, Instrumentation, and Performance of a Double Sized Slab Designed for Airport Runways, Michael McNerney, The University of Texas at Arlington</p> <p>Performance of Drainable Base Under Full Scale Aircraft Loading, Jeffrey Gagnon, Federal Aviation Administration</p> <p>National Airport Pavement Test Facility Construction Cycle 7 Hwd Data Analysis, Albert Larkin, Federal Aviation Administration</p> <p>Rutting Performance of Cold-applied Asphalt Repair Materials for Airfield Pavements, John Rushing, ERDC</p> <p>Supporting Airfield Pavements, a Comparison of Subgrade Improvement Methods, Timothy Ward, CH2M</p>	<p>Life Cycle Assessment of Airfield Pavements, Ali Butt, University of California Davis</p> <p>Development of a Life Cycle Assessment Tool for In-place Recycling Techniques, Mouna Krami Senhaji, University of Illinois at Urbana-Champaign</p> <p>Framework for Conducting Life Cycle Cost Analysis and Life Cycle Assessment (Icca-Ica) for Transportation Facilities, Dima Jawad and Yara Medawar, Notre Dame University - Louaize</p> <p>Incorporating Engineering Sustainability to Airport/ Airfield Construction Projects with Examples, Renju Abraham, Burns & McDonnell</p>
10:00 – 10:30 a.m.		Networking Coffee Break	
10:30 a.m. – 12:00 p.m.		Concurrent Sessions	
TRACK A: Design & Construction	TRACK B: Materials	TRACK C: Airfield and Safety	TRACK D: Innovations & Sustainability
A.9 Pavement Response to Full Scale and APT	B.9 Unbound Layers and Stabilization	C.9 Airfield Pavement Monitoring, Evaluation, & Nondestructive Testing – Part 2	D.9 Innovations in Concrete Pavements
<p>Similarity Study Between a Reduced-scale Accelerated Loading Device and a Full-Scale Accelerated Testing Facility for Layered Structural Pavement System, Xiaochao Tang, Widener University; Nima Kargah-Ostadi, Fugro Roadware, Inc.</p> <p>Effect of Loading Conditions on the Magnitude and Variation of Pavement Responses in Accelerated Loading Testing, Cory Zimmerman, Virginia Tech Transportation Institute</p> <p>Accelerated Pavement Testing (APT) at the Virginia Tech Transportation Institute (VTI): Effect of Subgrade Properties on the Performances of a Pavement Structure Constructed with Cold Central Plant Recycling (CCPR) Material, Fabrizio Meroni and Filippo Giustozzi, Politecnico di Milano; Gerardo Flintsch and Wenjing Xue, Virginia Tech Transportation Institute</p> <p>Effect of Pavement Structure and Loading Conditions on Subgrade Stresses Measured at the National Airport Pavement Test Facility, Carlos Cary, Gemini Technologies; Navneet Garg and David Brill, Federal Aviation Administration; Qiang Li, CSRA International, Inc.</p>	<p>Assessment of Subgrade Soils Stabilization Criteria, S. Hamed Mousavi, ECS Carolinas, LLP (ECS); Mo. Gabr and Roy Borden, North Carolina State University</p> <p>In-place Stabilization for the Rehabilitation of Taxiway S at Nashville Int'l Airport, Manuel Bejarano, David Schilling, Sanjay Chaudhury, ATKINS; Thomas Varughese, Philadelphia International Airport</p> <p>Performance Evaluation of a Polymer Binder Stabilized Aggregate Mixture: A Pilot Study, Elie Murugaiyah Piratheepan and Peter Sebaaly, University of Nevada</p> <p>Characterization of Airfield Subbase Materials Using Precision Unbound Material Analyzer (puma), Qiang Li and Jeffery Stein, CSRA; Navneet Garg, Federal Aviation Administration</p>	<p>Evaluation of Hwd Backcalculation Tools and Methodologies Using Faa National Airport Pavement Test Facility's Data, Ali Ashtiani, Applied Research Associates, Inc.</p> <p>Evaluation of Flexible Pavement Using Hwd and Pspa at National Airport Pavement and Materials Research Center (NAPMRC), Qiang Li, CSRA International, Inc.</p> <p>Development of New Roughness Standard for In-Service Airport Pavement, Albert Larkin, Federal Aviation Administration</p>	<p>Recent Innovations in the Design of Bonded Concrete Overlays on Asphalt, John Harvey, UC, Davis</p> <p>Transforming the Design Process for Unbonded Concrete Overlays on Concrete Pavements, Lev Khazanovich, University of Pittsburgh</p> <p>Precast Panels that are Removable & Replaceable and Provide an Overnight Solution that Won't Rut, Peter Smith, Fort Miller, Inc.</p> <p>Backcalculated E* for Rehabilitation Design with Pavement ME, Harold Von Quintus, Applied Research Associates</p> <p>Mechanical Properties of Polyethylene Terephthalate Particle-Based Concrete Pavements: A Review, Hossein Ataei and Rui Ma, Syracuse University</p>
12:00 – 1:00 p.m.		Lunch on Your Own	
1:00 – 5:00 p.m.		Technical Tour: Philadelphia International Airport (Capacity Enhancement Program)	
1:00 – 5:00 p.m.		Technical Tour: Center for Research and Education in Advanced Transportation Engineering Systems (CRE-ATEs) Lab of the Henry M. Rowan College of Engineering at Rowan University	

Monday Afternoon Posters

August 28, 2:00 – 3:30 p.m.

Aggregate Base and Subgrade Stabilization

Detailed Investigation into the Mechanical and Performance Properties of Cold Bituminous Emulsion Mixtures, Chibuzor Ojum, AECOM Infrastructure and Environment; Nick Thom, University of Nottingham

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 Technical Teachers Training and Research, Pardeep Gupta, Panjab Engineering College, Chandigarh

Limited Life Geotextile (LLG) Design Charts for Embankments Modelled on Selected Sites in Trinidad: A Case Study, Abrahams Mwasha and Mr Komal, The University of the West Indies

Analysis of Large Stone Asphalt Pavement Responses, Zila Mascarenhas, Matheus Gaspar, Kamilla Vasconcelos, and Liedi 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 Roukela

Laboratory Investigation of Enhancements to Electroosmotic Consolidation of Soft Clay Soils, Lucas Martin, Mateusz Rowicki, and Jay Meegoda, New Jersey Institute of Technology

Subgrade Stresses Calculated by Layered Elastic Programs Compared to Measured Subgrade Stresses, Jeffrey Gagnon, Navneet Garg, David Brill, and Albert Larkin, Atlantic City Intl Airport – Federal Aviation Administration

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

Numerical Modelling of the Top-down Crack Propagation in Runway Pavement with Lattice Element Method, Zarghaam Rizvi, Amir Sattari, and Frank Wuttke, University of Kiel

Analyzing a Multilayer Elastic Pavement Structure Under a Different Shape Loaded Area, Asma Al-Muntefig and Abeer Alshami, Al-Nahrain University

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

Comparison of Relaxation Modulus of Asphalt Mixes Obtained by Trapezoidal Strain and Uniaxial Monotonically Increasing Stress Methods, Seyed Arash Forough, Fereidoon Moghadas Nejad, and Arsalan Hashemi Ghochani, Amirkabir 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

Performance Evaluation of Local Airport Pavements Through Mechanistic-Empirical (M-E) Analysis, Mesbah Ahmed, University of New Mexico

Testing and Characterization of Asphalt Binder

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

An Experimental Investigation of Non-linear Viscoelastic Characteristics of Ppa Modified Asphalt Binders, Pouria Hajikarimi, Qazvin Islamic Azad University; Fereidoon Moghadas Nejad, Amirkabir University of Technology; Mohammad Rahi, Pasargad Oil Company

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

Rheological, and High Temperature Characteristics of Modified Asphalt Binders with Carbon Black, Masoud Alizadeh Vahid, Akam Bitumen Refinery; Mohammad Ali Notani, Amirkabir University of Technology

Rheological, Physicochemical and Oxidative Aging Characteristics of Modified Asphalt Binders with Carbon Black, Mohammad Ali Notani, Ali Akbar Adelian, and Fereidoon Moghadas Nejad, Amirkabir University of Technology; Amin Fallah, Qom, Akam Bitumen Refinery

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

An Investigation on Rheological Properties of Warm Mix Asphalt Binders, Rajashekar Reddy, Osmania University
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

Influence of Temperature and Testing Frequency in Fatigue Characterization of Unmodified and Modified Binder, A. Padmarekha, SRM University; Murali Krishnan, Indian Institute of Technology Madras

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 Baqi, 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

Laboratory Evaluation of Polymer Modified Emulsion-based Microsurfacing Hybrid Fiber and Nanosilica Reinforced, Javad Tanzadeh and Ameneh Otadi, Islamic Azad University

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

Applications of Natural Geotextiles in Asphalt Overlays to Retard Reflection Cracking, Nithin Sudarsanan, Rajagopal Karpurapu, and Veeraragavan Amirthalingam, Indian Institute of Technology Madras

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.

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

Analysis of the Correlation Between Roughness and Structural Performance in Asphalt Pavements Using Fuzzy Clustering Techniques, Gaetano Bosurgi, Orazio Pellegrino, and Giuseppe Sollazzo, University of Messina

Modelling a Hybrid Pavement Conditions

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

Pothole Formation Probability, Leila Sadeghi, Konstantina "Nadia" Gkritza, and John Haddock, Purdue University

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

Framework for Conducting Life Cycle Cost Analysis and Life Cycle Assessment (LCCA-LCA) for Transportation Facilities, Dima Jawad and Yara Medawar, Notre Dame University - Louaize

Challenges for Rehabilitated Pavement Performance After Replacement of Concrete Slabs with Asphalt, Carlo Rabaiotti, Mathias Amstad, and Marco Schnyder, Basler & Hofmann AG

Concrete Pavement Technology

Nanotechnology-Based Waste Materials as a Replacement of Cement in Rigid Pavements, Mostafa Abohashema, Abdelrahman Roushdy, and Ahmed Faried, Fayoum University

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

Use of Coconut Shell as a Replacement of Normal Aggregates in Rigid Pavements, Prakash Parasivamurthy and Vivek Ramdas, Dayananda Sagar College of Engineering; Veena Jawali, B MS College of Engineering; Ravikant Talluri, MVJ College of Engineering

Quality Management for Rubber Tire Concrete Applications in Highway and Airfield Pavements Construction, Hossein Ateei 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 Baqaj, 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

Experimental Investigations on Associated Effect of Ageing and Moisture on Asphalt Mixtures, Bhaskar Das, Nishant Bhargava, and S Anjan Kumar, Indian Institute of Technology Guwahati

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, University of North Dakota

Impact of Rejuvenators on the Binder Rheological Characterization of Hot In-place Recycled Mixtures, Punit Singhvi, Hasan Ozer, and Imad Al-Qadi, 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 AlSalhi, Temple University; Clayton Cloutier and Konstantin Sobolev, University of Wisconsin-Milwaukee

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

Evaluation of In-situ Material Properties of Spray Injection Patching with Cold Bitumen Emulsions, Gebran Karam and Mazen Tabbara, Lebanese American University; Richard Hanna, Velocity Lebanon

Investigating Presence of Orthotropy in Asphalt Concrete Through Embedded Asphalt Strain Gauges, Zafur Khan, Mesbah Ahmed, and Rafiqul Tarefder, University of New Mexico

Permanent Evaluation of Basalt Fiber and Nano-sio2 Composite on Open Graded Friction Course (OGFC) Hot Mix Asphalt, Javad Tanzadeh and Fatemeh Hojjati, Islamic Azad University

Tuesday Afternoon Posters

August 29, 1:30 – 3:00 p.m.

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 Pavments: 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

Integrated QA/QC System for Concrete Pavement Construction: A Case Study on Mehrabad, Tehran Airport, Mehdi Chini, BHRC; Hamed Khoshroo, IAANC, Jafar Sobhani

Evaluating Settlement on King Faisal Road Using GIS Analysis Techniques, Muhammad Mubarak, Jazan 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

Study on Flame Retardancy of Epoxy Binder of MRS and Its Application on Tunnel Paving, Changyu Yin and Yangyong Sun, Road and Bridge Research Institute, Guangdong Provincial Academy of Building Research Group Co., Ltd.

Experimental Study of Reflector Ultrathin Layer Used in Special Units' Pavement for Safety Renovation, Cao Yixiang and Sun Yangyong, Road and Bridge Research Institute, Guangdong Provincial Academy of Building Research Group Co., Ltd.

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

Study on Performance and Efficacy of Industrial Waste Materials in Road Construction: Fly Ash and Bagasse Ash, Aditya Anupam, NIT Uttarakhand; Praveen Kumar and G. D. Ransinchung R. N., IIT Roorkee; Yogesh Shah, IITRAM Ahmedabad

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

Proposal of Technology Project Management Framework for the Implementation of Intelligent Compaction System in Highway Construction, Brahian Roman, National University of Engineering



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)

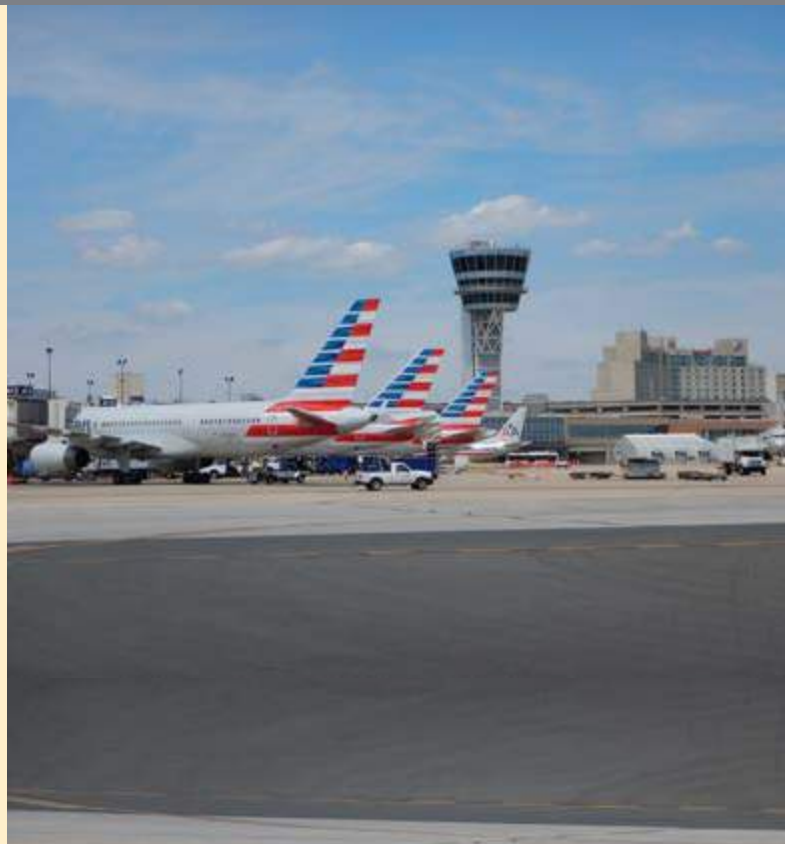
Wednesday, August 30, 1:00 – 5:00 p.m.

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 **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 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.
- 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.

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 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. 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. 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 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. 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*



INTERNATIONAL CONFERENCE ON HIGHWAY PAVEMENTS & AIRFIELD TECHNOLOGY

Philadelphia, PA | August 27-30, 2017

Registration Form

Please complete the registration form including signature and payment information. Use one registration form per person. Registrations will not be processed without full payment and registrant's full name. By submitting the registration form the individual agrees to all registration policies on ASCE's Conference website.

Contact Information (*Indicates required information)

*First Name _____ MI _____ *Last Name _____
 Credentials _____ Badge Nickname _____
 Title _____
 *Company/Organization/University _____
 *Street Address/PO Box _____
 *City _____ *State _____ *Postal Code _____ *Country _____
 *Work Phone _____ Home Phone _____ *Cell Phone _____
 Fax _____ *E-mail _____ ASCE Member Number _____

Phone: (800) 548-2723 (U.S.)
 Phone: (703) 295-6300 (International)
 Mail: ASCE/Pavements 2017 Conference
 PO Box 79668
 Baltimore, MD 21279-0668 USA

Join T&D and/or ASCE today and SAVE.

Simply visit www.asce.org/tdi/membership or www.asce.org/join or call 800-548-2723 to request an application.

Register by July 12, 2017 and Save!

For complete Conference information and to register online, visit www.pavementsconference.org. For additional information please contact Customer Service at registrations@asce.org or call 800-548-2723.

Please answer these questions so that we may serve you better (*indicates required information):

- *1 The organization I work for is: Private Government Education Military Other
- *2 My position is: Partner/Principal Senior Manager Middle Manager Technical/Professional Staff Faculty Student Retiree
- *3 How many previous ASCE Conferences have you attended? 0 1 2 3 or more
- *4 My age group: Under 25 25-34 35-49 50-65 Over 65



- Check here if you require:
- Vegetarian Lacto-Vegetarian Ovo-Vegetarian Vegan
- Check here if you have allergies to the following:
- Peanuts Tree nuts Seafood Other _____
- Check here if you require special aids or services:
- Deaf or Hearing Impaired Blind or Visually Impaired

Full Registration

	EARLY BIRD By 7/12/17	ADVANCE By 8/2/17	ON SITE After 8/2/17
<input type="checkbox"/> T&D / ASCE Member	\$650	\$725	\$825
<input type="checkbox"/> Non-Member	\$750	\$825	\$925
<input type="checkbox"/> Speaker (M) / Moderator (M)	\$600	N/A	N/A
<input type="checkbox"/> Speaker (NM) / Moderator (NM)	\$700	N/A	N/A
<input type="checkbox"/> Full-time Student (M)	\$300	\$300	\$350
<input type="checkbox"/> Full-time Student (NM)	\$350	\$350	\$400
<input type="checkbox"/> Cooperating Organization	\$650	\$725	\$825
<input type="checkbox"/> Municipal Member	\$550	\$625	\$695

(Copy of Student ID to accompany registration form. Does not include Proceedings)

***Non-Member registration includes one-year FREE T&D membership.**

Will you be attending?

These events are included in your Full Registration Fee. There is no extra charge for these events. However, each registrant must pre-register in order to receive a ticket to the event.

- Welcome Reception (Sunday) Yes, I will attend No
- Awards Buffet Yes, I will attend No
- Lunch (Monday) Yes, I will attend No
- Lunch (Tuesday) Yes, I will attend No
- Proceedings Yes No

Daily Registration

	EB/ADV	ONSITE
<input type="checkbox"/> Monday OR Tuesday: Member T&D/ASCE	\$325	\$375
<input type="checkbox"/> Monday OR Tuesday: Non-Member	\$375	\$425
<input type="checkbox"/> Wednesday: Member T&D/ASCE	\$200	\$250
<input type="checkbox"/> Wednesday: Non-Member	\$250	\$300

Registration Subtotal \$ _____

Workshop (Not included in registration)

Sunday, August 27, 2017

	EB/ADV	ON-SITE	# of Tickets
<input type="checkbox"/> Environmental Product Declarations (EPD)	\$125	\$150	_____
<input type="checkbox"/> FAA Rigid and Flexible Iterative Elastic Layered Designs	\$125	\$150	_____
<input type="checkbox"/> Permeable Pavements	\$125	\$150	_____

Additional Tickets (Included in full registration)

	EB/ADV	ONSITE	# of Tickets
Welcome Reception (Sunday)	\$90	\$120	_____
Lunch (Monday)	\$50	\$65	_____
Lunch (Tuesday)	\$50	\$65	_____
Additional Tickets Subtotal			\$ _____

Technical Tours (Not included in registration)

Wednesday, August 30, 2017

	EB/ADV	ONSITE	# of Tickets
The Capacity Enhancement Program (CEP) at the Philadelphia International Airport (PHL)	\$25	\$40	_____
Rowan University - Center for Research and Education in Advanced Transportation Engineering Systems (CREATES)	\$25	\$40	_____
Technical Tours Subtotal			\$ _____

PAYMENT: Full Payment must accompany this registration form. No REFUNDS granted for cancellations after July 12, 2017.

Registration Subtotal \$ _____
 Workshop Subtotal \$ _____
 Additional Tickets Subtotal \$ _____
 Technical Tours Subtotal \$ _____
 GRAND TOTAL (pay this amount) \$ _____

CHECK (Payable to **ASCE/Pavements 2017 Conference**. Checks must be issued in U.S. dollars, drawn on U.S. banks.) To pay registration fee by check, postmark your registration by the deadlines indicated above and mail to:
ASCE/Pavements 2017 Conference
 PO Box 79668
 Baltimore, MD 21279-0668 USA

FOR CREDIT CARD PAYMENT REGISTER ONLINE:
www.pavementsconference.org

CREDIT CARD AMEX VISA MC DISC DINERS

Card Number _____
 Security Code _____ Expiration Date (MM/YY) _____
 Print Name _____
 Total to be Charged \$ _____
 Signature _____

PURCHASE ORDER # _____
 (Provide copy of the PO with your registration form.)